FINAL

ENVIRONMENTAL STATEMENT

SURFACE MANAGEMENT OF FEDERAL COAL RESOURCES (43 CFR 3041)

AND

COAL MINING OPERATING REGULATIONS (30 CFR 211)

Prepared by
U.S. DEPARTMENT OF THE INTERIOR

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SUMMARY

( ) DRAFT (X) FINAL ENVIRONMENTAL STATEMENT

Department of the Interior, U.S. Geological Survey/Bureau of Land Management

1. Type of Action:

(X) Administrative ( ) Legislature

2. Description of action:

Proposed are new BLM coal leasing, permitting, and licensing regulations (43 CFR 3041) and revised GS coal exploration, mining operation, and reclamation regulations (30 CFR 211) as they apply to all aspects of leasing or mining Federal coal. GS regulations also apply to Indian coal administered by the Department of the Interior. These will apply to all existing as well as future Federal coal leases and operations, including those where surface is privately owned.

3. Summary of environmental impacts:

The following adverse impacts of surface coal mining operations will be significantly reduced: erosion of soil, pollution and loss of ground water, air pollution, vegetation and wildlife habitat loss, and disruption of agricultural operations. Pre-mining and mining costs for many operators will be increased by a small amount and some marginal operators may shut down.

4. Alternatives considered:

A. Take no action, continuing practices under existing regulations;

B. Transfer some or all of the Federal responsibility involved to the States;

C. Limit the scope or applicability of the proposed regulations;

D. Publish less stringent regulations;

E. Publish more stringent regulations;

F. Restrict or prevent further development of Federal coal resources.

5. Comments have been received from: See Summary Attachment I

6. Date DES made available to CEQ and public: October 1, 1975

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Summary Attachment I

Federal

A. Environmental Protection Agency
B. United States Department of the Interior
   Fish and Wildlife Service
   National Park Service
   Bureau of Outdoor Recreation
   Bureau of Mines
C. Federal Power Commission
D. Department of Agriculture
   Soil Conservation Service
E. Department of Transportation
F. Department of the Treasury

State

A. State of Alaska
B. State of Arkansas
C. State of California
D. State of Florida
E. State of Hawaii
F. State of Idaho
G. State of Iowa
H. State of Kansas
I. Commonwealth of Kentucky
J. State of Louisiana
K. State of Maryland
L. State of Michigan
M. State of Missouri
N. State of Nebraska
O. State of Nevada
P. State of North Dakota
Q. State of Oregon
R. State of Tennessee
S. State of Texas
T. Commonwealth of Virginia
U. State of Vermont
V. State of West Virginia
W. State of Wyoming

Other organizations and individuals

A. Rocky Mountain Energy
B. Carter Oil Company
C. Environmental Defense Fund
D. National Resources Defense Council
E. Common Cause
F. Environmental Policy Center
G. Dr. Jon Ghiselin
H. Mr. John Swanson
I. Congressman John Melcher
J. Northern Plains Resource Council

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PREFACE

The Secretary of the Interior has statutory authority for leasing Federal coal deposits under the Mineral Leasing Act of February 25, 1920, as amended and supplemented (30 U.S.C. 181-287), the Mineral Leasing Act for Acquired Lands (30 U.S.C. 351-359), 5 U.S.C. 301, and various statutes relating to mining on Indian lands. These laws also give the Secretary broad authority to promulgate regulations governing coal exploration and mining operations involving coal owned by the United States and operations involving Indian coal administered by the Department of the Interior in its trust capacity.

It is the policy of the Department of the Interior to encourage the authorized development of the mineral resources under its jurisdiction. However, the public interest clearly requires that with respect to the exploration for and the mining of such minerals, adequate measures be taken to avoid, minimize or correct damage to the environment and to avoid, minimize or correct hazards to public health and safety. The proposed 43 CFR 3041 and 30 CFR 211 regulations prescribe performance standards and administrative procedures to that end.

The Secretary has delegated his authority to issue leases, permits, and licenses for coal exploration and development to the Director, Bureau of Land Management (BLM). Proposed BLM regulations 43 CFR 3041 cover surface mining and the surface effects of underground mining on all Federal coal deposits regardless of surface ownership, but do not include Indian owned coal.

* The Secretary has delegated his authority to supervise operations conducted under leases to the Director, Geological Survey (GS). Proposed GS regulations 30 CFR 211 cover both surface and underground coal operations, including operations involving Indian owned coal.

Pursuant to the above statutory authority the Secretary issued operating regulations to govern coal mining on the public domain in 1920; these were first revised on December 23, 1937. On January 18, 1969, 43 CFR 23, regulations for surface exploration, mining and rehabilitation, became effective and applicable to leases, permits, or licenses issued by BLM after that date. The proposed 43 CFR 3041 regulations replace 43 CFR 23 only insofar as they pertain to coal, and require specific application of environmental protection measures and reclamation standards.

The standards proposed in the 43 CFR 3041 regulations are identical in scope and purpose to the standards now proposed in the 30 CFR 211 regulations. A major revision of 30 CFR 211 was published in the Federal Register as a "proposed revision" on April 30, 1973. The primary purpose of that revision was to update the regulations by deleting obsolete material and including new provisions and requirements consistent with modern mining practices. Those revised regulations clarified the responsibility of lessees, permittees, and licensees for the protection of the surface, natural resources, the environment and existing improvements during operations for the discovery, testing, development, mining, and preparation of coal and for timely reclamation of disturbed lands.

It was also proposed at that time that 30 CFR 216, applicable to coal mining operations under leases in the State of Alaska, issued pursuant to the Alaska Coal Leasing Act of October 20, 1914, (38 Stat. 741), prior to its repeal by Public Law 86-252, September 9, 1959, 73 Stat. 490, be revoked and that operations under those leases also be governed by the regulations in the proposed revision of 30 CFR 211. (The proposed regulations do not apply to public lands in Alaska which have been transferred to Natives, Native villages, or regional corporations since both surface rights and mineral estates are being conveyed.)

A review period of 60 days was provided for the submission of comments, suggestions or objections with respect to the proposed regulations. The regulations were subsequently revised in the Federal Register and on January 30, 1975, republished as a "proposed revision" in order to solicit additional public review and comment and afford the public an opportunity to participate in the rule-making process.

Some of the major changes in the January 30, 1975, revision were expanded requirements for exploration and mining plans, which were required to include descriptions of present and proposed land use, measures to be taken to avoid air and water pollution and to mitigate the adverse hydrologic consequences of the mining and reclamation activities, the location of surface drainage control or diversion structures, and the estimated cost of reclamation.

The further specification of performance standards for surface coal mining on public, acquired and Indian lands was an additional major change. The standards, then published, included criteria for the reclamation of lands disturbed by surface mining, such as: requiring reclamation of highwalls and spoil areas; standards for pit backfilling, and topsoil removal and storage; standards for the impoundment of water; and assurance of successful revegetation as a responsibility of the operator.

The proposed 30 CFR 211 regulations were available for public comment for a period of 30 days, during which interested persons submitted comments, recommendations and objections. Based on the comments received, the regulations were further revised and republished in the Federal Register as proposed rules on September 5, 1975. Public hearings were held on the regulations in Cheyenne, Denver, and Billings on December 18, 19, and 20. The hearing record along with the original 60-day comment and review period was left open to January 2, 1976, to provide the public with adequate time to evaluate and comment on the proposed regulations.

No environmental impact statement pursuant to section 102 (2) (c) of the National Environmental Policy Act of 1969 (NEPA) was prepared on the April 1973 and January 1975 versions of the proposed 30 CFR 211 regulations. This was due to the interim nature of the regulations and the pending publication of a programmatic statement by the Department upon its entire coal leasing and development program. It was decided in mid 1975 to prepare and publish a formal

environmental impact statement in connection with the promulgation of 30 CFR 211 and 43 CFR 3041. The draft environmental statement DES 75-73 on the September 5 publication of the proposed regulations was transmitted to Council for Environmental Quality (CEQ) and made available to the public on October 1, 1975. A 45-day review period was included for review of the DES, although in fact some comments were not recieved until early January. All comments were evaluated, and based on these comments and revisions to the proposed regulations, the draft environmental statement was rewritten and reproduced herein as the final environmental impact statement on the surface management and coal mining operating regulations.

CHAPTER I

DESCRIPTION OF THE PROPOSED ACTION

The Secretary of the Interior proposes to issue new Bureau of Land Management (BLM) coal leasing, permitting, and licensing regulations, 43 CFR 3041 (formerly included in 43 CFR 23), and to issue revised U. S. Geological Survey (GS) coal exploration, operating, and reclamation regulations (30 CFR 211).

The two sets of regulations govern pre- and post-leasing operations involving coal owned by the United States, regardless of surface ownership. In addition, 30 CFR 211 governs operations involving Indian-owned coal administered by the Department of the Interior in its trust capacity.

The proposed regulations would apply to the existing 537 Federal land coal leases, covering 784,200 acres and encompassing an estimated 16.5 billion tons of recoverable coal. The regulations would also apply to the processing of the 192 outstanding preference-right lease applications, covering 490,300 acres, 28 prospecting permits covering 70,500 acres, and any future permits or leases issued.

In addition, 30 CFR 211 would govern operations on the 28 existing Indian leases, covering 260,400 acres containing an estimated 3.5 billion tons of recoverable coal, and any future permits or leases issued.

The regulations will apply immediately to all future leases, permits, and licenses. With respect to existing operations (see 211.1(e) and 3041.0-5(b)) the reclamation standards will apply on or after 180 days from the date of publication in the Federal Register.

Both sets of regulations are summarized in the following chapter and are reproduced in their entirety in Appendix A to this statement.

General Summary of Proposed Changes

The proposed regulations expand the scope of Federal environmental responsibility to include consideration of non-Federal surface where the minerals are in Federal ownership and provide specific language to clarify responsibilities of lessees, permittees, and licensees for all phases of coal mining operations on public and acquired lands of the United States and Indian lands administered by the Department of the Interior. The scope of the new regulations addresses not only the "orderly and efficient development" phase of the operations but also the total spectrum of events beginning with the pre-lease land-use planning and environmental analyses, into prospecting, exploration, and testing activities and extending through the development, mining, production and coal processing practices as well as the abandonment and reclamation measures.

The new regulations state that no new leases will be issued, nor will mining plans for existing leases be approved, unless reclamation of the affected lands to the standards set

forth in the regulations is attainable and assured. The regulations set forth environmental standards to be used in conducting the pre-lease, permitting, and licensing examinations from which the terms and conditions of the lease, permit, or license will be developed. These standards are correlated between the two sets of regulations so that performance and reclamation requirements will be consistent throughout the pre-leasing, exploration mining, reclamation, and abandonment phases of coal operations. The new regulations further require that exploration and/or mining plans, describing in detail the operations to be undertaken, be prepared and submitted in advance of that operation.

The more significant requirements of the exploration and/or mining plans are greater delineation and evaluation of geology, water, vegetation, fish and wildlife, the material resources, and the environment, and for improvements during the coal-mining operations. The revised regulations emphasize that reclamation work is to be performed as an integral part of the mining operation and provide extended periods (from 5 to 10 years, and as many as 15 years in some cases) of liability for revegetation. Measures are specified to comply with water and air effluent or emission standards and regulations.

The new regulations require written findings on decisions and determinations with respect to issuance of leases, approval of mining plans, major modifications of mining plans, and abandonment of operating and release of bonds. All such written findings,

together with proposed terms and conditions, back up field reports, environmental evaluations and other related materials are available for public review and comment for a period of 30-days prior to any action being taken.

Public hearings or meetings are provided with respect to issuance of leases, approval or modification of mining plans and before approval of final abandonment.

The proposed regulations give the Secretary discretion to adopt and apply the State regulations on Federal lands within the State at the request of the Governor, if the Secretary, upon review of that State's regulations, determines that such application would:

(a) Effectuate the purposes of the proposed regulations;

(b) Result in protection of environmental values which is at least as stringent as would otherwise occur under exclusive application of Federal controls; and

(c) Be consistent with the interest of the United States in the timely and orderly development of its coal resources.

The Secretary may also enter into agreements with the States so as to, whenever possible, turn over administration and enforcement of reclamation to the States so long as Federal interests are protected.

43 CFR 3041

Surface management of federally owned coal resources

Current regulations in 43 CFR part 23 provide for the

protection and conservation of nonmineral resources during operations for the discovery, development, and onsite processing of all minerals, except oil and gas, under leases, permits, or licenses. The proposed regulations govern the management of the federally owned coal estate only. Specific regulations covering other minerals under the cited acts in part 23 may be issued at a later date. Other differences between part 23 and the proposed 3041 regulations include the delineation in the new regulations of agency responsibilities, reclamation and performance standards, and the provision that coal leases, permits, and licenses may be denied on environmental grounds. Also, while it has been Departmental policy to include environmental standards in Federal coal leases where the surface of lands is in non-Federal ownership, part 23 specifically excluded these lands. The proposed 3041 now requires protection of non-Federal surface where the coal is federally owned at least equal to that which would occur under total Federal ownership.

Existing BLM manuals (BM 3509-Surface Management Requirements for Exploration, Mining and Reclamation; and BM 1791-Environmental Analyses) prescribe procedures for evaluating the environmental effects of mineral operations (including coal) on Federal lands. These manuals and the promulgation of Departmental policy expanding part 23 application to privately owned surface where the minerals are federally owned, and the discretion to adopt and apply, where appropriate, State regulations governing reclamation, where appropriate, on the Federal lands, in effect supplement present part 23 and narrow

the differences between part 23 and the proposed 3041 regulations. They are, for all intents and purposes then, an update and clarification of part 23 as it applies to coal, incorporating supplemental policy and adding specific standards for operation and reclamation. Implementation of the proposed 3041 regulations is not expected of itself to significantly affect current procedures relative to the issuance of Federal coal leases, permits, or licenses. The establishment of performance standards in the proposed regulations should, however, result in the development of more comprehensive and uniform environmental controls for Federal coal development.

The following is a summary comparison, by section, of the proposed 3041 regulations to part 23.

3041.0-1 Purpose

The purpose section of the proposed 3041 regulations expands the statement of policy contained in part 23 to clearly indicate that it is the Department's policy ". . . to authorize leases, permits, and licenses for coal only where reclamation of the affected lands to the standards set forth herein is attainable and assured and a reclamation program will be undertaken as contemporaneously as practicable with mineral development." Although part 23 is silent with regard to this important statement of policy, the Department adopted and has enforced this policy for all coal leases issued during the past few years.

The proposed regulations also declare it to be the policy of the Department to extend at least as stringent environmental

protection to privately owned surface underlain by Federal coal as would be required if the surface estate were in Federal ownership. This is consistent with Departmental practice.

3041.0-3 Authorities

This section, contained in the Scope of part 23, is little changed except that citation of the Materials Act of July 31, 1947, as amended (30 U.S.C. 601-604), and Title 23, United States Code, Section 317, relating to appropriation for highway purposes of lands owned by the United States, is deleted because the proposed regulations do not cover materials.

3041.0-4 Responsibilities

Responsibilities between the GS and BLM with respect to coal leasing, permitting and licensing, and subsequent exploration and development activities are not defined in part 23. The proposed 3041 regulations now define the relative responsibilities between the Mining Supervisor and the authorized officer of the surface management agency in the implementation of the new regulations.

Although part 23 does not address responsibilities, implementation of Secretarial Order 2948 in October 1972 established the roles of the GS and the BLM with respect to mineral operations on Federal lands. This is now expected in the 3041 regulations.

3041.0-5 Applicability of Regulations

This section describes the extent to which the regulations apply and where they become effective on existing operations. They apply

to Federal coal deposits located on public domain and acquired lands of the United States and reserved Federal coal deposits underlying lands not owned by the United States.

The regulations become effective as to conformity with the reclamation and performance standards contained in section 3041.2-2(f) on or after 180-days from publication as final rule making in the Federal Register on all existing operations from which the overburden has not been removed. In addition, on or before 18-months from publication, the operator of each existing operation must have obtained approval of a plan or modification thereof which complies with all of the provisions of these regulations.

The regulations will become effective immediately upon publication insofar as future leases are concerned and insofar as the emergency stop provisions of section 3041.

3041.0-8 Use of Surface

This section limits the operator to only so much of the surface of the affected lands as deemed necessary for the rights granted and which has been designated for surface occupancy in an approved plan. Use of the Federal lands for a power generation plant or a commercial or industrial facility will be authorized only under a separate permit issued by the appropriate agency. The uses of the lands within the area of operation are subject to the supervision of the Mining Supervisor, and the uses of the remaining lands are subject to the supervision of the appropriate surface management agency. The operator may not use any mineral

materials subject to the Materials Act of July 31, 1947, as amended (30 U.S.C. 601-604) except as provided in 43 CFR part 3600.

Authorization operations shall not unreasonably interfere with or endanger operations under uses authorized on the same lands under other regulations, nor shall such operations unreasonably interfere with or endanger operations under any lease, permit, or license, or other authorized use pursuant to the provisions of any other Act.

This section is new and not covered under part 23.

3041.1 Coal Leasing, Permitting, and Licensing Planning Procedures

This section sets forth the criteria by which the BLM will evaluate lands underlain with Federal coal as to their suitability for leasing and coal development. Included in this evaluation is an environmental assessment of the potential impact of such development on the environment of the area under consideration. Consideration of the effect coal development would have on other resource programs is also required at this time. If the environmental assessment indicates that a decision to issue leases for coal development would be a Federal action significantly affecting the quality of the human environment, an environmental impact statement must be prepared.

Prior to final selection of tracts within an area for coal leasing, the authorized officer of the BLM, or of the Federal surface management agency if other than the BLM, must further evaluate in a more detailed manner the impact of such development on the tracts under consideration. This evaluation must take into account all alternate uses of the land and its natural resources, the need for the proposed coal development, and the socioeconomic considerations relevant to multiple use management. To aid him in this evaluation and selection of tracts, the authorized officer must request the views and recommendations of the Geological Survey and other appropriate Federal agencies, and consult with applicants, State agencies, organizations, industries and, any surface owners. He may hold public hearings or meetings.

If a decision is made to offer some or all of these tracts for coal lease, a technical examination and detailed environmental analysis must be prepared following the procedures described in Section 3041.2 of the proposed regulations. This process is to develop any special terms and conditions for inclusion in the lease, permit, or license as may be required to protect the environment, to permit use of the land for other purposes, to allow new postmining land uses, and to protect other resources.

With the exception of the requirement in part 23 to do a technical examination prior to issuance of leases, this planned process of coal tract selection is a new facet of the regulations.

3041.1-1 Applications

This section requires any person desiring a lease, permit, or license for coal to file an application or offer in the proper BLM office.

3041.1-2 Preliminary Plan

The preliminary plan is a new requirement and must be filed with any application for a coal lease, permit, or license; it must include:

1. A map, or maps, showing the topography, physical features, drainage, cultural features, and location of all proposed operations in detail.

2. A narrative statement setting forth the anticipated scope, methods, and schedule of exploration operations, including the types of equipment to be used; the method of mining anticipated, including the best available estimate of the mining sequence and production rate to be followed; and the relationship, if any, between mining operations anticipated on lands applied for and any existing or planned operations on adjacent Federal or non-Federal lands. The narrative statement must also include the measures proposed to be taken to prevent or control fire, soil erosion, pollution of surface and ground water, damage to fish and wildlife or other material resources, air and noise pollution and hazards to public health and safety during lease activities. Such measures shall also include the actions to be taken and the methods to be utilized to meet the performance standards set forth in 3041.2-2.

This section also prohibits the applicant from entering the land for operational purposes which might cause significant surface disturbance without having been given beforehand a lease, permit, or license and having received approval of an exploration or mining plan.

3041.2 Technical Examination/Environmental Analysis

This section is little changed from the part 23 requirement except that the technical examination is now limited to an evaluation

of the technical feasibility of the preliminary plan and an evaluation of the effect of the preliminary plan on other land uses, resources, or programs on or adjacent to the area. The environmental analysis is an analysis of the impact of the preliminary plan and alternatives on the living and non-living components of the environment.

3041.2-1 Technical Examination/Environmental Analysis Report

This section describes the report required from the technical examination and environmental analysis and contains a summary which, using information from the technical examination/environmental analysis, sets forth recommended bonding requirements and stipulations formulated to (1) identify land which should be excluded from any lease, permit, or license in order to avoid issuing coal leases permits, or licenses where reclamation is not attainable and assured, or in recognition of other land use management priorities, (2) require conformance with the reclamation and performance standards found in 3041.2-2, (3) identify necessary conditions and amounts of bonds to cover reclamation costs for initial five years, and (4) identify any additional, more stringent requirements needed in any lease, permit, or license.

If it is determined that a specific area should be excluded from a lease, permit, or license, or modification thereof, or if it is recommended that an environmental impact statement is

required at this stage, the technical examination/environmental analysis report must substantiate these findings.

3041.2-2 Reclamation Obligations and Standards of Performance

Part 23 requires that consideration be given to the need for preservation and protection of other resources, and to the need for control of erosion, flooding, and pollution of water; the isolation of toxic materials; reclamation by revegetation, replacement of soil, or by other means, of lands affected by mineral development; the prevention of slides; the protection of fish, and wildlife and their habitat; and the prevention of hazards to public health and safety (Part 23.5(2)(1)). These proposed new regulations, in addition establish performance standards of general applicability to insure adequate protection of resources and the prevention or control of the undesirable aspects of coal exploration, surface mining, and processing.

These standards and obligations, also contained in the proposed 30 CFR 211 regulations, will be applicable to all coal leasing, permitting, and licensing, coal exploration, development, mining, drilling, preparation, processing and reclamation operations on all future leases and all new exploration and mining plans on existing leases.

Any operator who accepts a coal lease, permit, or license must comply with these general obligations and standards of performance as well as any specific terms, conditions, and stipulations attached thereto.

Briefly, they require the operator to:

3041.2-2(c) - conduct surface coal mining operations so as to maximize extraction of the coal to prevent further disturbance through resumption of mining.

3041.2-2(d) - take visual resources into account in the planning, design, location, and construction of facilities on the affected lands; minimize, control and, to the maximum extent practicable, avoid damage to the recreational, cultural, scientific, historical, and known or suspected archeological and paleontological values of the land.

3041.2-2(e) - adopt measures to prevent or control subsidence in underground mines.

3041.2-2(f)(1) - reclaim the affected land as contemporaneously as practicable with operations, to a condition capable of supporting all practicable uses which it was capable of supporting immediately prior to exploration or mining operations, or equal or better uses that have been approved in the mining plan.

3041.2-2(f)(2) - replace overburden and waste in the mined area by backfilling (compacting where necessary), grading or other means so as, to the maximum extent practicable, eliminate highwalls and spoil piles and restore the approximate original contour. Shape excess overburden and spoil material so as to protect against slides, erosion, and water pollution. Restoration to the approximate original contour may be waived if the Director of the Geological Survey with the concurrence of the Director of the Bureau of Land

Management or the authorized officer of an other Federal surface management agency, determines that an equal or better land use is practicable and attainable and that a modification of the requirement is the best way of attaining the desired postmining land use, or unusual physical conditions at the site, such as steeply dipping coal beds or multiple seam mining, exist which make backfilling to the otherwise applicable standards impractical or environmentally undesirable.

3041.2-2(f)(3) - stabilize and protect all surface areas including spoil piles affected by mining and reclamation to effectively control erosion, slides, and attendant air and water pollution.

3041.2-2(f)(4) - remove topsoil separately, replace it on the backfill area or segregate it in a separate pile if not utilized immediately. If it is not replaced on the backfill area within a short time, a cover of quick-growing plants must be established and maintained, or other methods employed, so that the topsoil is preserved from wind and water erosion and the establishment of noxious plant species and is in a condition for sustaining vegetation.

3041.2-2(f)(5) - construct all water impoundment, water retention facilities, dams, or settling ponds on the mining site using sound engineering standards and practices in accordance with applicable State and local laws and insure that the quality and quantity of water is adequate for its intended use. Final grading must provide adequate safety and access for proposed or

reasonably anticipated water users. Such water impoundments must not have a significant adverse impact on the water resources utilized by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses.

3041.2-2(f)(6) - cover or plug all auger mine holes with noncombustible material and, where necessary to minimize or prevent harmful drainage, impervious material.

3041.2-2(f)(7) - minimize disturbance to the prevailing quality and quantity of water in surface and ground water systems, and of the prevailing erosion and deposition conditions at the mine site and in adjacent offsite areas, both during and after coal mining operations and during reclamation by:

(i) controlling acid or other toxic mine drainage and the adverse consequences thereof.

(ii) conducting surface mining operations so as, to the maximum extent practicable, to prevent (A) contributions of suspended solids to stream flow or runoff outside the mining site above natural levels; (B) deepening or enlargement of natural or reconstructed stream channels.

(iii) removing or modifying siltation structures after disturbed areas are revegetated and stablized.

(iv) protecting to the maximum extent practicable throughout the mining and reclamation process the quality and quantity of both upstream and downstream surface and ground

water resources of those valley floors which provide water sources that support significant vegetation, or supply significant quantities of water for other purposes, by such measures as, but not limited to, relocating and maintaining the gradient of streams.

3041.2-2(f)(8) - dispose of all waste resulting from the mining and preparation of coal in a manner designed to prevent, to the maximum extent practicable, air and water pollution and the hazards of ignition and combustion.

3041.2-2(f)(9) - refrain from surface coal mining within 200-feet of active and abandoned underground mines except as authorized in the mining plan.

3041.2-2(f)(10) - use explosives only in accordance with existing Federal and State laws and as specified by the Mining Supervisor.

3041.2-2(f)(11) - construct, maintain, and, when they are no longer necessary, remove roads, pipelines and other similar facilities into and across the site of operations in a manner that will control or prevent erosion and siltation, pollution of water, damage to fish or wildlife or their habitats, or public or private property, unless otherwise authorized to leave such facilities by the authorized officer of the surface management agency and the Mining Supervisor.

3041.2-2(f)(12) - not construct roads or other access ways in or near stream beds or drainage channels that would seriously alter the normal flow of water therein.

3041.2-2(f)(13) - except where other reclamation is expressly provided for, establish on the regraded areas and all other affected lands a diverse vegetative cover, assume responsibility for successful revegetation of each planting area until such time as the authorized officer of the surface management agency determines that successful revegetation has occurred. This period extends for a minimum of five full years after the first year of planting and for a total period of liability not to exceed 10-years from the original planting, except that an additional 5-years liability may be required where the authorized officer determines that the 10 year period is insufficient to insure successful revegetation.

3041.2-2(f)(14) - allow access to and upon the affected Federal land subject to lease, permit, or license for all lawful and proper purposes except where such access would unduly interfere with the authorized use or would constitute a hazard to public health and safety. Regulate public access, vehicular traffic, and wildlife and livestock grazing in all areas of active operations, including lands undergoing reclamation, by providing warnings, fencing, flagmen, barricades, and safety and protective measures, as appropriate, in order to protect the public, wildlife, and livestock from hazards associated with the operations and to protect revegetated areas from unplanned and uncontrolled grazing.

3041.2-2(f)(15) - plan coal storage areas to eliminate fire hazards; immediately take all necessary measures to extinguish fires that may occur during the term of the lease.

3041.2-2(f)(16) - cover the face of the coal upon completion or indefinite suspension of mining operations.

3041.2-2(f)(17) - refrain from driving any undergound openings by auger or other methods from any strip pit except as may be specifically approved by the Mining Supervisor.

3041.3 Compliance of Performance Bond

This section is somewhat different from part 23.9 in that the provisions of 43 CFR subpart 3504 are made applicable in determining the 3041.3 bonding requirements. In addition, the authorized officer and the Mining Supervisor must consider the cost of complying with the performance and reclamation standards in 3041.2-2 and the terms and conditions of the lease, permit, or license. The authorized officer of the surface management agency must set the amount of the bond and take the necessary action for an increase or partial release of a bond, after consultation with the Mining Supervisor.

3041.4 Procedures and Public Participation

This section is new and does not appear in part 23. It provides for written documentation of decisions, determinations, and notifications of any authorized officer with respect to issuance of leases and abandonment of operations. Any such written findings must set forth the facts and rationale upon which such decisions or determinations are based and shall be available for public inspection at the offices of the above Federal officer.

Applications for leases, permits, or licenses, together with accompanying plans and information submitted by the applicant and any reports, special terms and conditions and other pertinent data prepared by the Federal officer shall also be available for inspection for a period of 30-days following posting of notice.

Upon the written request to the appropriate authorized officer of any person having an interest which is or may be adversely affected, a public meeting may be conducted prior to acting on issuance of leases, permits, or licenses; approval of mining plans or major modification thereof; and, approval of final abandonment of any operation or portion thereof.

3041.5 Completion of Operations and Abandonment

This section is new and prescribes procedures for cleanup after operations have been temporarily or permanently abandoned. Upon completion of backfilling and grading and before replacing topsoil and revegetation, the operator must submit a report thereon and request an inspection of the Mining Supervisor for his approval. When it is determined that grading and backfilling have met the requirements of the approved plan, the Mining Supervisor shall recommend to the appropriate, authorized officer release of an appropriate amount of the compliance bond.

In areas of temporary abandonment, with no current operations the operator must substantially backfill, fence, protect, or otherwise effectively close all surface openings, auger holes, areas prone to subsidence, and surface facilities or workings which are a hazard to people or animals. Conspicuous signs must be posted

prohibiting entrance of unauthorized persons. In areas of permanent abandonment, all openings and excavations, including water discharge points, must be closed or backfilled, or otherwise permanently dealt with in accordance with sound engineering practices and according to the approved plan. Drill holes, trenches, and other excavations for development or prospecting shall be abandoned in a manner to protect the surface and not to endanger any present or future underground operations. Methods of backfilling must be approved in advance by the Mining Supervisor.

3041.6 Reports

This section is essentially unchanged from part 23 in the requirements for periodic reports from the operator covering backfilling and regrading, revegetation, acreage disturbed and reclaimed, and cessation or abandonment of operations. These reports are filed annually with the Mining Supervisor or within 30-days prior to abandonment or after each revegetation planting is completed.

The Mining Supervisor and the authorized officer of the surface management agency must, as soon as possible after each full growing season, inspect and evaluate the revegetated areas to determine if satisfactory vegetative growth has been established pursuant to 3041.2-2(f)(13).

3041.7 Notice of Noncompliance: Revocation

This section expands and strengthens part 23.11. If the authorized officer determines that an operator is in noncompliance

with the requirements of a lease, permit, or license, applicable regulations, or the approved mining plan, and that such noncompliance threatens immediate, serious or irreparable damage to the environment, resources, health and safety of the employees and the public, he must serve oral notice of noncompliance upon the operator and must promptly notify the Mining Supervisor, who must orally indicate remedial action followed by a written notice of noncompliance, where appropriate.

If the authorized officer determines that an operator is in noncompliance and such noncompliance does not threaten immediate, serious or irreparable damage to the environment, resources, health and safety of the employees and the public, the authorized officer will refer the matter to the Mining Supervisor for remedial action.

Failure of the operator to take action in accordance with a written notice on noncompliance issued by the Mining Supervisor in accordance with the provisions of 30 CFR 211.72 will be grounds for suspension of the operation and for possible cancellation of the lease, permit, or license in accordance with the regulations in 43 CFR Part 3500.

3041.8 Application of State Laws

This section does not appear in part 23, although it has been Departmental policy for some time to allow application of State reclamation standards to Federal mined lands where such application is not inconsistent with Federal law or regulations.

The proposed 3041 regulations allow the Secretary, upon request of the Governor of any State, to review the laws, regulations, administrative practices and procedures in effect or due to come

into effect with respect to reclamation of lands disturbed by surface mining of coal which are subject to the jurisdiction of that State, to determine whether such controls may appropriately be applied as Federal law to operations relating to coal owned or subject to the jurisdiction of the United States.

After such review, the Secretary may, by order, direct that all or part of such State laws, regulations, practices, and procedures shall be applied as Federal law by the authorized officer of the Department with respect to coal within that State owned by or subject to the jurisdiction of the United States.

The Secretary may also enter into agreements with such States to provide for a joint Federal-State program with respect to surface coal mining and reclamation operations for administrative and enforcement purposes.

30 CFR 211

Coal mining operating regulations

The provisions in the existing 30 CFR 211 regulations date to a large degree from their initial promulgation soon after the passage of the Mineral Leasing Act of 1920, although there have been amendments to certain sections over the years. In overseeing coal mining operations under Federal and Indian leases, permits, or licenses, the Geological Survey's Area Mining Supervisors have been increasingly guided by requirements contained in GS manuals and in supplementary regulations, such as 43 CFR 23 and 25 CFR 177. Most importantly, it has been the practice to require Federal lessees to comply with the applicable provisions of reclamation laws and regulations of the State in which an operation is conducted, insofar as the environmental protection provided by the State standards is at least as stringent as that provided by the provisions of Federal laws and regulations.

The two primary purposes of these revisions to 30 CFR 211, then, is (1) to delete obsolete materials and include new provisions and requirements consistent with modern mining practices, and (2) to incorporate additional requirements designed to ensure the protection of environmental values and the effective reclamation of lands affected by the development of Federal and Indian coal resources. As is the case with the 43 CFR 3041 regulations, the changes in 30 CFR 211 will be implemented in part by appropriate revisions of Departmental manuals and directives, and by the issuance

through rulemaking of general coal mining orders applying to specific geographic areas.

Major changes from previous regulations include the following:

211.1 Scope and Purpose

This section makes it clear that these regulations apply to coal mining operations involving Federal coal, and Indian coal administered by the Department, regardless of surface ownership (see discussion under 43 CFR 3041.0-1 above). The statement of purpose has been revised to reflect the Department's policy ". . . to ensure that operating practices will avoid, minimize, or correct resulting damage to the environment and to public health and safety; to require effective reclamation of affected lands as contemporaneously as practicable with coal development; and to assure that all operations involving significant surface disturbance take place only pursuant to plans approved in advance thereof and that such plans are approved only where reclamation of the affected lands to the standards set forth herein is attainable and assured; . . .".

The provisions of these regulations are to become effective upon publication in the Federal Register except that existing operations are allowed 180 days to bring their activities into compliance with the performance standards contained in 211.40 and up to 18 months to obtain approval of a plan which complies with all of the provisions of these regulations. Existing operations are defined to include all operations with an approved plan as of the date of publication of these regulations, or proposed operations that meet other specific criteria.

These regulations will be effective upon publication with respect to all operations not meeting the "existing operations" criteria.

Finally, it should be noted that provisions pertaining to the health and safety of miners have been deleted; this aspect of coal mining is now covered by the Coal Mine Health and Safety Act of 1969 and 30 CFR Chapter I.

211.3 Responsibilities

The authority and responsibilities of the Mining Supervisor have been clarified, made more explicit or expanded, as follows:

- His authority to approve, disapprove, approve upon condition or require modification of exploration and mining plans has been made more explicit.
- He has been authorized to issue through rulemaking general coal mining orders, with the prior approval of the Chief of the Conservation Division, to assist in implementing these regulations in a manner that reflects the varied conditions experienced in different coal mining areas.
- His responsibility to consult with the authorized officers of appropriate Federal surface management agencies prior to taking certain final actions has been clarified.
- His responsibility to assure the protection of environmental values and the effective reclamation of affected lands has been made more specific in paragraphs dealing with cessation and abandonment of operations, compliance with air and water quality control measurues, and determination of the amount of compliance or performance bonds to be provided.

211.4 General obligations

In addition to the general obligations discussed in 43 CFR 3041.2-2 above, the operator is now required by the provisions of this section to minimize, control, and, to the maximum extent practicable, avoid a wide range of adverse impacts on environmental quality or social well-being. The operator must also monitor water quality, when and as required by the Mining Supervisor, so as to minimize, control, or avoid water pollution pursuant to related provisions in these regulations.

211.5 Procedures and Public Participation

See 43 CFR 3041.4 above.

211.10 Exploration and Mining Plans

The provisions dealing with the information required to be submitted in an exploration or mining plan, and with the procedures to be followed by the Mining Supervisor prior to taking final action on such plans, have been greatly expanded. In addition, there is an explicit prohibition of any operations, except those which do not involve significant surface disturbances, in advance of approval of a plan which contains all information required with respect to such operations. Together with the expanded provisions for public participation contained in 30 CFR 211.5, these requirements provide the primary mechanism for assuring before coal mining operations begin that such operations will meet the general goals of the Departmental policy and the specific standards of these regulations.

These plans will include a detailed description of existing

environmental conditions and land use in the area, a detailed description of anticipated environmental impact of operations, and the methods by which reclamation will either return the affected area to its premining condition, or to a condition capable of supporting alternative uses which have been approved by appropriate government agencies. The plan will also include maps and cross sections outlining each progressive phase of the operation (including exploration, development, mining, and reclamation), and the mitigating measures that will be taken to minimize the impact of each phase of operations on the environment.

This section contains specific provisions for determining whether the area of operations treated by the plan is adequate (211.10(a)(2)); for initiating changes in an existing plan, including a provision for petitions by interested persons (211.10(d)); and for determining whether to approve a plan containing a proposed degree of compliance with an absolute control or reclamation objective which is alleged to be in compliance "to the maximum extent practicable".

211.11 Approaching Oil, Gas, or Water Wells

This section requires certain precautions related to mining operations in the vicinity of known or discovered wells or bore holes.

211.12 and 211.13 Mine Maps

The operator must maintain accurate and up-to-date maps of all surface and underground workings and make them available to the Mining Supervisor upon request.

211.20 and 211.21 Prospecting and Exploration Operations

The operator must provide to the Mining Supervisor, upon request, a complete report on prospecting and exploration operations, including geologic interpretations and recoverable reserve calculations, and maps and cross sections showing location of coal outcrops, drill holes, trenches, and other prospecting and exploration activities. The records required to be maintained include a log of all strata penetrated and all geologic and hydrologic conditions encountered, and copies of in-hole surveys--this information to be collected and prepared under the supervision of a qualified geologist or engineer. Cores and samples are to be retained for one year, unless otherwise authorized by the Mining Supervisor. Methods of hole abandonment or use for other purposes must be approved by the Mining Supervisor.

211.30 through 211.36 Underground Mining

Underground mining operations must be conducted safely and in a manner to yield the maximum recovery of the coal deposits consistent with the protection and use of other natural resources, sound economic practices, and the protection of the environment. Underground mining operations must also be conducted in such a way as to prevent or control subsidence.

211.40 Operating and Reclamation Standards

See 43 CFR 3041.2-2 above.

211.41 Completion of Operations and Abandonment

See 43 CFR 3041.5 above.

211.62 Reports

See 43 CFR 3041.6 above.

In addition to the reports required in 43 CFR 3041.6, this section required lessees to report quarterly on coal production and royalty payments, and describes the penalties for failure to do so.

211.63 Basis for Royalty Computation

This section has been revised to reflect the current practice of calculating royalties based upon the gross value of the coal produced, as opposed to the weight of the coal produced. As in the existing regulations, an audit of the operator's accounts and books may be required annually, or at other times as may be directed by the Mining Supervisor.

211.70 through 211.73 Inspection, Issuance of Orders, Enforcement of Orders, and Appeals

An operator must provide means for the Mining Supervisor to inspect and investigate his operations at any reasonable time.

If the Mining Supervisor determines that an operator has failed to comply with pertinent regulations, provisions of an approved exploration or mining plan, or the terms of the lease, a notice of non-compliance will be issued. Failure of the operator to take action in accordance with the notice of non-compliance will be grounds for suspension of operations.

If, in the judgment of the Mining Supervisor, an operator's non-compliance threatens immediate and serious damage to the environment, the coal resource being mined, or other mineral and

non-mineral resources, he is authorized to order the immediate cessation of the activities involved.

Orders, notices, or decisions issued pursuant to these regulations may be appealed as provided in 30 CFR 290.

211.74 Applicability of State Law

See 43 CFR 3041.8 above.

Interrelationships with Other Agencies and Programs

Federal agencies

The Bureau of Land Management (BLM) classifies and manages national resource lands and their related resources according to principles of multiple use, sustained yield, and environmental quality. In the Federal coal leasing program, the Energy Minerals Activity Recommendation System (EMARS), the BLM exercises the Secretary of the Interior's discretionary authority under the mineral leasing acts to determine whether or not leases, permits, or licenses are to be issued. After consultation with the Geological Survey (GS), BLM is responsible for issuing leases and, on lands administered by BLM, for formulating the surface, non-mineral resource protection and rehabilitation requirements to be incorporated in them. With respect to those Federal coal deposits where BLM has surface management responsibilities, and on private surface overlying Federal coal, BLM reviews the adequacy of environmental protection and rehabilitation aspects of all mining operation plans. BLM also is responsible for compliance examinations on lands within its jurisdiction but outside areas of operation which are the principal responsibility of the Geological Survey.

The Geological Survey is responsible for geologic, engineering, and economic value determinations needed for Federal coal leasing and for supervision of coal mining operations on Federal lands under the terms of leases issued by the BLM, after consultation with the appropriate surface management agency. The GS

approves operating plans which meet requirements of the mineral leasing acts, regulations, and lease terms and conditions, including environmental and rehabilitation stipulations. It makes compliance examinations of operations under Federal and Indian leases and maintains records of operations of lessees, permittees, and licensees.

The Forest Service (FS) manages surface resources of the national forests and national grasslands. All lands under Forest Service jurisdiction are managed in accordance with the principles of multiple use and sustained yield, as expressed in the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 2.5, 16 U.S.C. 528531).

Lands managed by the FS are generally subject to mineral leasing by the Department of the Interior, in accordance with the constraints and direction developed in multiple use planning. The FS recommends stipulations for inclusion in leases on public domain forest land and must grant concurrence prior to any leasing of acquired forest lands. These leases and permits are subject to the performance standards and other requirements of the proposed 43 CFR 3041 and 30 CFR 211 regulations.

The Environmental Protection Agency (EPA) administers both the Clean Air Act and the Federal Water Pollution Control Act in conjunction with approved State pollution control programs. The Clean Air Act requires that any entity proposing a new industrial facility (fossil-fuel-fired steam generators) must obtain a permit certifying that the plant complies with EPA's new source performance standards.

The heart of the water quality program is also a permit system which requires any entity discharging pollutants that may enter receiving streams and lakes waters to obtain a permit. EPA effluent guidelines and State water quality standards determine whether any specific permit may be issued.

The Bureau of Indian Affairs (BIA) is responsible for administering the lands and resources held in trust for Indian tribes by the United States. The BIA assists tribes in the orderly development of their natural resources. When development of minerals is contemplated by an Indian tribe, the BIA, accompanied by representatives of the tribe and GS, makes technical examinations of lands under consideration and formulates general requirements for operating and reclamation standards based on the technical examination. The GS approves mining and exploration plans after consultation with BIA and the tribe.

The BIA and GS both inspect operations for compliance, and GS enforces compliance after consultation with BIA. Leases for coal exploration and development are essentially contracts between the tribes and the mining companies, but require the approval of the Secretary as trustee.

Health and safety aspects of coal mining are overseen by the Mining Enforcement and Safety Administration (MESA) under the Federal Coal Mine Health and Safety Act of 1969.

State agencies

Many of the States underlain with Federal coal and some Indian tribes owning coal resources have passed laws and regulations

or amended their existing statutes as regulatory experience was gained and new needs and improved technology made stronger requirements both practical and advisable. However, variations exist between States as to stringency and applicability to cover both mining and reclamation measures being required. The existing practice under Federal coal leases is to require compliance with the applicable mining laws of the State in which the mining is being performed, unless measures under existing Federal regulations are more stringent. The proposed regulations would formalize this practice and in addition, except for Indian lands, allow the development of joint Federal-State agreements regarding the administration and enforcement of applicable reclamation laws and regulations.

Prior to selection of areas or tracts for Federal coal leasing and development, the BLM consults with State and local planning agencies and considers their recommendations as to terms and conditions of the leases, permits, or licenses and post mining land use.

Relationships with private interests

Interaction between private and Federal property interests occurs frequently throughout the Federal coal States. This has resulted from the historical Federal practice of conveying land to private ownership with reservation to the United States of some or all minerals underlying the land. The Acts of June 22, 1910, (30 U.S.C. 83-85) and July 17, 1914, (30 U.S.C. 121-124) were the earliest Federal statutes calling for this reservation.

In the case of reservation of coal, the Act of June 22, 1910, provides that any person having rights to prospect for or mine the coal may enter and occupy the land for that purpose. He must first pay the surface owner for damages caused by his operation or post a bond to cover those damages.

By far the most common reservation of minerals occurs with lands which passed to private ownership under the Stockraising Homestead Act of December 29, 1916,(39 Stat 862; 43 U.S.C. 291-302). Section 9 of that Act provides that all conveyances of land under its provisions shall contain a reservation to the United States of all minerals, together with the right to prospect for, mine, and remove them. In addition, the law spells out in some detail the relative rights of the surface owner and the holder of mineral rights. Again, there is provision for posting of bond by the holder of any mineral rights (lease) for the benefit of the surface owner if agreement with the surface owner cannot be reached. Liability of the holder of mineral rights is limited to damage to crops (including forage) or other tangible improvements. Damages for reduction in the value of land for grazing can be awarded pursuant to the Act of June 21, 1949, (63 Stat 215; 30 U.S.C. 54).

Bonds posted under the above Acts are filed with the BLM. If amounts of the bonds are protested as inadequate by the landowner, BLM must decide the proper amount.

In recent years, BLM has further concerned itself with protecting interests of surface landowners when it proposes to issue

new coal leases by consulting with the landowners when preparing terms and conditions for inclusion in the leases. Protection of facilities critical to the landowners' ranching operations is of particular concern. BLM field offices make similar contact with landowners when reviewing lessees' proposed mining plans which are submitted to BLM by GS for comment and recommendations.

CHAPTER II

DESCRIPTION OF THE ENVIRONMENT

The Northern Great Plains and Rocky Mountain coal provinces contain 921,100 acres of the 1,022,200 acres of Federal and Indian coal resources leased in the United States. The Pacific Coast coal province contains comparatively little coal, but much of it is on Federal coal land. Because the principal impacts of the proposed revised regulations will be most noticeable in the western coal-producing areas, the environments of the western provinces are described in greater detail than those of the Eastern, Gulf, and Interior coal provinces. However, all descriptions are brief and in broad terms because detailed environmental analyses will be prepared on a case-by-case basis in the diverse coal provinces before leases are issued. For ease of reference, the provinces are discussed geographically, from west to east.

PACIFIC COAST COAL PROVINCE (INCLUDING ALASKA)

Of the nationwide total of 530 Federal coal leases, 10 are in this province. Four of these are in Alaska.

A. NATURAL ENVIRONMENT

1. GEOLOGY

a. Coal areas in California, Oregon, and Washington

The principal coal fields are in the Pacific Mountain physiographic system, which extends through California and western Oregon and Washington and comprises two major mountain chains and their related intermontane basins and troughs (Fenneman, 1931).

The system includes two principal physiographic provinces: The Pacific Border province is characterized by a chain of mountains along the coast and a broken line of valleys east of these mountains; the Sierra-Cascade Mountains province to the east includes the Northern and Middle Cascade Mountains of Washington and Oregon and the Southern Cascade Mountains and the Sierra Nevada in northern California.

The mountains of these provinces consist of metamorphic and sedimentary rocks, granitic intrusive rocks, Tertiary basin-fill deposits, and extensive areas of volcanics. The mountains are due in part to igneous intrusions and crustal movement and in part to volcanic accumulation. The topography ranges from rolling hills and flat alluvium-filled valleys to towering volcanoes along the rugged crest of the Cascades.

In California, small deposits of coal are scattered throughout the State in 43 counties, but mining or intensive prospecting has been carried on at less than a dozen localities (fig. 2-1). The coal is mostly Eocene to Miocene in age and ranges in rank from lignite to high-volatile B bituminous. The higher rank coals are largely due to structural deformation, and they occur in the highly folded and faulted rocks along the Coast Ranges (Landis, 1966).

Oregon also has many small deposits of coal scattered across the southwestern and northern parts of the State (fig. 2-1). Coal deposits range from subbituminous C in the Coos Bay field to bituminous in the unique deposits in the John Day basin area. In the John Day area, coals as thick as 3 feet are enclosed by tuff and interbedded

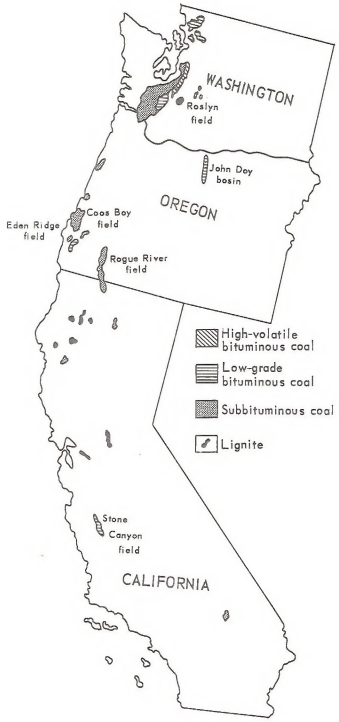

Figure 2-1.--Pacific Coast coal province with locations of selected coal deposits and fields and dominant type of coal in each. (After U.S. Department of the Interior, 1975.)

flows of andesite and other igneous material in the Mascall Formation of Miocene age. In southwestern Oregon, coals of the Umpqua Formation of Eocene age are covered by extensive lava flows (Mason, 1969).

Washington has larger and more extensive coal deposits than Oregon (fig. 2-1). They range from lignite to anthracite, but most are subbituminous and bituminous; some are of coking quality. The coal is mostly Eocene in age but ranges from pre-Tertiary to Miocene. The moderately high ranks of the Eocene coals are largely due to compression during intense structural deformation. The high ash content of some coals was caused by volcanic ash falls during accumulation of the coal (Beikman and Gower, 1966).

The principal coal areas occur along the western margin of the Cascade Range in a discontinuous belt that extends from the Canadian border south to the Columbia River. The major coal-producing area has been the Roslyn field on the east flank of the mountains, where several coal beds as thick as 7 feet are mined. The coals increase in value and rank to the west toward the mountains.

The Centralia-Chehallis district on the west side of the mountains encompasses more than 200 square miles. In this area, coal beds occur in the Skookumchuck Formation of late Eocene age; are generally of lower rank, ranging from lignite to subbituminous B; and are thicker, ranging in thickness to 40 feet.

Most coal areas in Washington have gently to steeply dipping strata, faults, and locally extensive glacial cover that makes surface tracing of coal beds and prospecting difficult.

b. Coal areas in Alaska

The four major physiographic divisions in Alaska are, from north to south, the Interior Plains (which also constitutes the Arctic Coastal Plain province), the Rocky Mountain System, the Intermontane Plateaus, and the Pacific Mountain System. The principal recognized coal regions are the Central Alaska region in the Intermontane Plateaus, the Cook Inlet-Susitna, Alaska Peninsula, and Southeastern Alaska regions in the Pacific Mountain System, and the Northern Alaska region which lies partly in the Arctic Coastal Plain and partly in the Arctic Foothills of the Rocky Mountain System (Barnes, 1964; Wahrhaftig and Gates, 1964).

The part of the great Northern Alaska coal region that occupies the Arctic Coastal Plain is in the Alaskan counterpart of the Interior Plains physiographic system of the conterminous United States. The Arctic Coastal Plain rises imperceptibly from the Arctic Ocean to a maximum altitude of 600 feet at its southern margin; is almost without relief, except for low hills; and has thousands of lakes and swamps. The Arctic Foothills province, which contains the rest of the coal region, is over 600 feet high and consists of rolling plateaus and low linear mountains rising southward to the broad northern flanks of the Brooks Range.

The Intermontane Plateaus, between the Brooks Range to the north and the Alaska Range to the south, include dissected uplands and broad alluvium-floored lowland basins drained largely by the Yukon and Kuskokwim river systems. Several occurrences of coal are

reported in this area, which encompasses most of the Central Alaska coal region, but most deposits if mined at all, have been mined only for local usage, which in the early 1900's comprised largely river steamboats. The active Nenana coal field, considered geographically a part of the Central Alaska coal region, is south of Fairbanks in the northern foothills of the Alaska Range.

The Pacific Mountain System consists of two mountainous-belt provinces, the Pacific Border Ranges along the south-central and southeastern coasts and the Alaska-Aleutian province, which comprises, from east to west, the Coast Mountains, the Alaska Range, the Aleutian Range, and the Aleutian Islands. These provinces are separated by the Coastal Trough province, which includes the Copper River Lowland and the Cook Inlet-Susitna Lowland; the latter contains one of the principal coal regions in the State.

Figure 2-2 shows the locations of the principal Alaskan coal fields, keyed to the dominant type of coal in each.

1. Northern Alaska coal region (fields)

Lower and Upper Cretaceous coal-bearing rocks underlie an estimated 58,000 square miles of the land north of the Brooks Range and west of the Colville River (fig. 2-2). These beds have been moderately to gently folded, the intensity of folding increasing to the south toward the mountains. Bituminous and subbituminous coal beds, ranging in thickness from 3 to 20 feet, crop out along the banks of the major rivers in the area, suggesting that much, if not most, of the entire area is underlain by coal beds. Minor occurrences of coal-bearing rocks of Paleozoic age occur along the northwest coast, south of Cape Lisburne; though high in rank, they are structurally complex and of little economic value.

Figure 2-2.--Principal coal fields in Alaska with dominant type of coal in each. (After U.S. Department of the Interior, 1975.)

2. Central Alaska coal region (fields)

This region in the Intermontane Plateaus has high potential resources of coal but is largely unexplored; its coal is mainly of Late Cretaceous and early Tertiary age, although at least one coal locality may occur in the Nation River Formation of Late Devonian age. The coal in the region reportedly ranges in rank from lignite to bituminous. About 9 feet of clean coal occurs on the Middle Fork of the Koyukuk River; 85 feet of lignite, in the Seward Peninsula district. Localities have mostly small isolated exposures, and though several outcrops might be present in an area, surficial cover or complex geologic structures commonly preclude tracing particular beds great distances. The Nenana field (fig. 2-2), ranked first in production in the State in 1964, is included in the Central Alaska region by Barnes (1964), and physiographically it lies in the northern foothills of the Alaska Range. The coal field extends in isolated basins at least 80 miles along the north flank of the mountains, and it ranges in width from 1 mile to more than 30 miles. The subbituminous coal beds range in thickness from a few inches to 60 feet and are contained in Tertiary rocks that have been folded and faulted.

3. Cook Inlet-Susitna coal region (the Susitna-Kenai coal fields)

Located in the Coastal Trough physiographic province, this coal region is bounded on the north and west by the Alaska Range and on the south and east by the Kenai-Chugach Mountains. The area includes a wedge of moderately deformed marine clastic rocks of late Mesozoic age and beds of predominantly nonmarine, poorly consolidated Tertiary

coal-bearing rocks that overlie older rocks. The coal in the region ranges from lignite to subbituminous in the Susitna field (fig. 2-2) and, although primarily bituminous, to anthracite in the vicinity of thick sills intruded into the Chicaloon Formation in the Matanuska field (fig. 2-2); the latter field ranked second in production in the State in 1964, exceeded only by the only other primary producer, the Nenana field. Coal thickness in the region ranges from as much as 23 feet of high-volatile bituminous coal in the Matanuska field to more than 50 feet of subbituminous coal and lignite in the Susitna field. Not all of the vast resources of coal in the region is minable owing to the complex coal distribution patterns caused by folding and faulting.

4. Alaska Peninsula coal region

Cretaceous bituminous coal occurs in the region in moderately folded and faulted beds; Tertiary lignite, in fairly flat lying beds of sand, clay, and gravel. Beds of both types vary greatly in thickness, and no mining has been attempted in the area for many years.

5. Southeastern Alaska coal region

This region includes the southeast Alaska panhandle and a narrow coastal belt along the southeast shore of the State. Tertiary lignite occurs at most localities scattered throughout the panhandle. However, subbituminous and bituminous coal predominate in the more significant deposits such as the Bering River field (fig. 2-2), where the rank increases westward to semianthracite and anthracite in the highly deformed crushed and sheared beds of the Kushtaka Formation, of lower Tertiary age, and the coal occurs in many beds which range in thickness

from a few inches to 60 feet. Much surface and underground prospecting has occurred in the Bering River area, but no commerical mining has resulted.

2. TOPOGRAPHY

The Pacific Coast coal province, including Alaska, is mostly mountainous and has wide variations in relief. The highest peak in North America, Mt. McKinley in Alaska, tops 20,000 feet. The Alaskan mountains, which include the Brooks, Aleutian, and Alaska Ranges, are the highest and roughest in the Nation; between the Brooks and Alaska Ranges are the Arctic Lowlands and central basin in Alaska. Mountains in the Cascade Range and the Sierra Nevadas exceed 14,000 feet in elevation. Between these ranges are the Central Valley in California and the Puget-Willamette Lowlands in Washington and Oregon. The mountains of this area are young and may still be rising; they trend north-south and include many isolated volcanic cones.

3. CLIMATE

The Pacific Coast coal province has the widest range of climate in the country. The annual precipitation varies from less than 8 inches in the desert of southern California to over 200 inches in the Olympic Peninsula of Washington. They valleys typically have less precipitation annually than do the mountains, and the higher amounts occur along the coasts of northern California, western Oregon and Washington, and southern Alaska. Some coastal areas and coastal mountains receive more than 5 inches of precipitation within a 24-hour

period. Most precipitation occurs from November through February; June, July, August, and September are the drier months, but this is relative because seasonal as well as total precipitation are considerably higher in coastal southern Alaska than along the coasts of the western conterminous United States. Interior Alaska receives most of its moisture in July, August, and September.

The temperatures are more moderate along the coast than in the interior, owing to the steady flow of the Japan Current across the Pacific Ocean which tends to keep the temperatures from changing rapidly. The temperature in Southern California averages more than 50 degrees F in January and more than 90 degrees F in July. In comparison, the temperature in interior Alaska averages -10 degrees F in January and more than 50 degrees F in July. Temperature is affected primarily by elevation, latitude, and distance from the ocean. The number of freeze-free days per year ranges from more than 300 in southern California to less than 30 in northern Alaska. Each year, the higher mountains typically have less than 90 freeze-free days, while the highly productive agricultural land of California has more than 240 freeze-free days.

Winds along the coast typically come from the west most of the year, except in Alaska where winds blow generally from the middle of the State toward the Bering Sea and the Pacific Ocean during all but the summer months when this trend is reversed. In Oregon and Washington, much of the wind in the fall and winter comes from the southwest. The coastal areas are subject to fog much of the year.

4. HYDROLOGY

The northwestern part of the Pacific Coast coal province and parts of Alaska have large supplies of both surface water and ground water. However, not all parts of the region have abundant water, and many large diversion canals and aqueducts transport surface water from areas of high runoff to areas of low runoff. Most surface waters have low dissolved-solids content, and sediment concentrations in major streams are generally low except during peak flow periods.

Ground-water yields are high in many parts of the province. The water is generally of good quality but may be poor in some places.

In the Alaskan part of the province, large amounts of good-quality surface water are available in the southeastern and some coastal areas of the State, although some is acidic (pH=4 or 5); in interior and arctic Alaska, however, the availability is seasonal at best and often inadequate then. Runoff is highly variable, especially in the low-lying areas along the Gulf of Alaska where runoff is a function of glacial melting, which produces extreme diurnal and seasonal variation. The quality of the water is generally excellent except for the high sediment content in many glacier-fed streams and the high acidity in streams that drain extensive marshy and swampy areas. The latter streams also have high iron and organic content.

Most ground-water supplies are obtained from river alluvium, which contains large amounts of ground water--generally with high iron content. Ground water in areas overlain by permafrost is usually of poor quality.

5. SOILS

Table II-1 lists some of the characteristics, uses, and limitations of the dominant soils within the Pacific Coast coal province. In addition to providing general information for each soil, the table also lists specific items, such as the unified classification of the subsoils for engineering uses and hydrologic groups. The listed soil series are not inclusive, and although they occur extensively, they must be viewed as examples. Detailed onsite soil surveys must be made before all types of soil are known. More detailed information on soil characteristics and limitations may be obtained from the soil-survey reports listed as sources.

6. VEGETATION

The coniferous forest of the Pacific Coast coal province consists of three well-defined forest types:

1. The taiga coniferous forest spreads across interior Alaska, following water courses to the timberline on the south side of the Brooks Range.
2. The montane coniferous forest and alpine communities cover the Cascade Mountains in Washington and Oregon, the Siskiyou Mountains in Oregon, and the inner Coast Range and Sierra Nevada in northern California from woodland transition to timberline.
3. The northwest coastal forest, the most dense coniferous-forest type, extends along the Pacific coast from southern Alaska to western Washington, western Oregon, and northwestern California.

Table II-1.--Characteristics, uses, and limitations of dominant soils in the Pacific Coast coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Hugo	California (USDA, 1972d)	SC	4-8	B	0-70	conifer forests, shrubs, grasses, and forbs	forestry
Limitations:	Good timber-producing soils, well drained, very gravelly soils, very severe erosion hazard.						
Clearlake	California (USDA, 1972d)	CH	8-10	D	0-3	grasses, shrubs, and forbs	hay, grain, and orchards
Limitations:	Shrink-swell potential high, 3 to 5 feet to seasonal water table, surface cracks when dry, runoff slow until surface is sealed when it becomes rapid, drainage improves productivity.						
Yolo	California (USDA, 1972d)	ML, CL	9-12	B	0-3	annual and perennial crops	cultivated crops and orchards
Limitations:	Subject to flooding, well drained.						
Orford	Oregon (USDA, 1970d)	MH	9-12	C	0-65	conifer forest	wood crops
Limitations:	Well-drained uplands, severe erosion hazard.						

1/ 2/ 3/ See footnotes at end of table.

Table II-1.--Characteristics, uses, and limitations of dominant soils in the Pacific Coast coal province--Continued

Soil name	Locations (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Active Daneland	Oregon (USDA, 1970d)	SP-SM	--	--	0-60	none	recreation
Limitations:	Unstable and subject to severe soil blowing, droughty, vegetation difficult to establish.						
Hembre	Oregon (USDA, 1969e)	ML	9-12	B	0-70	conifer forest	wood products
Limitations:	High erosion hazard in cutbanks, highly productive stable mantles.						
Nehalem	Oregon (USDA, 1969e)	ML or CL	9-12	B	2-8	grass and legumes	pasture
Limitations:	Alluvial bottoms, subject to flooding.						
Amity	Oregon (USDA, 1972c)	ML or CL	9-12	C	0-8	annual and perennial grasses	pasture, grains, and seed
Limitations:	Somewhat poorly drained, low terraces, compaction hazard severe, water table restricts use.						
Kinney	Oregon (USDA, 1972c)	ML	5-9	B	0-70	conifer forest	wood products
Limitations:	Well-drained uplands, unstable on steep slopes, erosion hazard severe on steep slopes, subject to frost heaving.						

1/ 2/ 3/ See footnotes at end of table.

Table II-1.--Characteristics, uses, and limitations of dominant soils in the Pacific Coast coal province--Continued

Soil name	Locations (source)	Unified classifi-cations 1/	Available water capacity (inches) 2/	Hydro-logic group 3/	Range in percent slope	Vegetation	Major use
Cinabar	Washington (USDA, 1972b)	ML	12+	B	0-85	conifer forests, annual and perennial grasses	hay, pasture, and wood products
Limitations:	Well drained, terrace, erosion hazard on cutslope and compacted areas severe.						
Puyallup	Washington (USDA, 1972b)	SM	6-9	B	0-3	row crops, hay pasture, and orchards	farming
Limitations:	Somewhat excessively drained, subject to flooding, pervious when compacted.						
Grove	Washington (USDA, 1960b)	GP-GM	3-6	A	0-60	conifer forests	wood products, feed crops, homesites
Limitations:	Glacial outwash plains, gravelly soils, droughty and low in fertility.						
Coal Creek	Alaska (USDA, 1968b)	CL	9-12	D	0-3	sparse birch, white spruce, cedar, and willow	wood crops, hay, pasture
Limitations:	Poorly drained, silty soil in stream valleys, extremely acid topsoil.						

1/ 2/ 3/ See footnotes at end of table.

Table II-1.--Characteristics, uses, and limitations of dominant soils in the Pacific Coast coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Fairbanks	Alaska (USDA, 1963)	ML	3-6	D	0-45	spruce, birch, alder	wood products
Limitations: Very susceptible to erosion by water.							

1/ GP: Poorly graded gravels or gravel-sand mixtures, little or no fines; GM: Silty gravels, gravel-sand-silt mixtures; SP: Poorly graded sands or gravelly sands, little or no fines; SM: Silty sands, sand-silt mixtures; SC: Clayey sands, sand-clay mixtures; ML: Inorganic silts and very fine sands, rock flour, silty or clayey silts with slight plasticity; CL: Inorganic clays with low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays; MH: Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts; CH: Inorganic clays with high plasticity, fat clays (U.S. Army Corps of Engineers, 1953).

2/ The potential amount of water a soil can hold for plant use.

3/ Hydrologic soil groups are ranked from A to D, depending on their runoff potential: group A soils have lowest rates; group D, highest rates.

Prairies also exist in three separate areas in the province:

1. The Palouse prairie consists of midgrass species, but extensive areas have been replaced by sagebrush owing to overgrazing. Large wheat crops are produced in portions of this prairie.
2. The California prairie originally consisted of midgrasses of the bunch-grass type, similar in form to those of the Palouse.
3. The coastal prairie resembles the mixed prairie of the northern temperate grassland, but the short grasses in the coastal prairie resulted primarily from overgrazing. The most common desert shrubs are sagebrush, rabbitbush, and greasewood. Common grasses are wheatgrass and Idaho fescue. Woodland brushlands occur in drier areas bordering forests, and oak is common.

7. WILDLIFE

a. Terrestrial

This section treats the wildlife associated with, in very general geographic order from north to south, the tundra biome, the boreal coniferous forest subbiome (tiaga), the northwest coastal forest subbiome, and the chaparral community.

1. Tundra

Even with the low temperatures, short growing seasons, low precipitation, and intermittent freezing and thawing of the thick, spongy mat of low tundra vegetation, many mammals and birds remain in the tundra biome throughout the year. They include the caribou, musk ox, arctic hare, arctic fox, lemming, and ptarmigan. Other

characteristic mammals of the arctic slope include the polar bear, arctic wolf, wolverine, Alaska red fox, marmot, Perry's ground squirrel, redbacked mouse, and several species of moles and shrews.

The uplands are inhabited by caribou (except in winter), Dall's sheep, grizzly bear, marmot, ground squirrel, rock ptarmigan, horned lark, and Lapland longspur.

Large numbers of birds migrate to the tundra to nest and rear their young during the brief summer, but few remain in winter; even the snowy owl may move southward. Willow ptarmigan are usually present year round.

Hordes of insects live in the low tundra. Most hibernating insects withstand surface temperatures as low as -50 degrees F, although those in the subsurface environment rarely experience temperatures below 32 degrees. Mosquitoes, gnats, flies, beetles, bugs, bumblebees, wasps, moth larvae, spiders, and mites may overwinter in plant tufts and under stones and driftwood.

2. Boreal coniferous forest subbiome (taiga)

Boreal coniferous forest species common in parts of the Alaska coal regions are caribou, Sitka black-tailed deer, moose, black and brown bears, lynx, wolverine, wolf, red fox, goats, red squirrel, snowshoe hare, northern flying squirrels, spruce grouse, crossbills, ptarmigan, redpolls, and ravens. Most animals that can tolerate cold winters with much snow use the dense evergreen growth for cover and protection. In interior and arctic Alaska, however, such growth is often sparse or absent, and the cold and snow can be serious threats

and limiting factors to wildlife populations. The herbivores are principally browsers; some, such as the moose, snowshoe hare, and grouse, depend, at least in part, on broad-leaved plant communities in burns or natural openings.

3. Northwest coastal forest subbiome

In the northwest coastal forest subbiome, there is usually a deep layer of duff and an organic soil rich in micro-organisms. The Roosevelt elk, black-tailed deer, black bear, and cougar are characteristic larger animals, and mountain beaver, brush rabbit, Douglas chickadee, northwest-coast bat, and coast mole are common. Birds that might inhabit the coal areas include the Pacific horned owl, bald eagle, sooty grouse, red crossbill, hermit warbler, and chestnut-backed chickadee.

Many small mammals, birds, and amphibians in coastal forests depend on the varied insect life that abounds in the damp mild environment and on the abundant seeds produced by evergreen trees. Deer and elk commonly utilize natural or manmade openings in the dense overstory, such as those caused by fires or logging--feeding on the resulting nutritious ground vegetation. Closed-canopy forests provide winter cover and escape shelter and are a crucial part of game-animal habitat.

Important nesting areas of snow and Canada geese, ducks, trumpeter swans, and eagles occur in the Copper River Delta of Alaska, as do extensive clam beds. This area is also a critical waterfowl migratory stop.

4. Chaparral community

The chaparral community is primarily oak brushland. It contains many important wildlife species which depend on the great

variety of chaparral and shrubs. Acorns provide food for tree and ground squirrels, certain woodpeckers, and wood ducks, and are readily used by black-tailed deer in the fall and winter. Ceanothus, manzanita, scrub oak, and mountain mahogany are preferred browse species for wintering deer. The Pokegama-Jenny Creek area of the California border provides winter range for the largest migrating black-tailed deer herd in Oregon. Several subspecies of mule deer range throughout the community in California and southern Oregon. Typical mammals include the mountain lion, bobcat, coyote, skunk, and brush rabbit. The Merriam chipmunk, California mouse, and several species of kangaroo rats and other rodents are confined to chaparral.

Other mammal species include the dusky-footed woodrat, Oregon gray fox, ringtail, and Pacific pale bat. The valley quail, scrub jay, Sacramento towhee, red-shafted flicker, and acorn woodpecker are characteristic birds. The sharp-tailed snake, Siskiyou Mountain salamander, and leopard salamander are common species.

b. Aquatic

1. Tundra

The tundra lakes, ponds, and bogs do not support large populations of aquatic life because of the slow decomposition rates and a lack of minerals and nutrients. Characteristic fish are lake trout, arctic char, grayling, whitefish, blackfish, ling, and dolly varden. Arctic grayling are abundant and well distributed in tundra waters. Shefish, pike, and salmon inhabit the major rivers. Chum, coho, and pink salmon are anadromous fish that spend part of their life cycles

in tundra streams. Sockeye salmon fry spend 1 or 4 years in the lakes before they migrate to the sea.

Tundra waters generally are of such purity that any influence of man can be detected in water quality and in changes in aquatic biota. The invertebrate fauna of insects, worms, and snails, although perhaps relatively large in number of individuals, is probably not highly varied in most parts of the province.

2. Boreal coniferous forest subbiome

Freshwater fish in this subbiome are similar to those described for the tundra.

3. Northwest coastal forest subbiome

West coast and Alaska streams produce the anadromous steelhead and five commercially important species of salmon: the chinook, sockeye, chum, pink, and coho. Migratory populations of coastal cutthroat, brook, and brown trout occur in coastal streams from California to Bristol Bay, Alaska; dolly varden, arctic char, and lake trout are also common in Alaskan coastal streams. Resident rainbow and cutthroat trout are common in some coastal forest waters, as are various warm-water and nongame fishes.

Many forms of aquatic and semiaquatic wildlife inhabit the estuaries and immediate coastal zone where coal occurs. Some of these are:

Mammals	Birds	Fish
Humpback whale	Common loon	Sea or surf perches
Sea otter	Brown pelican	Flounders
Spotted seal	Western gull	Greenlings
Pacific harbor seal	Common murre	Lingcod
California sea lion	Black brant	Rock fishes
Stellar sea lion	Surf scoter	Pacific herring
		Northern anchovy
		Smelt

Many other species of shorebirds and waterfowl use this important coastal habitat as residents or migrants. These species are dependent on clean brackish or saltwater and the adjacent beaches or mudflats of their immediate habitat or for the plants or animals that constitute their food supplies. King crabs, clams, and shrimp are abundant in many bays, and abalone are also present. Dungeness crabs are numerous in most bays, are eagerly sought as a sport catch, and support an important commerical fishery. The eelgrass plant community is very important to some species of fish, gaper clams, and Crustacea.

4. Chaparral community

Freshwater fish in this community are similar to those described for the coastal forest.

c. Endangered and threatened species

Endangered species in the tundra biome include the American and arctic peregrine falcons, which breed above and below the Arctic Circle, the trumpeter swan, and the Aleutian Canada goose, which nests on some of the islands in the Aleutian chain. Other endangered species that inhabit the coal province and may occur on Federal coal lands are listed in appendix 4.

Among the less common species in the northwest coastal forest subbiome are the endangered Columbian white-tailed deer, which inhabits parts of Oregon and Washington, and the fisher. The northern spotted owl is considered to be threatened.

B. CULTURAL ENVIRONMENT

1. LAND USES

Primary coal deposits in the Pacific Coast coal province are in Alaska and Washington. The North Slope deposit in Alaska is located in tundra, muskeg, and foothills. Owing to the location and character of the area, land uses are limited; primary use is by wildlife. Abundant and varied fish and wildlife populations help support the tourist industry but are particularly important to the Alaska citizens and the native Alaskans; for the latter especially, fish and wildlife have historically furnished the sole means of survival, a highly relevant consideration in the yet-to-be-settled native land claims. Recently mineral exploration and development activities have invaded the tundra, but most of the extensive northern oil and gas field development is far to the north and east of the northern coal fields, which are in largely undeveloped and wilderness areas.

Southern Alaska coal deposits in the vicinity of Cook Inlet are primarily within the forested area. Major land uses include minor timber production, outdoor recreation, and use by wildlife. Oil is produced within the coal area on the Kenai Peninsula.

Commercial fishing is of major importance in Cook Inlet and along the coasts of Washington and Oregon. Although not, strictly speaking, a land use, this large industry is noted here because it is dependent on the quality of forest streams and the spawning and nursery areas.

Land uses in the coal areas of Washington, Oregon, and California include agriculture (cropland and grazing), timber production, general recreation, and wildlife use. Some deposits are near areas receiving intensive commercial, residential, and industrial uses.

2. POPULATION PATTERNS AND CONSIDERATIONS

This province contains widely divergent population factors. However, Federal coal usually occurs in rural areas rather than in densely populated areas.

The Alaskan part of the province differs greatly from the other parts in that the population is comparatively small--about 350,000, of which about 60,000 are Aleuts, Eskimos, and Indians.

3. HUMAN-VALUE RESOURCES

a. Esthetic values where Federal coal occurs

1. Washington

Small, scattered pockets of Federal coal occur on the western slopes of the Cascade Range where dense coniferous forests cover rugged landforms. Strong linear contrasting forms with deep green colors, broken on occasion by massive rock outcrops, produce a scale that is full of interest and variety.

2. Oregon and California

Scattered coal deposits occur in the Siskiyou Mountains of southwestern Oregon and in the Klamath-Trinity Mountains area of northern California. Landforms are rugged, often breaking up vegetative

types with large exposed rockslide faces. Deep gorges and valleys cut through the area and emphasize the ground scale.

3. Alaska

The only Federal land currently under permit is in the rugged Chugach Mountains in southeastern Alaska. In general, esthetic values in the State are subject to extreme seasonal variations, but in the fairly flat areas of the Arctic Coastal Plain, where several coal deposits are known, very few esthetic-value changes are apparent in either texture or color. A soft pattern of grassy greens envelops the areas seasonally, with only an occasional small drainage system crossing the line of vision; in some areas small ponds dot the landscape. Lines are difficult to distinguish; without manmade intrusions, the strongest line is at the horizon. Without a structure or road to establish scale, it is difficult to grasp the extent of this area. Some localized scale, as well as interest, exists in the grazing herds of caribou and reindeer that freely roam the tundra.

Southward, the northern Alaska coal fields extend into the Arctic Foothills where relief may be as much as 2,200 feet and averages 600 feet.

b. Historic

Evidence of early settlement and use includes trails, roads, structures, and objects related to historic gold-mining and trapping activities, logging, and coal mining. Southern Alaskan fields were first worked by Russians in the 1850's, and this area also contains sites related to other early Russian and American exploration and

settlement. Other historic sites are related to coal fields along the Pacific coast.

Western Oregon was a terminus of the famous Oregon Trail. Early seaports for fur traders and shipping dot the coastline.

c. Geologic

From the geologic human-interest viewpoint, the Pacific Coast coal province (including Alaska) is the richest and most diverse area of all. Its outstanding features range from Pleistocene lakes, now long dry, in the California desert to the volcanoes of Alaska; from high mountains, which dominate the province and many of which still have active glaciers, to the beaches of the long, often highly eroded shoreline.

Most current Federal coal leases are not in areas of outstanding geologic human interest, but this does not preclude the existence of unique geologic or geothermal features in the leased areas; qualified personnel should investigate the areas before additional leases are issued. However, because coal occurs mainly in basins, the rough topography of much of the area militates against the existence of much coal in those high human-interest areas.

d. Archeologic

The archeologic diversity of this province is unique and of great and intricate cultural depth. The Old Cordilleran Tradition of the Northwestern United States gave rise to the Great Basin Desert Tradition which ranged from Baja California into Oregon and Idaho. With its coastal counterparts in time, it blends into the riverine and

maritime Northwest Coast Cultures all along the coastline into Alaska where the province includes records of the prehistoric Indians in the interior part of the State and the ancestral Aleuts and Eskimos on the western coast and into the Arctic; numerous ancient village sites and campsites dot the major rivers and coastal areas of Alaska.

The descendants of these early people who have not moved to the cities live in much the same way today as their ancestors did--hunting, gathering, and fishing, but occasionally working for day wages when the opportunities arise.

ROCKY MOUNTAIN COAL PROVINCE

Of the nationwide total of 530 Federal leases, 361 are in this province.

A. NATURAL ENVIRONMENT

1. GEOLOGY

The Rocky Mountain coal province contains the greatest variety of coal of any province in the United States. It encompasses, in general geographic order from north to south, parts of the four physiographic provinces in the Rocky Mountain physiographic system, part of the Colorado Plateaus physiographic province, and the extreme eastern toe of the Basin and Range physiographic province.

The Rocky Mountain System, comprising from north to south the Northern Rocky Mountains, Middle Rocky Mountains, Wyoming Basin, and Southern Rocky Mountains physiographic provinces, is bordered on the east by the Great Plains. To the west, the mountains grade into the Intermontane Plateaus with considerably less change in elevation than that on the eastern margins. The western margin is also marked by distinct changes in geological structure and vegetation.

The selected coal regions, fields, and areas discussed in the following sections are grouped by the physiographic provinces in which they occur.

a. Northern Rocky Mountains physiographic province

This province comprises three mountain groups with distinctive structures and topographic forms.

The Idaho batholith type occurs mainly in Idaho, from the Snake River Plain northward nearly to Lake Pend Oreille, and in southwestern Montana. It is a broad mountainous mass that almost lacks linear form and is developed on the Idaho and Boulder batholiths and subsidiary intrusions and, to some extent, on rocks of the Belt Series of Precambrian age.

The Montana type extends from the frontal Lewis Range across northwestern Montana to the Selkirk Mountains of Idaho. These mountains exhibit linear form, are separated by north-northwest-trending valleys, and are highly folded, faulted, and thrust faulted. They are underlain by sedimentary rocks, mostly of Precambrian age but also, in small areas, of Paleozoic and Mesozoic age.

The third type occurs in southwestern Montana south of the Blackfoot River, between the Boulder and Idaho batholiths. The ranges are short and are separated by broad intermontane valleys or basins. The structures are similar to those in the Basin and Range province, with which the area should be united were it not for the intervening Snake River Plain. Coal deposits are limited to the Yellowstone area and several isolated fields in western and southwestern Montana.

1. Coal areas in western and southwestern Montana

The coal fields in this area (fig. 2-3) are neither large in area nor great in commercial importance (Jones and Hunt, 1952; Campbell, 1929). The coal is of high-volatile A to C bituminous rank; some has been produced for the manufacture of coke, but mining of coking coal was discontinued because of its high ash. The coal occurs

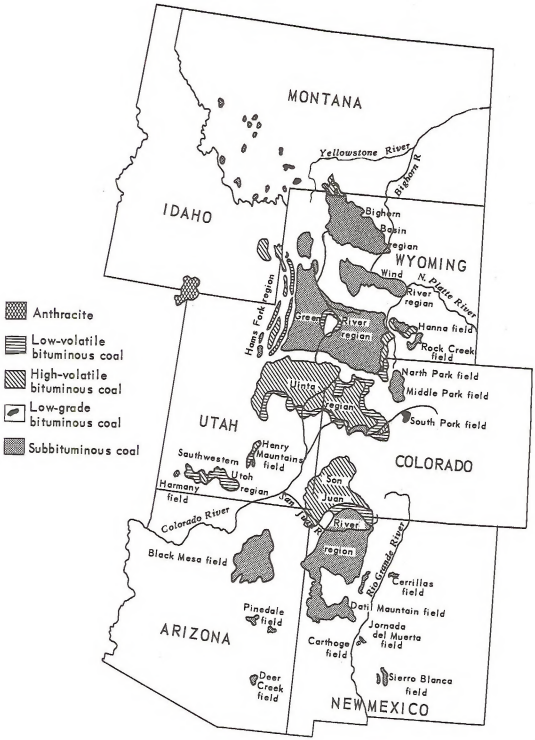

Figure 2-3.--Rocky Mountain coal province with locations of selected coal regions, fields, and areas and dominant type of coal in each. (After U.S. Department of the Interior, 1975.)

In rocks of Late Cretaceous age that are probably equivalent to the Eagle Sandstone (Combo and others, 1949; Averitt, 1963). In general, the coal beds are thin and impure, and are commonly greatly disturbed by folding and faulting.

b. Middle Rocky Mountains physiographic province

Unlike those in the Northern Rocky Mountains province, the mountains in the Middle and Southern Rocky Mountains provinces are mostly great anticlines with granitic cores; they are generally flanked by outward-dipping sedimentary strata and are separated by synclinal sedimentary basins called "parks." The rocks are similar in both provinces, but the structures are more varied in the Middle Rocky Mountains.

This province contains the Bighorn Basin and Hams Fork coal regions plus some isolated fields not included within a particular region.

1. Bighorn Basin coal region

This coal region occupies part of a broad structural basin in western north-central Wyoming, covers about 4,400 square miles, and is bounded by the Bighorn Mountains on the east, the Owl Creek Mountains on the south, and the Absaroka Range on the west (fig. 2-3). It is an area of broad dissected plains with some local badlands and folds around the margin.

Coal-bearing rocks include the Mesaverde, Meeteetse, and Lance Formations of Late Cretaceous age and the Fort Union Formation of Paleocene age (Berryhill and others, 1950). These rocks are exposed

around the rim of the basin in a belt 3 to 15 miles wide. The coal beds in these formations are generally lenticular and rarely persist at minable thicknesses for more than 5 miles along the outcrop. Local folds with dips as steep as 50 degrees cause mining problems and result in irregular distribution of coal outcrops. The coal-bearing rocks extend below deep cover in the central part of the basin, but little is known about the thickness and distribution of these subsurface coal beds.

Coal from fields in the Bighorn Basin region ranges in rank from lignite to high-volatile C subbituminous. The beds range in thickness from a few inches to more than 8 feet, but, as already noted, they are lenticular.

The Bridger, Silvertip, and Red Lodge fields in Montana are in the northern extension of the Bighorn Basin. High-volatile C bituminous coal was mined in the Bridger and Silvertip fields from rocks in the Eagle Sandstone of Late Cretaceous age. The coal at Red Lodge was mined from the younger Fort Union Formation, but it is of equivalent rank to the coal in the Eagle Sandstone.

2. Hams Fork coal region

This region is in extreme western Wyoming and small parts of Utah and southeastern Idaho (fig. 2-3). The coal-bearing rocks crop out in long narrow belts extending from the mountainous northern part of the region to the less rugged southern part near the Utah-Wyoming border (Berryhill and others, 1950).

The region occupies the highly complex Wyoming overthrust belt, a zone of thrust faults and folded rocks that have produced parallel mountain ranges and synclinal valleys. One fault reportedly has a displacement of more than 20,000 feet along the side of the Salt River Range.

The coal-bearing formations exposed in the region are the Bear River, Frontier, and Adaville Formations of Late Cretaceous age and the Evanston Formation of Paleocene age. The Frontier Formation, the main coal-bearing unit, forms north-trending outcrop bands generally less than 2 miles wide. It comprises from 2,200 to 3,800 feet of clay, shale, and sandstone as well as numerous coal beds. The Adaville Formation, from 3,000 to 6,800 feet above the Frontier, is similar and also contains numerous coal beds.

Coal in the region ranges in rank from high-volatile A bituminous in the Frontier to subbituminous B in the Adaville. Higher quality Frontier coal beds may be as thick as 20 feet, whereas Adaville coal beds are reportedly more than 100 feet thick. Steep dips make mining difficult in most parts of the region. Strippable coal resources reportedly total about 1 billion tons.

c. Wyoming Basin physiographic province

This province resembles a giant sag that interrupts the continuity between the Middle and Southern Rocky Mountains provinces. It consists mostly of separate sedimentary basins divided by uplifted areas. The floor of the Wyoming Basin is a 6,500- to 7,500-feet-high plateau with maximum east-west and north-south dimensions of about

250 miles. Its total area is nearly 40,000 square miles, and it is bordered mostly by abrupt mountain slopes, indented by long spurs, and studded by isolated mountains. Through an opening between the Bighorn and Laramie Mountains, this basin floor is continuous with the Great Plains. By a similar opening east of the Uinta Mountains, it is continuous with the Colorado Plateaus. Because of the semiarid climate of this area, deflation hollows, alkali flats, playas, sand and silt dunes, and badland topography are common.

This province contains the Wind River and Green River coal regions as well as the Hanna and Rock Creek coal fields east of the Green River region.

1. Wind River coal region

This coal region occupies the Wind River Basin in central Wyoming (fig. 2-3). The basin is a large northwest-trending asymmetrical syncline surrounded by mountain ranges. The Bighorn and Owl Creek Mountains divide it from the Green River basin to the south and west; and the Casper arch separates the Wind River and Powder River Basins. Steeply dipping sedimentary rocks form narrow ridges around the edges of the basin; the dips are less steep toward its center.

Coal-bearing strata include the Cody Shale, which is 3,050 to 4,480 feet thick; the Mesaverde Group, 800 to 1,960 feet thick; and the undivided Lewis Shale and Lance Formation, 350 to 3,715 feet thick. The Fort Union Formation also contains coal and ranges in thickness from 350 to 4,165 feet. The Fort Union is of Paleocene age, but the other units are of Late Cretaceous age. In general, these formations

consist of sandstone, sandy shale, shale, and coal, and they crop out only around the rim of the basin; in the center part, they are unconformably overlain by younger rocks which also cover some of the coal-bearing units in some parts of the border zone, thereby producing discontinuous outcrop patterns.

The coal beds in the region are mostly subbituminous in rank, range in thickness from a few inches to a maximum of 17 feet, and are characterized by steep dips which cause difficult mining conditions.

2. Green River coal region

This coal region is in the southern part of the Wyoming Basin physiographic province and encompasses about 17,000 square miles of southern and southwestern Wyoming and northwestern Colorado. The region is bounded on the north and northeast by the Wind River, Gros Ventre, and Granite Mountains, on the east by the Rawlins Hills and the Sierra Madre Mountains, on the west by the Wyoming overthrust belt, and on the south by the Uinta Mountains. The region includes several separate structural units. The Green River basin occupies its western part and is separated from the Great Divide Basin to the east by the large Rock Springs anticline; the Great Divide Basin is divided further into the Washakie Basin to the south and the Red Desert Basin to the north.

Rocks in the interior parts of the basins are nearly horizontal or dip gently toward the centers, but dips increase sharply around the flanks and around the Rock Springs anticline, where dips range from 5 to 20 degrees.

Coal-bearing rocks include the Mesaverde Group and the Lance Formation of Late Cretaceous age, the Fort Union Formation of Paleocene age, and the Wasatch Formation of Eocene age. In the Wyoming part of the Rock Springs field, the Mesaverde Group comprises, in ascending order, the Blair Formation, which is barren of coal; the Rock Springs Formation, the most important coal-bearing unit; the barren Ericson Sandstone; and the Almond Formation, which contains some coal in its lower part. In the Colorado portion of the field, the Mesaverde comprises, ascending, the Iles and Williams Fork Formations, both of which contain coal beds. The coal-bearing section of rocks is several thousand feet thick and is composed mainly of sandstone with beds of siltstone, shale, and coal.

The coal beds range in thickness from a few inches to 42 feet and in rank from subbituminous C to high-volatile bituminous C; coals of higher rank occur locally in areas of igneous intrusives and intense structural deformation. In the past, the high-quality coals of the Mesaverde Group have been the most extensively mined and the most important in the area. However, several hundred million tons of strippable Fort Union and Wasatch coal are presently being developed for thermal power generation. The coal beds in most parts of the region are so deeply buried in the basins that they may never be of economic interest.

3. Hanna coal field

The Hanna coal field (fig. 2-3) is in a structurally downwarped area separated from the Green River coal region to the west

by the Rawlins Hills. It is bounded on the north and south by mountains; to the east, it merges with the Laramie basin.

Some 130 coal beds have been mapped in the coal-bearing Mesaverde Group and Medicine Bow Formation of Late Cretaceous age, the Ferris Formation of Late Cretaceous and Paleocene age, and the Hanna Formation of Eocene age. The coal beds are subbituminous C to high-volatile bituminous C in rank and are as thick as 8 feet in discontinuous beds in the older formations and as thick as 35 feet in the Hanna. The Hanna basin area has rugged surface features and steep dips that range from 10 to 25 degrees in the areas of outcrop of the thicker coals.

4. Rock Creek coal field

The Rock Creek coal field adjoins the Hanna field on the southeast (fig. 2-3) and contains coal beds as thick as 9.5 feet in the Hanna Formation and about 8 feet in the Mesaverde. Large areas of the surface are covered with gravel, and the coal-bearing rocks are difficult to trace in the field.

d. Southern Rocky Mountains physiographic province

This province encompasses most of the Rocky and Sangre de Cristo Mountains in Colorado and New Mexico. It consists of broad, deeply dissected north-south strips of mostly granitic crystalline rocks that are generally flanked by steeply dipping sedimentary rocks which form hogback ridges. The parks, three of which contain the only coal areas in the province, are small, elliptical, structural and sedimentary basins in the northern and central Colorado mountains (Fenneman, 1931).

1. North, Middle, and South Park coal fields

North Park field (fig. 2-3) contains several major coal beds of subbituminous B rank in the Coalmont Formation of Paleocene age (probably equivalent to the Fort Union) (Landis, 1964). These coal beds are as thick as 77 feet (Hornbaker and Holt, 1973) and occur in about 3,500 feet of coal-bearing strata that underlie roughly 850 square miles. Dips in the coal-mining area range from less than 10 degrees to 85 degrees, no doubt causing considerable mining difficulties.

Coal in Middle Park field (fig. 2-3) reportedly occurs only in thin impure beds in the Middle Park Formation of Paleocene age. More prospecting is needed to evaluate the area adequately.

South Park field (fig. 2-3) contains limited coal resources. Subbituminous coal of Paleocene age was mined years ago on the west side of the basin from steeply dipping beds 5 to 17 feet thick.

e. Colorado Plateaus physiographic province

The province is a vast, roughly circular area covering approximately 130,000 square miles of Arizona, New Mexico, Colorado, and Utah. The rocks are mostly horizontal or nearly horizontal sedimentary strata. The landscape is highly dissected and sculptured in many places into canyons, mesas, and buttes; it includes wide plateaus and uplifts and broad basin areas. The province is bounded on the north and northeast by the base of the Rocky Mountains, on the west and northwest by a bold escarpment extending southward from the Wasatch Range to the Grand Wash Cliffs on the western edge of the

Grand Canyon area, and on the southeast and south by a hydrographic boundary--the drainage divide between the Gila and Colorado Rivers.

The province includes the Uinta, San Juan River, and Southwestern Utah coal regions as well as several isolated fields and basins.

1. Uinta coal region

This region encompasses about 16,500 square miles in east-central Utah and northwestern Colorado (fig. 2-3). It is bounded by the Uinta Mountains on the north, the Wasatch Mountains on the west, the high escarpment of the Book and Roan Cliffs on the south, and the steeply dipping rocks of the flanks of the Rocky Mountain uplift on the east. The region is considered a single structural basin for the sake of simplicity, although the Piceance and Uinta basins are structurally separate. The Uinta Basin is strongly asymmetrical: The rocks on the southern flanks dip gently northward toward the center of the basin at angles rarely greater than 10 to 15 degrees; the north and northeast flanks are highly complex and have major faults, steeply dipping to overturned beds, and multiple successive unconformities which allow youngest Eocene rocks to lie unconformably on Precambrian basement rocks.

Coal-bearing rocks occur on the southern rim of this basin area, whence they dip toward the middle of the basin where they are buried beneath thousands of feet of younger rock.

The main coal-bearing rocks in the region are in the Mesaverde Group of Late Cretaceous age (Averitt, 1964). In eastern parts of the basin, these rocks are, in ascending order, the Iles

and William Fork Formations; in the center part, they include the coal-bearing Blackhawk and Neslen Formations. In the western part of the basin, coal beds 6 inches to 18 feet thick are reported from the lower part of the Mancos Shale of Early and Late Cretaceous age. Coal does not usually occur in this part in the section, but in fields to the southwest, the Mancos is the principal coal-bearing unit. Coal beds 2 to 7 feet thick are also reported from the Frontier Sandstone Member of the Mancos in the Vernal field in the northwest part of the region. Thin and impure coals are also reported in beds of Mississippian age.

The character of the coal changes throughout the basin, and detailed description of these changes, together with discussions of thickness and occurrence, are not possible in this report. In general, the coal beds range in thickness from 5 to 15 feet, although some as thick as 40 feet have been reported. They range in rank from subbituminous C to coking high-volatile A bituminous throughout most of the basin. The Castlegate and Sunnyside areas of the Book Cliffs field in Utah and the Somerset field in Colorado are large producers of medium to strongly coking bituminous coal. The Coal Basin district of the Carbondale field near Glenwood Springs, Colo., is famous for a particular medium-volatile coking coal that is shipped and widely used as a blend with other coals to improve coking quality. In the Crested Butte field in Colorado, some beds have been metamorphosed to anthracite and semianthracite by igneous intrusions.

The coals of the Uinta Basin are not as numerous or extensive as those of the Green River basin to the north, but the Uinta region still contains enormous quantities of coal. Because of the depth of cover, strip-mining potential is limited, and probably only a small portion of the total coal will ever be mined.

2. Southwestern Utah coal region

This region has received considerable attention since the building of Glen Canyon Dam and the filling of Lake Powell, and especially since plans were announced for large-scale thermal power-plants in the area. It has high cliffs rising above flat-lying older sedimentary rocks to the south and rolling plains dissected by canyons to the north, away from the escarpment.

The region includes, from east to west, the Kaiparowits Plateau and the Alton and Kolob areas in southwestern Utah (fig. 2-3). The Kaiparowits Plateau is in a shallow synclinal basin bordered on the west by a steep monoclinal flexure and on the south by several parallel anticlines and synclines. The Kaiparowits and Alton areas are separated by the Paunsaugunt fault; the Alton and Kolob areas, by the Sevier fault. The western limit of the Kolob area is marked by the Hurricane fault.

The Straight Cliffs Formation of Late Cretaceous age is the main coal-bearing unit in the Kaiparowits Plateau area. It includes four members, two of which contain coal zones with lenticular beds that range in thickness from 3 to 10 feet; these zones represent facies and therefore thicken, thin, and pinch out, but they are fairly

persistent throughout much of the area. The most persistent and widespread and generally thickest zone may occur from about 200 feet to about 600 feet above the base of the formation, depending on where it occurs on the plateau. The coal beds are mostly flat lying to gently dipping and range in rank from subbituminous A to high-volatile C bituminous. The coal is of generally lower quality than that of the Uinta region, but it is completely adequate for use in thermal power-plants. Underlying the Straight Cliffs, the Tropic Shale of Late Cretaceous age and the Dakota Formation of Early(?) and Late Cretaceous age also contain coal beds, but they are commonly thin and not persistent. The coal-bearing zone in the lower part of the Straight Cliffs in the Kolob area contains workable coal beds up to 7 feet thick. Mining potential in the region is primarily undergound; however, about 200 million tons of coal are reported strippable in the Alton area.

In the Harmony field, not far west of the Southwestern Utah region, coal beds have been metamorphosed to semianthracite around an igneous intrusion.

3. Henry Mountains coal field

Northeast of the Southwestern Utah region, coal beds occur in the Ferron and Emery Sandstone Members of the Mancos Shale in a shallow structural basin on the west side of the Henry Mountains (fig. 2-3). The coal is of high-volatile C bituminous rank and ranges in thickness from 2 to 7 feet. Some coal is minable by strip methods, but the area is remote and the long distance to market has discouraged development.

4. San Juan River coal region

This region is south of the San Juan Mountains, partly in Colorado and partly in New Mexico (fig. 2-3). It is a large basin-shaped depression encompassing about 11,000 square miles. The strata in the central and southern parts of the region dip gently toward the center of the basin, but to the north and east, the dips steepen along the flanks of the bordering San Juan and Nacimiento Mountains; to the west, monoclinal folds tilt the beds up sharply. The coal-bearing rocks crop out as a narrow belt around the margin of the basin, and they dip under the thick cover of younger rocks toward the center. Where dips are gentle, resistant sandstone beds form low cuestas; where steeper, sharp hogback ridges. Outcrops of the coal beds parallel these ridges in a linear fashion along the western margin of the basin.

Coal-bearing rocks of the region include the Dakota Sandstone of Early and Late Cretaceous age; parts of the Mesaverde Group (comprising, in general ascending order, the Crevasse Canyon and Menefee Formations and the Cliff House Sandstone), and the Fruitland Formation, all of Late Cretaceous age; and the Nacimiento Formation of Eocene age. The coal beds in the Dakota and Nacimiento are thin, lenticular, and discontinuous and are not presently of commercial interest. The Crevasse Canyon, Menefee, and Fruitland sandstone and shale strata contain the major coal beds in the area (Kottlowski and Beaumont, 1965).

The coal beds occur along the western side of the region in a complex stratigraphic sequence of facies that were deposited in marginal marine environments during alternating transgressions and regressions caused by repeated uplift and subsidence of the area.

The lenticular coal-bearing sandstones and shales in the Mesaverde Group range in thickness from at least 1,800 feet in the southwestern part of the basin to only 220 feet in the northeastern part.

About 1,500 feet of barren rocks separate the coal-bearing formations of the Mesaverde from the Fruitland. The Fruitland may be as thick as 530 feet and is similar in lithology to units of the Mesaverde. The thickest and most extensive coals occur in the lower part of the Fruitland at or near the contact with the underlying barren Pictured Cliffs Sandstone. To the southeast, the number and thickness of Fruitland coal beds decrease until commercially important beds are no longer present. The Fruitland is stratigraphically equal to the Vermejo and Laramie Formations of the Raton Mesa and Denver coal regions in the Northern Great Plains coal province.

The Fruitland coals are generally thicker than the Mesaverde coals, but they contain more shale partings and are higher in ash content. Fruitland coal beds, including partings, reportedly are as thick as 38 feet, whereas Mesaverde coals are generally less than 5 feet thick and rarely more than 10 feet. The coals of both units are of subbituminous rank throughout most of the region, but in the northwestern and northeastern parts, the Mesaverde coals are higher in rank--high-volatile A to B bituminous--and some are of coking quality.

The Dakota Sandstone underlies extensive areas in the Colorado portion of this coal region, but the coal beds are rarely thick enough to be mined and are generally discontinuous and dirty. The coals vary

considerably in rank but are generally high-volatile C to B bituminous and have high ash content. At the Nucla Naturita field in the northern tip of the region, three beds of Dakota coal 3 to 5 feet thick are mined for use at the Nucla powerplant.

5. Black Mesa coal field

This field is completely within the Hopi and Navajo Indian Reservations in northeastern Arizona (fig. 2-3). The principal coal-bearing rocks are the underlying 300-feet-thick Toreva and overlying 750-feet-thick Wepo Formations of the Upper Cretaceous Mesaverde Group; these rocks form the rim and the comparatively flat top of the mesa. The coal is high-volatile C bituminous in rank and occurs in beds that average from 4 to 6 feet in thickness, although reportedly they are locally as thick as 14 feet (Averitt and O'Sullivan, 1969).

f. Basin and Range physiographic province

Little of this physiographic province is coextensive with the Rocky Mountain coal province. Topographically, the Basin and Range province is distinguished by isolated, roughly parallel mountain ranges separated by sediment-filled, nearly level desert basins. The western part of the area common to both coal and physiographic provinces has the half-mountain, half-plain topography typical of the Mexican Highland section of the physiographic province; this western part extends to the east side of the Rio Grande Valley where the pronounced basin-ranges stop alternating with basins. The eastern part of the area which contains many of the isolated coal fields in south-central New Mexico, forms the Sacramento section of the physiographic province; this section is

a meeting ground of the three major physiographic systems in this part of the United States, because it contains features characteristic of the Southern Rocky Mountains, Great Plains, and Colorado Plateaus physiographic provinces, which represent, respectively, the Rocky Mountain system, the Interior Plains, and the Intermontane Plateaus (Fenneman, 1931).

This part of the coal province contains numerous coal fields and isolated outlying coal-bearing rocks too small and commercially too unimportant to be considered here separately. Coal in these fields occurs in rocks of the Upper Cretaceous Mesaverde Group in beds as thick as 7 feet. The coal is mostly bituminous in rank, and some areas have produced excellent-quality coking coal as well as anthracite (Read and others, 1950). Some of the better known coal fields, shown in figure 2-3, include the Cerrillos, Datil Mountain, Carthage, Jornada del Muerto, and Sierra Blanca fields in New Mexico and the Pinedale and Deer Creek fields in Arizona. Some of these fields have been developed to some extent because of local proximity to markets or because they contain coal of a particular type or better quality than could be obtained from the larger coal regions. However, the geologic structures of most of the fields are commonly quite complex, and mining problems caused by faulting and igneous intrusions have discouraged large-scale operations.

2. TOPOGRAPHY

The topography of this province is the roughest and most mountainous in the United States, excluding parts of Alaska. Elevations

vary from 4,000 feet to more than 14,000 feet above sea level. The province consists generally of northwest-trending mountain ranges paralleled by numerous valleys. Exceptions to this general trend are the San Juan Mountains in Colorado and the Uinta Mountains in Utah, which are oriented east-west.

The Continental Divide meanders through New Mexico, Colorado, Wyoming, and Montana, dividing the province nearly equally from east to west. Local relief varies from a few hundred feet in valleys and over great distances of high plains to extremes of over 3,000 feet in less than 1 mile.

Several large topographic basins occur in the province, several of which are closely associated with coal deposits; notably, the Green River, Wind River, and Bighorn basins in Wyoming. Several small valleys in western Montana have noncommercial coal deposits. The Snake River Valley covers a large portion of southern Idaho but has no coal. The Uinta Basin of east-central Utah is a plateau and swings easterly into west-central Colorado and has major coal deposits. The high plateau of southern Utah and Colorado and northern Arizona and New Mexico contains sharply dissected topography, especially along the river canyons.

The San Juan Basin in New Mexico and the San Luis Basin in Colorado are broad areas surrounded by mountains.

3. CLIMATE

The climate of the Rocky Mountain coal province is controlled primarily by elevation and its central continental location. The

province extends from southern Arizona and New Mexico to the United States-Canadian border in Idaho and western Montana. Temperature, rainfall, wind, frequency of storms, amount of snowfall, and other climatic factors vary widely.

The mean annual precipitation in the high mountains exceeds 32 inches; these areas are in northern Idaho, western Montana, northwestern Wyoming, northeastern Utah, and central Colorado. At lower elevations, precipitation drops to 16 inches in the foothills and valleys, and more than half of the province receives between 8 and 16 inches. Several areas receive less than 8 inches; namely, parts of southeastern Idaho, the Bighorn and Green River basins of Wyoming, eastern Utah, and small areas in western Colorado, northwestern New Mexico, and northern Arizona.

Those areas receiving less than 8 inches of annual precipitation have sparse vegetation and are classified as semidesert. The areas receiving between 8 and 16 inches generally support grasslands; those with more than 16 inches, some trees. The northern area receives a fairly even distribution of precipitation throughout the year, whereas the southern and westernmost areas have dry summers. Light showers or occasional thunderstorms are common throughout the high mountains in the summer.

Temperatures range from -50 degrees F to +115 degrees. The mean monthly temperatures in the northern part of the province range from 10 degrees in January to 60 degrees in August; those in the southern part, from 40 degrees in January to 80 degrees in August.

Prevailing winds for most of the area are generally from the southwest, but most harsh winter storms are from the northwest. The wind patterns are frequently affected by the mountain passes and canyons. Winds blowing northwestward from the Gulf of Mexico bring much summer moisture to the eastern boundary or Front Range of the Rocky Mountains, but these moisture-laden winds seldom penetrate far west of the range. The wintertime relative humidity in the Rocky Mountain area is around 50 to 70 percent; the summertime relative humidity, from 40 to 60 percent. There are, however, local exceptions to these figures. Winter winds blowing from the north at velocities sometimes exceeding 40 miles per hour typically bring cold dry air.

4. HYDROLOGY

The major surface-water drainage basins in the Rocky Mountain coal province include parts of the Missouri, Colorado, Columbia, Arkansas, and Rio Grande Rivers. The average annual runoff within the province varies from less than 1 inch to over 30 inches in some of the high mountains.

Many large streams in the province are perennial and obtain most of their runoff from the higher mountainous areas. Most tributaries originating in lower areas are intermittent, and most of the province is vulnerable to droughts lasting as long as several years.

The total dissolved solids in surface waters in the province range from less than 100 milligrams per litre (mg/l) in the mountains to more than 1,800 mg/l in the basins.

The average suspended-sediment concentrations in streams in the province range from less than 200 parts per million (ppm) to more than 30,000 ppm, but concentrations as high as 700,000 ppm have been measured during peak flows on some tributaries of the Colorado River.

Ground water in this province occurs in alluvium and bedrock aquifers. Alluvium here is generally a good aquifer and is capable of yielding moderate amounts of ground water to wells, a few hundred gallons per minute (gpm), and as much as several thousand gpm to wells at a few places. Unlimited pumping from alluvial aquifers is restricted in most States in the province, because of the effects of pumping on previously appropriated water rights on nearby streamflow. The quality of water in the alluvium is generally acceptable for most uses, but in some areas it is highly mineralized.

The principal and most widespread bedrock aquifers in the province are beds of sandstone and limestone. Yields of most sandstone aquifers are low to moderate, whereas the highly variable limestone aquifers may yield up to 1,000 gpm to wells. In general, where the aquifers are highly permeable, good-quality water is obtained even to depths of 1,000 feet or more. However, where the aquifers have low permeability, highly mineralized water is obtained even at shallow depths. The dissolved-solids content of most bedrock aquifers increases from recharge areas in the mountains to the center of the basin. Many large areas in this province, including

areas underlain by coal, have no nearby perennial surface water supplies, and the ground water supplies are limited or of poor quality. Much of the good-quality water potential in the province has not been fully explored.

The hydrology of four of the coal regions in the province, arranged as they were earlier in general north-south geographic order, is described briefly in the following sections.

a. Bighorn Basin coal region

The Yellowstone River and its tributaries, the Clark Fork and Bighorn Rivers, are the major perennial streams in the Bighorn Basin region; most smaller streams are intermittent. During high-flow conditions, surface waters usually have low dissolved-solids content, but during low flow, the water is highly mineralized, partly because of the return of irrigation water. Sediment concentrations in the streams are usually high.

River alluvium usually supplies the highest yields of good-quality ground water, although the water is of poor quality in some areas.

Ground water supplies from bedrock aquifers are usually small, and the quality of water ranges from acceptable to poor.

b. Green River coal region

The main streams draining this region are the Yampa and Green Rivers. Both streams are perennial, but most of their tributaries are intermittent. The quality of surface waters ranges from good in higher elevations to poor in lower elevations. During

low-flow periods, many tributaries have over 1,000 mg/l dissolved solids; the major ions in most surface waters are calcium, sodium, sulfate, and chloride. The suspended-sediment content of surface waters is usually high and during high flows exceeds 30,000 ppm in many tributaries.

The ground water resources in the region are largely unexplored, but some alluvial and bedrock wells occur. Alluvial wells usually yield moderate to large amounts of water, although the water is of poor quality in many areas. Bedrock aquifers usually yield small amounts of water to wells, and the quality varies widely.

c. Uinta coal region

This region is drained by the Colorado and Green Rivers. Both are perennial, but most of their tributaries are intermittent. The dissolved-solids content in most tributaries is high, especially during low flow; sodium, sulfate, and chloride are the major ions. During high flow, sediment concentrations on both major and tributary streams are very high.

Most of the ground water supplies in the region are from alluvial wells. However, the alluvium in many areas contains poor-quality water, especially below irrigated lands. Small supplies of ground water can be obtained from bedrock aquifers in some areas, but there is little information on the quantity and quality of available water in most of the region.

d. San Juan River coal region

The main stream draining this region is the San Juan River, a perennial stream that supplies much of the water resources of the region. Waters in headwater streams contain less than 100 mg/l dissolved solids and are a calcium bicarbonate type; these streams usually contain little sediment. The sodium and sulfate content of the water increases progressively downstream in the middle and lower reaches of the tributaries and the main stream, especially below irrigated lands. During low flow, parts of the San Juan River and many of its tributaries have dissolved-solids content greater than 1,000 mg/l. Many tributaries in the middle and lower reaches of the region are intermittent. During high-flow periods, the suspended-sediment content of the San Juan River and many of its tributaries may exceed 50,000 ppm.

Ground water is obtained from stream alluvium and a few bedrock aquifers. The river alluvium yields moderate to large supplies of ground water, but the water is of poor quality in many areas. Bedrock aquifers usually yield small to medium supplies of ground water, but in the lower parts of the region, the quality of water is often poor. The ground water potential of the bedrock aquifers in large parts of this region has not been fully explored.

5. SOILS

Tables II-2 through II-6 list some of the characteristics, uses, and limitations of the dominant soil series in all coal regions, except the Hams Fork, in the Rocky Mountain coal province. Because

Table II-2.--Characteristics, uses, and limitations of dominant soils in the Bighorn and Wind River coal regions of the Rocky Mountain coal province

Soil name	Location	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Boyd	Wyoming	CH	4-6	D	0-12	grasses and small grains	rangeland
Limitations:	Clayey soil, high shrink swell, severe compaction hazard, moderate erosion hazard.						
Dunlap	Wyoming	ML-CL	8-10	B	0-18	hay and small grains	pasture and cropland
Limitations:	Moderate erosion hazard on gentle slopes; severe on steeper slopes.						
Midway	Wyoming	CH	2-5	D	0-35	grasses and small grains	rangeland and cropland
Limitations:	Shallow clayey soil, high shrink swell, calcareous, difficult to manage, severe water erosion hazard on steeper slopes, compaction hazard.						
Rosebud	Wyoming	SM	6-10	B	0-35	grasses and small grains	rangeland and cropland
Limitations:	Moderate to severe water-erosion hazard, severe wind-erosion hazard.						
Chipeta	Wyoming	CL	1-2	D	3-30	grasses	rangeland
Limitations:	Shallow soil, severe erosion hazard, rapid runoff, active gully erosion, clayey soil.						
Arvada	Wyoming	CH	4-8	D	0-6	grasses and small grains	rangeland
Limitations:	Saline, clayey soil, high shrink swell, difficult to manage, severe compaction hazard.						

1/ 2/ 3/ See footnotes at end of table.

Table II-2.--Characteristics, uses, and limitations of dominant soils in the Bighorn and Wind River coal regions of the Rocky Mountain coal province--Continued

Soil name	Location	Unified classifi-cation 1/	Available water capacity (inches) 2/	Hydro-logic group 3/	Range in percent slope	Vegetation	Major use
Cherry	Wyoming	CL	10-14	C	0-25	crops and grasses	cropland and rangeland
Limitations:	Slight to moderate erosion hazard, poor road-fill material.						
Billings	Wyoming	ML	6-10	C	0-10	irrigated crops and grasses	cropland and rangeland
Limitations:	Alkaline soils, well drained, moderate erosion hazard, soils can be managed well.						
Rough-broken	Wyoming	--	1	D	10-100	sparse grasses	limited rangeland
Limitations:	Rock outcrops, steep canyon walls, shallow stony soils on very steep slopes; soils have very severe erosion hazard.						

1/ GP: Poorly graded gravels or gravel-sand mixtures, little or no fines; GM: Silty gravels, gravel-sand-silt mixtures; SP: Poorly graded sands or gravelly sands, little or no fines; SM: Silty sands, sand-silt mixtures; SC: Clayey sands, sand-clay mixtures; ML: Inorganic silts and very fine sands, rock flour, silty or clayey silts with slight plasticity; CL: Inorganic clays with low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays; MH: Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts; CH: Inorganic clays with high plasticity, fat clays (U.S. Army Corps of Engineers, 1953).

2/ The potential amount of water a soil can hold for plant use.

3/ Hydrologic soil groups are ranked from A to D, depending on their runoff potential: group A soils have lowest rates; group D, highest rates.

Table II-3.--Characteristics, uses, and limitations of dominant soils in the Green River coal region of the Rocky Mountain coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Billings	Utah (USDA, 1959)	ML	6-10	C	0-10	grasses and irrigated crops	cropland and rangeland
Limitations:	Alkaline soils, well drained, moderate erosion hazard, soils can be managed.						
Chipeta	Utah (USDA, 1959)	CL	1-2	D	3-30	grasses	rangeland
Limitations:	Shallow soil, severe erosion hazard, rapid runoff, active gully erosion, clayey soil.						
Fruita	Utah (USDA, 1959)	SM	2-5	B	0-10	blue gramma, sagebrush, and cactus	pasture
Limitations:	Calcareous materials about 15 inches deep, severe wind-erosion hazard.						
Green River	Utah (USDA, 1959)	SM	2-5	B	0-3	cottonwood, greasewood, and willows	pasture
Limitations:	Poorly drained soils, seasonal water table at about 11 inches, very shallow soils but roots extend into C horizon, subject to flooding.						
Shavano	Utah (USDA, 1959)	SC	3-5	B	2-50	aspen and blue gramma	rangeland
Limitations:	Severe erosion hazard, shallow soil, about 15 inches to sandstone bedrock, droughty soil.						

1/ 2/ 3/ See footnotes on page II-56.

Table II-3.--Characteristics, uses, and limitations of dominant soils in the Green River coal region of the Rocky Mountain coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Ravola	Colorado (USDA, 1955)	ML	6-8	B	0-6	grains, saltgrass, and wheatgrass	rangeland and irrigated cropland
Limitations:	Alkaline and saline soils, severe erosion hazard.						
Badland	Utah (USDA, 1970c)	--	--	--	10-80	grasses and juniper	limited rangeland
Limitations:	Active eroding, nearly bare shale hills, high surface runoff, very severe erosion hazard.						

1/ 2/ 3/ See footnotes on page II-56.

Table II-4.--Characteristics, uses, and limitations of dominant soils in the Uinta coal region of the Rocky Mountain coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Billings	Colorado (USDA, 1955)	ML	6-10	C	0-10	sugar beets, corn, grain, greasewood, and shadscale	rangeland and irrigated crops
Limitations:	Alkaline and saline soils, moderate erosion hazard, many areas dissected by streams, can be managed.						
Ravola	Colorado (USDA, 1955)	ML	6-8	B	0-6	crops, saltgrass, and wheatgrass	rangeland and irrigated crops
Limitations:	Alkaline and saline soils, severe erosion hazard, weak structure.						
Badland and Rough Broken	Colorado (USDA, 1967b)	--	--	--	5-40	grasses and juniper	limited range
Limitations:	Very severe erosion hazard, severely gullied, shale outcrops, much surface runoff, rock outcrops.						
Chipeta	Colorado (USDA, 1967b)	CL	1-2	D	2-10	sparse cover of grasses	rangeland
Limitations:	Shallow soils, fine textured, severe erosion hazard, active gully erosion, large amount of overland flow.						

1/ 2/ 3/ See footnotes on page II-56.

Table II-4.--Characteristics, uses, and limitations of dominant soils in the Uinta coal region of the Rocky Mountain coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Mesa	Colorado (USDA, 1967b)	SM	4-6	B	0-10	grasses	rangeland and tilled crops
Limitations:	Substratum contains gravels, moderate erosion hazard.						
Ashly	Utah (USDA, 1959)	SM or GM	1-2	A	0-5	rabbitbrush, cottonwood, and willows	pasture
Limitations:	Seasonal high water table, very shallow soil, about 15 inches to gravel layer, subject to overflow.						
Fruita	Utah (USDA, 1959)	SM	2-5	B	0-10	blue gramma, sage, and cactus	pasture
Limitations:	Calcareous materials about 15 inches deep, severe wind-erosion hazard.						
Green River	Utah (USDA, 1959)	SM	2-5	B	0-3	cottonwood, greasewood, and willows	pasture
Limitations:	Poorly drained soils, seasonal water table at about 11 inches, very shallow soils but roots extend into C horizon, subject to flooding.						
Shavano	Utah (USDA, 1959)	SC	3-5	B	2-20	aspen and blue gramma	rangeland
Limitations:	Severe erosion hazard, shallow soil, about 15 inches to sandstone bedrock, droughty soil.						

1/ 2/ 3/ See footnotes on page II-56.

Table II-5.--Characteristics, uses, and limitations of dominant soils in the Southwestern Utah coal region of the Rocky Mountain coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Badland	Utah (USDA, 1970c)	--	--	--	10-80	grasses and juniper	limited rangeland
Limitations:	Active eroding, nearly bare shale hills, high surface runoff, very severe erosion hazard.						
Billings	Utah (USDA, 1970c)	ML	6-10	C	0-10	grasses and irrigated crops	cropland and rangeland
Limitations:	Alkaline soils, well drained, moderate erosion hazard, soils are manageable.						
Chipeta	Utah (USDA, 1970c)	CL	1-2	D	3-30	grasses	rangeland
Limitations:	Shallow soil, severe erosion hazard, rapid runoff, active gully erosion, very susceptible to raindrop splash erosion, clayey soil.						
Kenilworth	Utah (USDA, 1970c)	SM	3-5	B	0-20	juniper and pinon	rangeland
Limitations:	Shallow, droughty soils, calcareous, severe hazard for reseeding, moderate erosion hazard, deer winter range, stony soil.						
Persayo	Utah (USDA, 1970c)	CL	1-3	D	1-20	galletagrass and shadscale	rangeland
Limitations:	Shale bedrock at 12 inches, some saline soils, erosion hazard severe, active rill and gully erosion.						

1/ 2/ 3/ See footnotes on page II-56.

Table II-5.--Characteristics, uses, and limitations of dominant soils in the Southwestern Utah coal region of the Rocky Mountain coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Beryl	Utah (USDA, 1960a)	SM	1-3	B	0-1	small grains, potatoes, and grasses	rangeland
Limitations:	Shallow to calcareous layer, severe wind-erosion hazard, associated with duneland; contains gypsum so soil will respond to irrigation management.						
Dixie	Utah (USDA, 1960a)	ML-CL	3-6	C	0-5	sagebrush and galletagrass	rangeland
Limitations:	Caliche layer 20 to 40 inches deep, moderate erosion hazard; some areas have stony surfaces.						
Escalante	Utah (USDA, 1960a)	ML	6-9	B	0-1	sagebrush, grasses, small grains, and potatoes	rangeland and cropland
Limitations:	Severe wind-erosion hazard, sand and gravel occur below 40 inches, low fertility and organic matter.						
Neloa	Utah (USDA, 1960a)	ML	1-3	D	0-7	yellowbrush and Indian ricegrass	rangeland
Limitations:	Shallow, well-drained soils, cemented caliche layer, severe wind-erosion hazard, low fertility and organic matter.						
Uvada	Utah (USDA, 1960a)	CH or CL	1-3	D	0-2	greasewood and shadscale	rangeland
Limitations:	Slickspot soils, clayey textured, difficult to manage, high sodium content.						

1/ 2/ 3/ See footnotes on page II-56.

Table II-6.--Characteristics, uses, and limitations of dominant soils in the San Juan River coal region of the Rocky Mountain coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Menefee	Utah (USDA, 1962b)	CL	2-4	D	2-40	pinon-juniper and grasses	rangeland
Limitations:	Shallow soil, some areas cobbly, Mancos Shale within 20 inches of surface, severe erosion hazard, management alternatives limited by depth and slope.						
Monticello	Utah (USDA, 1962b)	ML	7-10	B	2-10	wheat, beans, pinon-juniper, and grasses	cropland and rangeland
Limitations:	Severe wind-erosion hazard, good management opportunities, good fertility and organic-matter content.						
Montvale	Utah (USDA, 1962b)	ML-CL	1-2	D	2-25	pinon-juniper sagebrush, and grasses	rangeland
Limitations:	Soil less than 20 inches deep, stony throughout, severe erosion hazard, low fertility.						
Northdale	Utah (USDA, 1962b)	ML	5-7	C	2-10	wheat, beans, pinon-juniper, and grass	cropland and rangeland
Limitations:	Severe erosion hazard, high fertility, moderate permeability.						
Sandstone-Rockland	Utah (USDA, 1962b)	--	--	D	2-100	bluegrass and sparse juniper	limited grazing
Limitations:	Outcrops of Dakota Sandstone, sites within canyons fragile.						

1/ 2/ 3/ See footnotes on page II-56.

Table II-6.--Characteristics, uses, and limitations of dominant soils in the San Juan River coal region of the Rocky Mountain coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Berent	New Mexico (USDA, 1968a)	SM	3-5	A	0-25	grasses	rangeland
Limitations:	Severe wind-erosion hazard, many areas severely eroded by water.						
Las Lucas	New Mexico (USDA, 1968a)	CL	6-8	C	0-25	grasses	rangeland
Limitations:	Severe erosion hazard, high fertility, gullies present.						
Penistaja	New Mexico (USDA, 1968a)	SM	4-6	B	0-5	grass and sagebrush	rangeland
Limitations:	Moderate water-erosion hazard, severe wind-erosion hazard, management practices required on contours, some slickspot areas.						
Jekley	New Mexico (USDA, 1968a)	CL	2-6	C	3-40	ponderosa pine and grass	forest
Limitations:	Moderate to severe erosion hazard, shallow soils, cold soil temperatures, high fertility.						
Kiln	New Mexico (USDA, 1967d)	ML-CL	0.5-2	D	3-40	ponderosa pine, grass, and oak	forest
Limitations:	Moderate to severe erosion hazard, very shallow soil (10 inches to limestone), noncalcareous.						

1/ 2/ 3/ See footnotes on page II-56.

soils are generally similar in the Bighorn and Wind River regions, their attributes are listed in table II-2; the regions whose soils are described in the other tables are arranged in general north-to-south geographic occurrence, as was done in earlier sections.

In addition to providing general information for each soil, the tables also list specific items, such as the unified classification of the subsoils for engineering uses and hydrologic groups. The listed soil series are not inclusive, and although they occur extensively, they must be viewed as examples. Detailed onsite soil surveys must be made before all types of soils are known. More detailed information on soil characteristics and limitations for regions other than the Bighorn and Wind River may be obtained from the soil-survey reports listed as sources.

Descriptions of soil organisms in the Pacific Coast coal province also apply to the Rocky Mountain and other coal provinces.

6. VEGETATION

In the coal areas of western and southwestern Montana, small coal fields are scattered throughout various biomes, which include grassland, cold desert, and montane coniferous forest.

The Bighorn Basin coal region contains a mixture of grassland and cold-desert biomes and a somewhat drier portion of the montane coniferous forest biome represented by inland Douglas-fir. Cold-desert areas are covered by widely scattered saltbrush and greasewood plants, which indicate salty soils. In the northeastern portion of the basin where annual precipitation is only 4 inches, stunted saltbrush plants grow 18 inches apart. Sagebrush and grass are more abundant in areas receiving

more precipitation, and inland Douglas-fir grow well on the surrounding mountain slopes that receive up to 24 inches of precipitation as rain and snow.

The Wind River coal region includes parts of the cold-desert and grassland biomes similar to those in the Bighorn Basin region, but containing little saltbrush and greasewood.

The Green River coal region is covered mostly by mixed sagebrush and grass. It has more saltbrush and greasewood, indicating salt near the surface, and it also contains some montane coniferous forest represented by inland Douglas-fir.

The Uinta coal region has varied vegetative cover ranging from the saltbrush-greasewood association and sagebrush in the cold desert, through pinon-juniper and mountain mahogany-oak in the woodland-bushland biome, to coniferous forests that include ponderosa pine, inland Douglas-fir, and spruce-fir communities in areas of higher rainfall.

The Southwestern Utah coal region is dominated by the dry pinon-juniper of the woodland-bushland biome. Saltbrush and greasewood grow in arid salty areas. A small area of wheatgrass and bluegrass represents the grassland biome. Douglas-fir and spruce-fir forests represent the montane coniferous forest biome at the highest elevations; ponderosa-pine forests do so at somewhat lower elevations.

The San Juan River coal region includes galleta and grama grass areas of the grassland biome. These grasses are adapted to growing during the warm season, July through August, when most of the annual precipitation falls as rain. Little galleta grows in the northern temperature grasslands,

but blue grama may form almost pure stands, although it is not so productive under the spring and early summer rainfall patterns as it is southwestward where rainfall comes during late summer. Four-wind saltbrush and winterfat grow well, and the more northerly needleandthread grass also occurs in the area. Pinon-juniper represent the woodland-bushland biome in the region; ponderosa pine-inland Douglas-fir, the drier part of the montane coniferous forest biome.

7. WILDLIFE

a. Terrestrial

Animals living in montane coniferous forests usually have marked seasonal cycles. Invertebrates and many vertebrates are dormant during the coldest months. Many migrating birds arrive in the spring and leave in the fall. Some larger species, such as deer and elk, migrate to lower elevations during winter; other small ones, such as the blue grouse and snowshoe hare, remain active because of adaptations to walking on the snow and burrowing into it for protection. The northern flying squirrel and red squirrel harvest and store food for winter use. Pocket gophers and mountain phenacomys are active under the snow. Predators such as the goshawk, marten, and mountain weasel are year-round hunters in the forest.

Some boreal coniferous animals inhabit the province's northern coal regions at higher elevations than do the montane coniferous forest species. Shiras moose live in the conifer-aspen cover type and along the willow bottoms of riparian woodlands, primarily in the Hams Fork and Green River coal regions; Canada lynx live in forest areas of these regions.

Some species are characteristic of both montane and boreal coniferous forests: the snowshoe rabbit, red squirrel, porcupine, deer mouse, water shrew, black bear, ruffed grouse, goshawk, and great horned owl, among others.

The woodland-bushland communities, which comprise juniper, pinon-juniper, and mountain mahogany-oak, attract species from the adjacent montane coniferous forest. Because trees are sometimes scattered and interspersed with grass or shrubs, grassland or desert species may penetrate into the community. The mule deer, mountain lion, and coyote commonly occur in the woodlands during the fall, winter, and spring, although most of these species summer in the high mountains. The bobcat, rock squirrel, cliff chipmunk, desert and bushtail woodrats, and pinon mouse prefer rough country, rocky hillsides, and cliffs within the woodland-bushland communites. Characteristic birds include the pinon jay, band-tailed pigeon, and scrub jay. Invertebrate populations are low in diversity and consist largely of spiders, ants, termites, and jumping plant lice (Kendeigh, 1961). Rattlesnakes, lizards, and horned toads invade from the desert but are not particularly characteristic of these communities.

The cold-desert communities of the Bighorn Basin, Wind River, and Green River coal regions are largely sagebrush-grasslands. Saltbrush-greasewood associations occur in most regions but are more prominent in the Uinta coal region. Pronghorn antelope and sage grouse are abundant only in the sagebrush-grass ranges of the province (Sundstrom, Hepworth, and Diem, 1973; Scott, 1971), which is not surprising because both species

depend highly on sagebrush for food and cover, especially during the winter. According to Sundstrom, Hepworth, and Diem, up to 20 percent of the world's pronghorn populations inhabit the Green River region, where much of the world's sage-grouse population also lives. The low, stocky form and arrangement in clumps, with intervening open ground, make sagebrush desirable habitat for many kinds of animals, providing shelter from wind, pursuing predators, and the sun as well as food and nesting sites (Shelford, 1963). The whitetail jackrabbit, mountain cottontail, desert cottontail, Ord's kangaroo rat, northern grasshopper mouse, sagebrush vole, and various pocket mice are characteristic small mammals of the province's cold-desert communities; the coyote, fox, and skunks--characteristic predators. The blacktail jackrabbit is more common than the whitetail jackrabbit in the southern part of the province. The sage thrasher, sage sparrow, Brewer's sparrow, and ferruginous hawk are characteristic birds. Lizards are most numerous in the southern coal regions, especially the San Juan, and the sagebrush lizard occurs throughout the province. Invertebrates are most abundant in the sagebrush and greasewood communities, least abundant in the shadscale (Kendeigh, 1961). Spiders, ants, and tenebrionid beetles are the most conspicuous ground invertebrates. Harvester ants build prominent mounds throughout the sagebrush communities.

Some species are wide ranging and often inhabit most plant communities in the province. Mule deer occur in all coal regions, but their numbers are usually restricted by limited winter range. Because of these constraints, the size of deer populations is actually controlled

by certain areas of range that constitute a small percentage of the total land area. These critical areas must support not only the present deer herds but also the herds that will be needed to maintain most of the big-game hunting for future generations. Deer winter range typically includes the lower slopes of mountains and the adjoining valley fringes between the deep snow at higher elevations and the edges of farms and ranchlands in valleys. In some areas, deer migrate 50 miles and more annually between summer and winter ranges. Characteristic winter-habitat vegetative types are pinon-juniper and mountain mahogany-oak at higher elevations and sagebrush at lower elevations; deer herds in the northern part of the Green River coal region commonly winter almost entirely on the sagebrush type. The White River and Piceance Creek drainage systems in the Uinta coal region support one of the largest and most productive mule deer herds in the United States.

Elk also occupy extensive areas in all coal regions of the province but are most prominent in the eastern parts of the Bighorn Basin and Uinta regions and the northern parts of the Green River and San Juan River regions. Like mule deer, they are restricted by limited available winter habitat. Typically, elk winter in the conifer-aspen forests and the woodland-bushland communities of the province, but in some areas, notably the Green River region, they winter in the sagebrush-grasslands, where they are highly intolerant of human activity. The Sands elk herd in the Green River region in Wyoming is a notable example of elk inhabiting the cold-desert community. Here, as many as several hundred elk live year round in a remote sand dune-sagebrush-saltbrush habitat far from the nearest trees and mountains.

Two subspecies of bighorn sheep occur in this province. Rocky Mountain bighorns inhabit the Green River region and the northern part of the San Juan River region; desert bighorns, the Southwestern Utah region (Scott, 1971). The Rocky Mountain bighorns prefer the coniferous forest alpine openings; desert bighorns, the cold-desert community.

Turkeys have been reintroduced to much of their former native range, especially in the Southwestern Utah and San Juan River regions. They inhabit the coniferous forest and broken woodland areas. Ring-necked pheasants, some bob white quail, and chukar are established in most coal regions.

The exotic Barbary sheep was introduced at one site in the San Juan region but reportedly has not prospered (New Mexico Department of Game and Fish, 1967).

Conspicuous terrestrial animals in the Rocky Mountain coal province are summarized by biotic communities.

Inhabitants of the coniferous forest and forest-edge communities include the water shrew, snowshoe rabbit, red squirrel, northern flying squirrel, deer mouse, porcupine, black bear, wapiti (elk), mule deer, bobcat, mountain lion, Canada lynx, Shiras moose, wolverine, marten, least chipmunk, yellowbelly marmot, golden-mantled ground squirrel, and bushytail woodrat. Birds include the goshawk, pigeon hawk, golden eagle, great horned owl, saw-whet owl, flamulated owl, ruffed grouse, blue grouse, yellow-bellied sapsucker, hairy woodpecker, Williamson's sapsucker, white-headed woodpecker, gray jay, red-breasted nuthatch, Steller's jay, Clark's nutcracker, common raven, mountain chickadee, mountain bluebird, varied

thrush, western tanager, Cassin's finch, gray-headed junco, and Audubon's warbler.

In woodland-bushland communities, typical animals include the bobcat, ringtail, striped skunk, ground squirrels, rock squirrel, cliff chipmunk, bushytail woodrat, desert woodrat, and pinon mouse. Birds include the band-tailed pigeon, acorn woodpecker, ash-throated flycatcher, gray flycatcher, scrub jay, pinon jay, plain titmouse, common bushtit, blue-gray gnatcatcher, western bluebird, and black-throated gray warbler.

In cold-desert communities, typical animals are the blacktail jackrabbit, whitetail jackrabbit (in the north), desert cottontail, Nuttall's cottontail, desert woodrat, least chipmunk, Great Basin pocket mouse, Ordi's kangaroo rat, northern grasshopper mouse, sagebrush vole, pronghorn antelope, coyote, kit fox, western spotted skunk, desert bighorn sheep, leopard lizard, sagebrush lizard, side-blotched lizard, short-horned lizard, bullsnake, plateau whip-tail, racer, and western rattlesnake. Birds include the red-tailed hawk, Gambel's quail, sage grouse, mourning dove, great horned owl, loggerhead shrike, black-throated sparrow, sage thrasher, sage sparrow, and Brewer's sparrow.

Invertebrates are the most numerous and diverse macroscopic animals in the coal province. They are poorly known and are only now beginning to receive attention commensurate with their taxonomic dominance and ecological importance.

b. Aquatic

Aquatic wildlife includes invertebrates, fishes, birds, mammals, reptiles, and amphibians associated with the stream, lake, and pond-marsh

biotic communities. Because of the diverse and intricate distribution of these communities within the coal province and because of the many ways humans have altered natural surface hydrologic patterns, the following description emphasizes the major habitats and their inhabitants in the streams and manmade lakes of the coal regions.

Streams in the province range from clear, cold rivulets and brooks cascading down mountain slopes to broad silt-laden rivers flowing through narrow valleys or deep canyons. There is very little warm water in the province. In the southern regions, either cold-water or warm-water aquatic species occur at lower elevations. The principal habitats in a stream are falls, riffles, or rapids, and rock-, sand-, and mud-bottom pools; mud-bottom pools form in backwaters, behind dams, and in the essentially young stages of ponds. The most characteristic and abundant stream animals are caddisfly larvae, mayfly naiads, stonefly naiads, fly larvae, crayfish, snails, freshwater clams, and fish.

Streams in the southwestern Montana coal area and the Bighorn Basin and Wind River coal regions support fish species typical of the colder headwaters of the Missouri River drainage. These include the mountain whitefish, Yellowstone cutthroat trout, lake chub, flathead chub, longnose dace, plains minnow, silvery minnow, white sucker, longnose sucker, mountain sucker, burbot, and sauger. Common introduced species include rainbow trout, brown trout, brook trout, and carp (Baxter and Simon, 1970; Brown, 1971).

The Green River, Uinta, Southwestern Utah, and San Juan River coal regions are primarily within the Colorado River drainage. Cutthroat

trout and mountain whitefish are the only native game fish of the upper Colorado River drainage. These natives and especially the native Colorado River cutthroat, have been supplemented and largely replaced by numerous introduced species. Rainbow trout are the most numerous newcomers and are stocked in tremendous numbers each year (Scott, 1971). Other game fish that have been introduced are brown trout, Yellowstone cutthroat trout, brook trout, and arctic grayling in the coldest waters; channel catfish, black bullhead, and yellow perch in the warmer waters. Characteristic nongame fish are the carp, Utah chub, roundtail, leatherside chub, redside shiner, speckled dace, fathead minnow, flannelmouth sucker, mountain sucker, bluehead sucker, humpback sucker, and mottled sculpin (Baxter and Simon, 1970; Scott, 1971; Sigler and Miller, 1963).

Amphibians, such as the tiger salamander, Great Basin spadefoot toad, boreal western toad, chorus frog, and leopard frog, live along streams in all coal regions of the province. Others, such as the western spadefoot toad, Woodhouse's toad, and red-spotted toad, inhabit only some of the southern regions (Stebbins, 1966). The bullfrog, though occurring primarily in some southern regions, lives also in northern areas such as along the Snake River in Idaho.

Various birds and mammals are closely associated with, and at least partially dependent on, stream communities. Bald eagles, kingfishers, and great blue herons harvest fish, whereas water ouzels dive for aquatic insects. Muskrats, beavers, mink, raccoons, water shrews, river otters, and other mammals are also links in the food chains of stream ecosystems.

The coal province lacks extensive wetlands and, consequently, has comparatively few waterfowl. The available habitat consists largely of streams and stream bottom lands, canals, reservoirs, and seeps resulting from irrigation. Food supplies are limited except in agricultural areas. Waterfowl tend to concentrate in irrigated areas such as portions of the Green and Yampa River valleys in the Green River coal region and the San Juan River valley in the San Juan River coal region. Waterfowl are most numerous when migrating. Only breeding species reside in the province in the summer, dispersed over the nesting areas that generally occur near waters associated with agricultural lands, river side channels, oxbows, beaver ponds, and to a lesser extent, reservoirs and natural lakes. The Great Basin Canada goose, mallard, pintail, teal, and Barrow's goldeneye are typical nesting species.

Comparatively few natural lakes remain in the coal regions, most of them having been modified for storage of irrigation water. The acreage of manmade reservoirs far exceeds that of natural lakes. Although lacking definitive proof, some analysts believe that manmade lakes are usually less productive than natural lakes. However, fish-stocking programs and the large manmade impoundments, such as Yellowtail Reservoir, Boysen Reservoir, Flaming Gorge Reservoir, Lake Powell, and Navajo Reservoir, have greatly expanded the fisheries of the province. Various combinations of trouts and introduced warm-water fish species such as the walleye, large mouthed bass, small mouthed bass, black crappie and others occur in these waters. These lakes also provide immense resting areas for migrating waterfowl.

Pond-marsh biotic communities are limited in extent in the province but are significant locally. The stock ponds, river side channels, oxbows, and irrigation seeps mentioned above often support typical pond-marsh animal associations, but the beaver pond is probably the most widespread example of this biotic community. Beaver ponds occur in thousands of small streams throughout the province. Their margins are usually marshy, and they support rooted vegetation around the edges. Various frogs, toads, snakes, and air-breathing aquatic insects occur here, as do Canada and snow geese, brown pelicans, and whistling and trumpeter swans. Sandpipers, killdeer, and snipe search the pond edges, and swallows and bats feed in the evenings on insects emerging from the water. Mallards, teal, and Barrow's goldeneye commonly nest around the ponds, and typical fish inhabitants include brook, rainbow, and cutthroat trout, sculpins, and suckers. The beaver is the most conspicuous aquatic mammal here, but muskrat and mink are often present, as are raccoon and sometimes otter.

c. Endangered and threatened species

Those wildlife species determined by the Secretary of the Interior to be threatened with extinction and named on a list published in the Federal Register are officially designated "endangered species." Species categorized as "threatened" are those likely to become endangered within the foreseeable future throughout all or significant parts of their ranges. Species whose existence is considered endangered are noted in the "United States list of endangered fauna" (U.S. Fish and Wildlife Service, 1974); this list, as amended through September 25, 1975 (U.S. Fish and Wildlife Service, 1975, p. 44418-44423), is reproduced in appendix 4.

In the Rocky Mountain coal province, three mammal, five bird, and seven fish species are presently on the official endangered species list. The black-footed ferret has been reported on the basis of several observations within the province, but these have not be confirmed. Ferrets are closely associated with prairie dogs, which are their major food source.

The endangered Utah prairie dog occurs in parts of the Southwestern Utah coal region. Most of its range is in the Great Basin of Utah, but several colonies near the Wayne County-Piute County border are in the Southwestern Utah region.

The Northern Rocky Mountain wolf (Canis lupus irremotus), was once considered to be extinct in the conterminous States, but wolves in its former range have recently been reported in Yellowstone National Park and Beaverhead, Boise, Challis, Custer, Flathead, Gallatin, Helena, Kootenai, Salmon, Shoshone, Targhee, and Teton National Forests.

Both species of peregrine falcon, the American and arctic, are considered endangered. These birds have been extirpated as breeding species in the Eastern United States and are generally decreasing in the West. The peregrine falcon is uncommon in the Upper Colorado River area, and very few nesting pairs--probably less than half a dozen--are known to occur in the province. Nests are usually in coniferous forests or along major rivers, and extreme care should be taken to prevent disturbing them. The southern bald eagle, also endangered, probably occurs in the San Juan River coal region as a winter resident or migrant.

The whooping crane, which breeds in Canada's Wood Buffalo National Park in south-central Mackenzie and winters along the coastal

Gulf of Mexico, uses the marshes and major rivers of the Rocky Mountain coal province for resting and feeding while in transit.

Four endangered fish, the bonytail and humpback chub, Colorado squawfish, and humpback sucker, are native to the Colorado River drainage and are adapted to a swift-water environment. Apparently, reservoir construction is responsible for their endangered status because their natural habitat has been obliterated in the impoundment areas and their reproductive requirements affected by lowered temperature in the tailwater areas. All are rare in the remaining natural stream segments.

The Kendall Warm Springs dace occurs only in the Green River coal region in a warm-spring-fed tributary of the Green River in the Bridger National Forest in Wyoming. The Gila trout is restricted to Diamond, McKenna, and Spruce Creeks in the Black Range Primitive Area of the headwaters of the Gila River in the Gila National Forest of New Mexico. The woundfin, a cyprinid minnow, formerly occurred in the Lower Colorado River and Gila River basins in Arizona, Nevada, and Utah but is now restricted to the Virgin River southwest of Hurricane, Utah.

Preliminary surveys of the mollusks in the province reveal that 24 species, not previously considered to be endangered, may indeed be either endangered or threatened, but none have yet appeared on Department of the Interior lists.

In addition to the endangered species, one fish, the Arizona (Apache) trout, and one mammal, the grizzly bear (in the conterminous States) are considered to be threatened in the province. The Arizona (Apache) trout inhabits Ord Creek and the east fork of the White River

and Christmas Tree and Sun Moon Lakes in Arizona. The grizzly bear, a wilderness species that once inhabited areas in all Western States from the Pacific Ocean to the eastern edge of the Rocky Mountains, now occurs in small numbers in remote areas in Idaho, Montana, Washington, and Wyoming.

Some species, although not endangered throughout their ranges, have remnant populations in danger of being eliminated in local areas. This has prompted individual States to develop their own lists of rare and endangered species. As an example, Wyoming's list of affected species in this coal province include the shovelnose sturgeon and sturgeon chub of the Bighorn River drainage and the Colorado River cutthroat and leatherside chub of the Green River drainage; others are the osprey, midget faded rattlesnake, Green Basin smooth green snake, wolverine, and river otter. New Mexico has developed a comparable list, and Arizona is in the final stages of developing one.

B. CULTURAL ENVIRONMENT

1. LAND USES

The Rocky Mountain coal province has some of the most rugged topography in the Nation, and most of the province is covered today by natural vegetation. The most extensive land use is grazing by livestock and wildlife, but outdoor recreation is gaining rapidly in terms of acreage, and timber production ranks third. Data from comprehensive river basin studies on the Colorado River (table II-7) indicate the relative significance of the various land uses. The Upper Colorado region is fairly representative of the province, and 84 percent of its

Table II-7.--Land-use data for the Colorado River Basin, 1965 1/ 2/

Land use	Upper Colorado region 3/		Little Colorado subregion 4/	
	(thousand acres)	(percent)	(thousand acres)	(percent)
Grazing	60,442	84	16,604	96
Cropland	2,225	3	44	--
Irrigated	(1,622)	(2)	(28)	--
Dry farm	(603)	(1)	(16)	--
Timber production	9,419	13	1,419	1
Urban and transportation	929	1	82	--
Designated wilderness	1,414	2	0	--
Outdoor recreation	47,543	65	15,128	88
Military	114	--	21	--
Exclusive fish and wildlife	229	--	16	--
Intensive mineral production	37	--	7	--
Total land area	72,234		17,252	

1/ Data from Water Resources Council, 1965.

2/ Land-use acreages are not exclusive and demonstrate some multiple uses.

3/ Includes Colorado River drainage and all drainage of tributaries above Lees Ferry, Ariz.

4/ Includes Little Colorado River drainage above confluence with Colorado River.

area is in grazing; 3 percent, cropland cultivation; 13 percent, timber production; 1 percent, urban, transportation, and utilities; 65 percent, outdoor recreation; and 2 percent, formally designated wilderness. These calculations reflect some multiple land uses.

a. Agricultural

Sheep and cattle grazing and cultivated crop production are the most common land uses in the province. An estimated 85 to 90 percent of the area is used for agricultural production, but parts are used also for wildlife habitat, extensive outdoor recreation, and mineral production.

Rangelands vary considerably in productivity, but on the basis of data for the Upper Colorado region, native vegetation produces an average estimated 0.1 animal unit month (AUM) of forage per acre. The range livestock industry specializes in producing feeder livestock from cow-calf and ewe-lamb type operations. Much grazing land is federally owned and administered by BLM and the Forest Service.

Croplands are scattered throughout the province but constitute a small percent of the land use. An estimated 3 percent of Upper Colorado region acreage is cropland, most of which is irrigated. Some dryland farming takes place under favorable soil and moisture conditions. Livestock feeds are the major crops, which enable producers to supplement available range forage under adverse weather conditions. Major crops include hay (alfalfa and native), improved pasture, and feed grains. Other crops include food grains, orchard fruits, sugar beets, potatoes, dry beans, and various truck crops.

b. Timber production

Coniferous forests occur in the province primarily between elevations of 5,000 to 11,000 feet. Pinon-juniper woodland is the most extensive forest type but is of minor importance other than for fuel-wood production. The important timber species include ponderosa pine, Douglas fir, white fir, lodgepole pine, Englemann spruce, and limber pine. On the basis of river-basin study data, an estimated 10 percent of the province has valuable timber resources. The Forest Service administers most of the area; States, private individuals, and other Federal agencies own some of it.

Forest lands are also valuable for watershed protection, wildlife habitat, outdoor recreation, and domestic livestock grazing.

c. Watershed

The province contains the headwaters of the major river systems in the West and Midwest. Much of the high mountain area produces more than 10 inches of runoff annually. The quantity and quality of water depends highly on watershed conditions. Data from the Upper Colorado river-basin study indicates that 40 percent of the area has accelerated erosion, but erosion over the entire province is estimated to be somewhat less.

Agricultural-related needs are presently the most significant uses of surface water. In the Upper Colorado region, water depletion by use in 1965 was broken down as follows: irrigation, 62 percent; municipal and industrial use, 1 percent; minerals and parks, 1.6 percent; recreation and wildlife, 0.4 percent; and livestock water, 1 percent. The remaining

water depletion is due to evapotranspiration and includes much evaporation from storage facilities. Surface-water use in the entire province compares well with these figures, although depletion caused by power production has increased considerably since 1965.

d. Mineral industry

Mineral production currently involves only a small part of the land surface in the province. In the Upper Colorado region, for example, mineral use in 1965 accounted for less than 0.1 percent of the surface use. However, mining and processing are intensive in many areas and impact significantly on other land uses and on the environment. Record of past mining activities include abandoned loading facilities, waste dumps, tailings, ponds, and extensive road systems.

Among the many significant minerals being produced are coal, oil, gas, uranium, iron ore, copper, silver, gold, lead, zinc, molybdenum, potash, trona, and phosphates. Mining and primary processing are major employers in many areas and contribute significantly to local economies. This province also includes the major oil-shale deposits in the United States as well as vast reserves of bituminous sandstone.

e. Urban and transportation

Urban uses involving fairly extensive areas include residential, commercial, and industrial, as well as all types of transportation systems (highways, roads, railroads, airports, powerlines, communication lines, and pipelines). In the Upper Colorado region, which has no major urbanized areas, urban uses in 1965 accounted for more than 1 percent of the surface use. However, an estimated 2 percent of the entire coal province is under

urban use, notably in the urbanized areas along the eastern mountain front in Colorado, the Wasatch front in Utah, and the Albuquerque area in New Mexico. In most cases, this higher value urban land use precludes mineral development.

Because of the scenic and recreational appeal of the Rocky Mountains, mountain recreational and rural residential communities are being developed rapidly and extensively in some areas in the province, particularly in Colorado. Patented mining claims and homesteaded land are being subdivided and developed, but they are intermingled with Federal lands administered by the Forest Service and BLM. In Colorado's mountain valleys, over 380 rural subdivisions involving 285,000 acres adjoin Federal lands. Coal lands in the San Juan River and southwestern Uinta coal regions are also affected by similar developments. Under mining patents and the homestead laws, coal is reserved to the United States.

f. Wild horse and burro habitat

Wild horses use extensive areas in the province, some of the more significant being Wyoming's Red Desert and Bighorn Basin, Colorado's Book Cliff, Piceance Creek, and Yampa River areas, Utah's Book Cliffs, and Montana's Pryor Mountains. The Pryor Mountain wild-horse range (32,000 acres) is the only formally designated wild-horse area in the province. Some of the areas inhabited by wild horses that also have coal resources include the Bighorn Basin and the Red Desert, Book Cliff, Piceance Creek, and Yampa River areas.

Wild burros are not prominent in the province, but small populations inhabit some isolated areas.

g. Recreational

Together, the comparatively small human populations, high remoteness, and breathtaking scenery provide almost unlimited opportunities for the nature lover.

Some outstanding national forests, national parks, and national-resource lands occur in the province, the most famous being Yellowstone National Park. Others adding scenic and recreational diversity include Bryce Canyon and Zion National Parks and the Grand Canyon.

Federal, State, and local governments maintain numerous camping and picnicking facilities and historical sites. The province abounds in such sites, some restored--numerous forts, pioneer sites, and old camps and some unrestored--ghost towns, abandoned equipment, and other silent and deserted reminders of long-past mining activity.

The province also supplies some of the best fishing and hunting in the Nation. Drainages support several varieties of trout, whereas hunting opportunities include deer, elk, moose, sheep, goats, bear, pronghorn antelope, upland game birds, and waterfowl.

Other activities available to recreationists include winter sports, rock hounding, horseback riding, and boating.

2. POPULATION PATTERNS AND CONSIDERATIONS

The Rocky Mountain area has primarily rural social patterns and attitudes and, therefore exhibits markedly slower social change than do urbanized areas.

Sparse distribution of population can be related to the topography and climate of the province. The high elevation and relief

of the land confines settlement to lower, flatter areas near reliable water supplies. Technology has changed this pattern only slightly since the days of earliest pioneer settlement, and many of the present social values are rooted in the pioneer experience. Salt Lake City, Utah, and Denver, Colo., (although the latter is located in another coal province) are the political, economic, and social centers of the province.

a. Economic

Economic patterns in the province are closely related to the social attitudes. In keeping with the rural orientation, livestock raising is a major activity, with agriculture usually an adjunct to the livestock industry. Exceptions occur along watercourses, where cropland agriculture is a primary but localized industry.

Mining has been important to all States in the province, with copper, gold, lead, zinc, and silver mining usually capturing the public's attention. Coal has been mined historically in all the States, but only recently has it received national interest. Other minerals have local economic prominence: Iron, uranium, limestone, and gypsum are extracted in most States.

Forest-product industries are similarly important but have gained dominant positions only in Idaho's State economy. Oil and gas interests have large impacts on States' economic outlooks: Some States have extensive reserves of petroleum and exploit them heavily, whereas others have little but are actively engaged in exploration.

Recreation and tourism are becoming increasingly important economically, as evidenced by States' advertising campaigns to promote

their recreation facilities and the consequent economic growth. The Rocky Mountains have long been a mecca for skiers, hunters, and summer visitors from less mountainous States and more densely populated areas of the country. In addition to its already extensive array of national parks, monuments, and forests in the province, the Federal Government is expanding its public recreation potential and facilities in the area, as are many States and counties. Coal deposits occur beneath some of these developed recreation areas.

Major industrialization of the province has not accompanied population growth. Industrial expansion, other than in services to extractive industries, has been limited to larger population centers, and the largest of these have attracted more service industries than have the smaller ones. The expansion of major population areas as distribution, transportation, and communications centers has paralleled the growth of light industry in these metropolitan areas.

Population growth in some areas is usually indicated by expanded government services, and as State governments grow and shift emphases, Federal agencies also expand their services.

Although specific localities may show net losses locally, the province as a whole is growing in population, goods and services, and annual production.

b. Ethnic

The numerous Indian populations in the province occupy extensive scattered land areas, many of which contain marketable coal deposits. Some Indians, such as the Navajo and Hopi Tribes, have begun to lease

the coal lands within their reservations, and other tribal lands have been explored for coal resources. These proposed regulations concern Indian coal lands as well as other federally managed lands.

Mexican Americans form another large minority group in the province.

c. Cultural and religious

The Church of Jesus Christ of Latter Day Saints (Mormon) and its adherents are culturally, socially, and religiously significant influences in Utah and, to a lesser extent, in the surrounding States.

For Indians in this and all coal provinces, the natural environmental state is synonymous with their cultural identities.

Important cultural and scientific resources in the province include uncounted archeological sites, significant paleontological deposits, such as those near Kemmerer and Medicine Bow, Wyo., and many historic buildings, areas, sites, and trails. The Oregon, Mormon, Overland, and Bozeman Trails, forts of the Indian wars, and routes of early explorations are other examples.

3. HUMAN-VALUE RESOURCES

a. Esthetic values where Federal coal occurs

The rugged beauty of the mountains, plateaus, and valleys in this coal province was largely responsible for creating the numerous national parks, monuments, and recreation lands. The great coniferous forests that blanket the slopes are cut by major drainage systems that lead eastward to the Great Plains and westward to the deserts.

Lines dominate the province. Strong erosion and landslide patterns, textural changes between rock and vegetative types, deep valleys cut by major rivers and streams, and irregular skylines contribute to varied linear categories.

Altitude and latitude both contribute significantly to color composition, because timberline is generally higher in the southern Rockies. Herbs and grasses at higher altitudes contrast with great expanses of bare rock. Vegetative types on lower slopes predominate as the major timber stands that provide a green canopy are broken occasionally by rock outcrops or landslides. Several major lakes, deep and intensely blue, fill intervening basins within the province.

Textural contrasts are extensive. Great rock faces protrude from timbered slopes in some areas. Grassy meadows grade into towering stands of timber. Shimmering lakes and rushing streams are significant textural elements.

All landscape elements are massive in scale.

b. Historic

Historic sites, structures, and objects, such as those noted already under cultural and religious considerations, are tangible, rich historic resources. Most of the better known historic sites are under Federal jurisdiction or are on, or are eligible for listing in, the National Register of Historic Places; this register is part of the National Natural and Historic Landmark program, administered by the National Park Service. Many other historic sites and structures are administered by State, county, or local agencies. Many of these historical resources are on or adjacent to federally administered coal deposits.

A partial listing of historic events or developments--which are of national, State, or local significance and occur on or near present Federal lands in this province--include the following:

1. Early exploration by Spanish, French, British, and Americans from 1540 to the 1850's.
2. The history of such Indian tribes as the Blackfeet, Nez Perce, Shoshone, Flathead, Crow, Arapaho, Ute, Paiute, Comanche, Navajo, Zuni, and Apache in their interactions with each other and confrontations with the white culture.
3. Military history of the region is represented by sites related to the Civil War, Mexican War, and especially the Indians Wars, in the form of battlefields, forts, and sites where important events occurred.
4. Economic, social, commercial, and settlement history, as exemplified in the mountain fur trade (first exploitation by Western man of the natural resources of the area following on a long tradition developed by the American Indian); the Santa Fe Trail; the mining frontier (many mines, sites, and towns on Federal land); the cattle and sheep frontier; the history of transportation and communication (especially the transcontinental railroads); and the timber-products frontier.
5. Overland migration and settlement as reflected by the history of the Oregon, California, Mormon, and other historic routes and trails; the rough topography of the entire area limited westward movement to a few trails in the early days of the development of the West.

c. Geologic

The high peaks, deep canyons, tree-covered slopes, and racing streams attract millions of summer visitors to the area. The mountainous areas featuring glacier-carved valleys and cirque lakes are outstanding scenically but also record the results of natural forces that continue to shape the mountains today.

On the other hand, the deserts in the province appeal to those viewers who enjoy scenic expanses of wide-open spaces barren of much vegetation and empty of people and the works of man, or who marvel at striking wind-carved sandstone formations.

The Colorado Plateau and the Grand Canyon of the Colorado River unfold the story of much of the area for large segments of geologic time, and the plateau also boasts such memorable geologic phenomena as the Petrified Forest and Painted Desert. North and west of the plateau are the deserts of the Basin and Range where the north-south mountain chains, which are large uplifted blocks of the Earth's surface, are separated by the downdropped blocks that form the valleys; in the United States, only here can one see these features on such a large scale. Of the province's many interior basins, remnants of Pleistocene lakes, one of the more remarkable is the one now occupied by Great Salt Lake.

Of still other geologic interest is the geothermal activity in the province, especially at Yellowstone National Park, where geysers and hot springs abound and the geothermal activity is related to near-surface volcanic activity. West of this area are such unusual and recent

lava flows as those at the Craters of the Moon National Monument in Idaho's Snake River Plain and, farther north in central Idaho, the large rounded mountainous mass of the Idaho batholith--once an immense molten mass deeply buried beneath the Earth's surface but now stripped of its former cover and highly elevated in the Rocky Mountains. Among the many other remnants of earlier volcanic activity in the province, one of the more spectacular is Shiprock in northwestern New Mexico, a splendid example of a volcanic neck and its associated systems of dikes. These are but a few of the numerous examples of volcanism throughout the province, many of which occur on national-resource lands and in national parks and monuments.

Of the caves and caverns in this province, Timpanogos Cave National Monument in northern Utah is a notable example.

The sharp relief of the recently uplifted landforms and the thick clean exposures of rocks in the province, combined with the often easy access of sites, present valuable opportunities for Americans to learn and enjoy the geologic history of the Rocky Mountain region. The Morrison Formation in Wyoming and Colorado contains dinosaur skeletons and other fossil materials which have greatly broadened our knowledge of this history, as have the materials recovered from the Dinosaur National Monument, Florissant fossil beds, large deposits near Rock Springs, Wyo., and fossil vertebrate localities in Utah.

d. Archeologic

The Rocky Mountain and Northern Great Plains coal provinces include part or all of nine States, in which occur parts of four different prehistoric culture areas. The Interior Plateau Culture Area (parts of five states) is best known for its historic tribes and, archeologically, seems to have been a transition area between the Plains and the Northwest Coast Culture Areas. At the time of European contact, the inhabitants had adopted more plains-culture characteristics than other cultural influences. The Interior Plateau Culture Area extended from western Montana to the Cascade Range on the west. The cultural affinities of the culture subareas came to resemble more closely the proximate dominant culture.

The Old Cordilleran Tradition was the progenitor of the plateau people in 9000 B.C. or earlier. These hunters and gatherers gave rise to the culture of the Great Basin peoples farther south. Later, as the environment changed and destroyed the bases of the Old Cordilleran Tradition, the Great Basin dwellers, having adjusted to these changes, spread their influence and culture northward into the Interior Plateau area. Subsequently, the arising Northwest Coast Culture spread its values eastward into this area and a riverine way of life was adopted in the west; at the same time, the Plains Culture dominated the eastern part of the Interior Plateau.

The Desert Tradition of the Great Basin Culture Area had its beginnings in the Old Cordilleran Tradition, from which it separated in approximately 8000 B.C. This ancient way of life,

built around seed collecting and grinding and small-game hunting, at various times occupied most of arid North America and persisted in its purest form to historic and even modern times. The various branches of this culture spread even to Mesoamerica and to today s Four Corners States, Colorado, New Mexico, Utah, Arizona, where it developed into the component units of the Southwest Culture.

From its Great Basin Desert Tradition beginnings, we recognize the existence of the Cochise culture in southern Arizona and New Mexico by 5000 B.C. Along the Colorado River and in western Arizona, another Desert-Tradition group, the Pinto Basin people, developed about this time or earlier. Simultaneous with these developments, the San Jose Culture evolved from the Desert Tradition in New Mexico and later in the Four Corners area. These Archaic-period cultures developed into distinctly different forms by the Christian era, and at the time of European contact they had ceased to exist or had merged to become the Indian groups of today.

During the period A.D. 1000-1500, Athapascans intruded into the Southwest Culture Area and, by reoccupying areas abandoned earlier or by pressuring the Puebloid peoples out, became the residents of the Four Corners, eastern Arizona-western New Mexico, and eastern plains of New Mexico. The Paiutes and other Shoshonean speakers of the Great Basin area, as well as the Utes, also moved into parts of the southwest not previously in their range.

The archeology of the Northern Great Plains coal province includes the western portion of the Plains Culture Area. The earliest

dwellers in this area were the Paleo-Indians of the Big-Game Hunting Tradition. These people, makers of Eden, Scottsbluff, Folsom, and Clovis projectile points, hunted the large Pleistocene and post-Pleistocene mammals of the western plains. By 4000 B.C., the environment had become too dry and too warm to support this way of life, thereby causing the Plains Archaic Culture to develop.

The Big-Game Hunting Tradition at one time extended into Mexico and southeastern Arizona. With the Pleistocene climate ameliorating and its associated fauna displaced northward, the big-game hunters also moved northward and were replaced by an expansion of the Desert Tradition. In the Northwestern and Central Plains subareas, the big-game hunters seem to have changed their way of living in situ and evolved into the Plains Archaic, who hunted smaller animals and gathered much of their food from vegetal sources. Later cultural developments on the plains included the introduction of pottery and agriculture, with its associated sedentarism and growth of villages and social systems. The elements affected the occupants of the two cultural subareas only marginally, the people remaining essentially in the Plains Archaic level of development until the time of contact with white culture. At that time, with the introduction of the horse and firearms, they left their wandering, hunting-gathering, and minimally horticultural way of living and reverted to a totally hunting culture.

The early residents of the Rocky Mountain coal province differed from one another. For example, they built their houses

of different materials, depending on what was available where they lived. Mostly, they used ephemeral surface structures of poles and and brush that were readily abandoned when the time came to move to another area.

Common to all cultures are the lithic sites where they obtained stone for tools and left the chips and other debris of tool manufacture. Campsites usually have little cultural depth; however, because succeeding camps were made in the same area to exploit wood, water, and shelter over a long period of time, a considerable amount of archeological evidence, deposited within a small area, can yield information much in the fashion of a long inhabited, deeply stratified, site. While no quantitative value can be established for a single campsite in the barren Great Basin area that is comparable to large pueblo ruins of many rooms, campsites may still have considerable archeological value. The importance of both kinds of sites must be realized. Each culture area may have unique and valuable remnants which should be considered on an individual basis when surface-disturbing activities, such as coal development, are suggested. The more subtle archeologic remains must be safeguarded just as much as the more spectacular ones.

Rock outlines, called intaglios, of the Southern Great Basin area, prehistoric trails, animal trap and kill sites, and stone circles and "Medicine Wheels" of the plains are fragile, irreplaceable examples of Indian heritage. In the southwest, agricultural sites,

fields, farmplots and terraces, water-diversion structures, fieldhouse structures, irrigation systems, and cave sites date back to the dawn of agriculture in this part of North America.

Of the nationwide total of 530 Federal coal leases, 103 are in this province.

A. NATURAL ENVIRONMENT

1. GEOLOGY

Most of the Nation's Federal coal is in the Northern Great Plains coal province (Trumbull, 1960; Campbell, 1929), primarily in the Fort Union and Powder River coal regions of Montana, North and South Dakota, and Wyoming. This province is entirely in Fenneman's Interior Plains major physiographic division and encompasses the northern part of his Great Plains physiographic province (Fenneman, 1931).

Rocks in the province are mostly sedimentary, range in age from Paleozoic to Tertiary, and are nearly horizontal except along the flanks of the Rocky Mountains where they turn sharply upward. The sedimentary rocks consist of several thousand feet of sandstone, shale, limestone, and conglomerate, as well as beds of lignite and coal. Many of these sedimentary units are very thick and widespread. Some were deposited on the floors of ancient seas that extended across the continent; others, in deltas or tidal areas along the margins of the seas or inland in broad depositional basins. Coal formed in tidal swamps and marshes along the marine shores and also in swamps, lakes, and on the flood plains of major drainage systems of inland basins. These basins developed after the continents were uplifted and the seas retreated.

In the following sections, coal regions and selected coal fields and areas are described in the general north-to-south order in which they occur in the province.

a. North Central coal region

The North Central region of Trumbull (1960) includes all coal-bearing lands in the north-central part of Montana (fig. 2-4). Campbell (1929) divided the region into the Assiniboine and Judith Basin regions, to the north and the south, respectively.

The Assiniboine part of the region surrounds the Bearpaw Mountains and includes 10,500 square miles of nearly flat lying coal-bearing rocks of the Judith River Formation and Eagle Sandstone, of Late Cretaceous age, and the Fort Union Formation of Paleocene age. The coal ranges in rank from subbituminous A and B to high-volatile bituminous B and C, but in most places, the beds are discontinuous and too thin to be of other than local commercial importance.

Coal-bearing rocks also crop out in the Blackfeet-Valier area on the western edge of the Assiniboine part, in a north-south belt extending from Cascade County in west-central Montana to the Canadian border (fig. 2-4). Coal beds 2 to 3.5 feet thick occur in the Two Medicine and St. Mary River Formations, of Late Cretaceous age, but are generally too thin and sporadic to be of commercial interest.

The Judith Basin part of the region, south of the Assiniboine part, includes the Great Falls field to the west and the Lewistown field to the east. Coal beds occur in the upper part of the Morrison

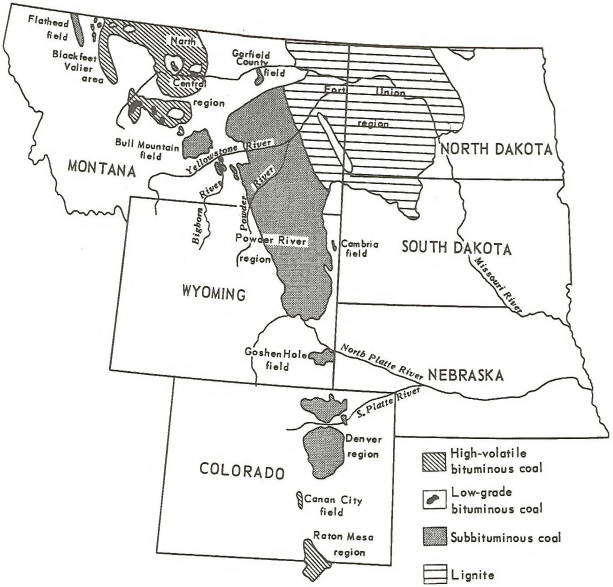

Figure 2-4.--Northern Great Plains coal province with locations of selected coal regions and fields and dominant type of coal in each. (After U.S. Department of the Interior, 1975.)

Formation of Late Jurassic age. The coal is high-volatile bituminous B and C in rank but contains 1.7 to 4 percent sulfur, somewhat more than the coals in other regions of the West.

b. Bull Mountain and Garfield County coal fields

The Bull Mountain field, about halfway between the North Central and Powder River regions (fig. 2-4), and the Garfield County field, between the North Central and Fort Union regions (fig. 2-4), are noted here for completeness. Their coal-bearing rocks are in the same formations as those in the nearby Fort Union and Powder River regions, but the coal beds are generally thinner and less extensive.

c. Fort Union coal region

This is the largest region in the coal province and encompasses the western half of North Dakota and parts of South Dakota and Montana (fig. 2-4). It contains an estimated 440 billion tons of lignite, by far the largest coal resource in the entire United States (Averitt, 1963, 1969, 1973; Berryhill and others, 1950; Brown, 1952; Landis, 1973).

The region occupies a broad, shallow basin with Tertiary rocks dipping gently toward the center. In the South Dakota part of the basin, some gentle smaller flexures are superimposed on the major depression. Dips are less than 1 degree, and nowhere are there structural disturbances of sufficient magnitude to cause serious mining problems. Faults are rare.

Most of the coal in North Dakota is contained in (in ascending order) the Lebo, Tongue River, and Sentinel Butte Members of the Fort

Union Formation of Paleocene Age. A few thin beds also occur near the base of the overlying Wasatch Formation of Paleocene and Eocene age, in the basal Tullock Member of the Fort Union, and in the underlying Hell Creek Formation of Late Cretaceous age. The coal beds are discontinuous and vary greatly in thickness. More than 100 beds have been identified by the North Dakota Geological Survey, but no more than 3 beds of commercial thickness occur in any 1 section. The Fort Union ranges in thickness from 425 to 775 feet in South Dakota and up to 1,500 feet in Montana. The coal throughout most of the Fort Union region is lignite in rank. However, westward from the Montana-North Dakota State line, the rank of the coal increases to subbituminous C near Miles City and subbituminous B further west. The Fort Union region merges with the Powder River region along a vague northwest-trending boundary defined roughly by the change in rank from lignite to subbituminous.

d. Powder River coal region

This region is the southwestern extension of the Fort Union region and continues from southern Montana into northeastern Wyoming (fig. 2-4). It encompasses about 20,000 square miles and contains nearly 240 billion tons of subbituminous coal (Glass, 1972; Berryhill and others, 1950).

The Powder River Basin is a broad structural trough between the Bighorn Mountains to the west, the Black Hills uplift to the east, and the Laramie Mountains and Hartville uplift to the south. It is asymmetrical, and its rocks dip 5 degrees or less along the eastern

side but considerably more along the western and southwestern sides. Most coal-bearing rocks crop out away from the more steeply dipping edges of the basin and are nearly flat or dip gently beneath a weakly rolling or dissected plain. Red-weathering "clinker" beds of burned overburden along the coal outcrop zones are more resistant to erosion than the enclosing strata and form prominent distinctive caps and ledges throughout the region.

The Fort Union Formation in the Powder River Basin comprises 1,700 to 3,200 feet of sandstone, shale, and coal and is divided, ascending, into the Tullock, Lebo Shale, and Tongue River Members; the Tongue River is the thickest unit. The overlying Wasatch Formation ranges in thickness from 1,050 to 3,500 feet and consists of sandstone, shale, and coal, with beds of conglomerate at its base along the western margin.

Commercially important coal occurs in the Tongue River and the overlying Wasatch. The thin impure coals reportedly in the underlying Lance Formation, of Late Cretaceous age, are presently of little commercial interest.

In general, the coal beds are thickest in northern parts of the region and most persistent across the gently dipping northern and eastern sides of the basin. Important coal beds in the region include the Badger and School seams at Glenrock, the Monarch seam near Sheridan, the Healy bed near Lake DeSmet, the Felix and Anderson beds in the Spotted-Horse field, and the famous Wyodak seam or Smith-Roland coal bed near Gillette. Regional correlations of these and other coal beds are being revised, but it remains certain that the

Wyodak or Smith-Roland coal bed and its correlatives persist as a thick and continuous bed over several thousand square miles and have recoverable reserves of many billions of tons.

The Black Hills portion of this region, although sometimes considered to be a separate region, extends from the Cambria coal field near Newcastle, Wyo. (fig. 2-4), around the west and north sides of the Black Hills uplift into South Dakota. This area is a dissected plateau tilted slightly away from the Black Hills uplift. The plateau is underlain by the massive Dakota Sandstone, of Early Cretaceous age, which is 150 to 300 feet thick and locally coal bearing. The coal is high-volatile C bituminous, and though locally as thick as 10 feet, it occurs in discontinuous pods and lenses and is of little commercial interest. About 10 million tons of good coking coal were produced in the past from the Cambria field (Berryhill and others, 1950).

e. Denver coal region.

This region extends from the Colorado-Wyoming State line southward across east-central Colorado as far as Colorado Springs (fig. 2-4). It is in the Colorado Piedmont section of the Great Plains physiographic province and includes 8,000 square miles of gently rolling plains underlain by coal-bearing rocks of the Laramie Formation of Late Cretaceous age. It occupies a north-south-trending asymmetrical basin having gentle dips on the eastern flank and steeply upturned beds along the Rocky Mountain front to the west. The coal beds are probably less than 1,000 feet deep throughout the region.

The coal seams occur in the lower 300 feet of the Laramie; they are mostly subbituminous B to C in rank and as thick as 17 feet, but most are thinner, lenticular, and discontinuous.

The Denver Formation, of Late Cretaceous and Paleocene age, contains extensive lignite beds. In parts of the region, coal beds also occur in the Arapahoe Formation of Late Cretaceous age, but these coals are lenticular, generally very dirty, and of lower rank--bordering on lignite (Hornbaker and Holt, 1973).

f. Canon City coal field

Between the Denver and Raton Mesa regions, this field (fig. 2-4) contains as many as 16 beds of noncoking high-volatile C bituminous coal in rocks of the Vermejo Formation of Late Cretaceous age. They occur in a structural setting similar to, but on a smaller scale than, that in the Raton Mesa region.

g. Raton Mesa coal region

This region occupies much of the Raton basin, a broad structural trough that trends in a north-south direction from southern Colorado into northern New Mexico. The basin is an asymmetrical syncline with gently dipping rocks on the eastern flank and steeply dipping to overturned rocks along the flanks of the Sangre de Cristo Mountains to the west. The area contains many igneous dikes and sills that alter and destroy the coal beds they intrude.

Coal occurs throughout the sandstones and shales of the Vermejo Formation, of Late Cretaceous age, and the conglomerate, sandstone, and shales of the Raton Formation of Late Cretaceous

and Paleocene age. The coal is high-volatile A to B bituminous in rank and, except in the Walsenburg field to the north, cokes throughout most of the region.

The coal-bearing rocks are as thick as 2,400 feet. Most coal beds range in thickness from 2 to 5 feet, but some in the New Mexico part of the region are as thick as 15 feet. Much of the coal crops out at the surface on hillsides and along hogbacks. Although some coal reserves are strippable, some of the major coal beds of the Vermejo are buried as deep as 1,000 to 3,000 feet (Pillmore, 1969).

2. TOPOGRAPHY

In general, the Northern Great Plains coal province has little surface relief, gently rolling plains and hills, some areas of badlands and dissected plateaus, and isolated mountains. Altitudes range from about 5,500 feet along its western margin to about 1,500 to 2,000 feet along the eastern margin in South Dakota. The average slope is about 10 feet per mile. Streams drain generally easterly to southeasterly, the main rivers being the Missouri, North and South Platte, and Yellowstone; each of these, but especially the Missouri, has numerous tributaries. Isolated, small mountainous areas include the Black Hills in South Dakota and the Bearpaw, Little Rockies, Judith, Bull, Big Snowy, and Little Belt Mountains in Montana. Other significant topographic features include the Sand Hill area in west-central Nebraska, the badlands of southwestern South Dakota, Devil's Tower in northeastern Wyoming, glaciated areas in Montana and North Dakota, and

the Little Missouri Badlands in western North Dakota. In northern Montana, the Missouri River has cut into soft shale, perhaps 500 feet below the tops of the rims, to create an area known as the Missouri Breaks

3. CLIMATE

This province has a continental climate. The average annual precipitation varies between 8 and 24 inches, but most of the province receives between 10 and 16 inches; eastern parts in the Dakotas and Nebraska, as well as the mountainous areas, receive more than 16 inches. Precipitation is lightest in the north-central area and heaviest along the eastern boundary, especially from April to September when the monthly average may exceed 2 inches. Summer rains, containing water from the Gulf of Mexico, usually come from the south--usually as thunderstorms. The prevailing winds are from the west or northwest and are particularly strong in the western parts of the province. In winter, less than 1 inch of precipitation per month normally falls as snow, but the frequent high winds cause the snow to drift. The average annual snowfall varies from 20 inches to 60 inches.

Temperatures range from -50 degrees F to +110 degrees. Mean daily temperatures range from 10 degrees in January to 70 degrees in July in the northern part of the province, from 20 degrees in January to 80 degrees in July along the southeastern boundary. Freeze-free days range from 90 in the north to 140 in the southeast. Humidity in the province in January averages between 60 and 75 percent; in summertime, between 40 and 65 percent.

4. HYDROLOGY

The average annual runoff to Missouri River basin streams in the Northern Great Plains coal province ranges from less than 1 inch in some structural basins to over 10 inches in the eastern Bighorn Mountains. Most larger streams are perennial; most smaller tributaries, intermittent. The Missouri River and its major tributaries receive most of their water from the runoff from the Rocky Mountains, far beyond the province's western boundary. The province is vulnerable to droughts of up to several years duration.

The total dissolved solids in surface waters range from less than 100 milligrams per litre (mg/l) in mountainous headwater areas to more than 1,800 mg/l in many tributaries. Average suspended-sediment concentrations range from less than 200 parts per million (ppm) in mountain streams to more than 30,000 ppm during peak flows of tributaries within the basin.

Ground water occurs in alluvium, glacial drift, and bedrock aquifers. Flood-plain alluvium is usually a good aquifer capable of yielding moderate amounts of ground water to wells (a few hundred gallons per minute--gpm) and as much as several thousand gpm in a few places. The quality of water in alluvium is usually acceptable for most uses. In the northern part of the province, glacial drift (detrital material deposited by glacial ice and meltwater) ranges in thickness from 0 to more than 200 feet and mantles consolidated sedimentary rocks, but only locally does it yield more than moderate amounts of water to wells. Glacial outwash (glacial drift that has been sorted

and redeposited by streams) yields moderate to large amounts of water at some places; this water is usually of acceptable quality, although locally it may contain over 1,000 mg/l of dissolved solids.

The principal and most widespread bedrock aquifers are sandstone and limestone. Yields from most sandstone aquifers are low to moderate, but the highly variable limestone aquifers may yield up to 1,000 gpm to wells. In general, where aquifers are highly permeable, good-quality water may occur to depths exceeding 1,000 feet; where aquifers have low permeability, highly mineralized water may occur even at shallow depths. Some shallow coal beds in the province are aquifers and can supply enough water for domestic use.

Many large areas in the province, including areas underlain by coal, have no nearby perennial surface-water supplies, and groundwater supplies are limited or of poor quality.

The following sections describe hydrologic conditions in all but one of the coal regions in the province.

a. North Central coal region

The Judith, Teton, Milk, and Marias Rivers are the main tributaries of the Missouri River, which drains this region. The amount of surface water varies widely, especially in smaller tributaries; many tributaries that are underlain by coal are dry most of the year. The quality of surface water is generally good in larger streams, and most surface water is a calcium bicarbonate type. Streams usually have high sediment concentrations, especially during periods of peak flow when concentrations in smaller intermittent tributaries exceed 30,000 ppm.

Ground water in the region also varies widely in quantity and quality. Glacial drift covers much of the northern part of the region, and yields are generally low, except in scattered areas of glacial outwash. Alluvial deposits yield small to moderate amounts of generally good quality water in many parts of the region. In unglaciated areas, bedrock aquifers are believed to contain good-quality water; little is known about the ground water in bedrock aquifers beneath areas covered by glacial drift, but they are believed to contain poor-quality water.

b. Fort Union coal region

The Missouri River and its tributaries drain most of this region. Most surface waters have high concentrations of dissolved solids and are a sodium bicarbonate type. Tributaries have high sediment concentrations derived from the easily eroded shales and sandstones in the region.

Alluvium is the best source of ground water: Wells tapping the preglacial valley of the Missouri River yield over 1,000 gpm at many locations. The water is generally of acceptable quality but locally may be highly mineralized.

Ground water from glacial drift in the northern part of the region is generally of poor quality, whereas shallow bedrock aquifers in the region yield limited quantities of acceptable-quality ground water.

Other water-bearing rocks occur at lower depths, but the water is thought to be brackish.

c. Powder River coal region

The Powder, Belle Fourche, Cheyenne, and North Platte Rivers are major streams draining this region. The quality of water in these streams varies considerably. During maximum runoff, the dissolved-solids content is generally low, and the water is suitable for most uses. During low-flow periods, however, dissolved solids may increase to more than 2,000 mg/l. Some tributaries transport high concentrations of dissolved solids to major drainage systems after intense thundershowers.

Sediment concentrations vary from moderate to high. The Powder River Breaks area, a broad band of badlands along the Powder River, undergoes extensive sheet and gully erosion and contributes much sediment to the river.

Ground water from alluvium along major streams yields moderate to large supplies of water that is generally of acceptable quality for most uses. However, many alluvial aquifers along intermittent tributaries yield medium quantities of poor-quality to highly saline water. Bedrock aquifers in the region generally yield small quantities of acceptable-quality water, especially around the edges of the basin. Near the center of the basin, aquifers usually yield more mineralized water. The potential water resoucres from bedrock aquifers have not been fully evaluated, but some limestones may yield large quantities of good-quality water in parts of the region.

d. Denver coal region

The South Platte River and its tributaries drain this region. The headwaters of the South Platte are west of the region in the

Rocky Mountains, where the generally good quality water commonly has less than 100 mg/l dissolved solids. Most tributaries draining the Denver Basin itself are intermittent and supply only a small percentage of the total flow; they also have high dissolved-solids content, which commonly attains or exceeds 1,000 mg/l. In their headwater areas, streams usually are a calcium bicarbonate type, but when the South Platte River leaves the basin, it contains an average of more than 1,000 mg/l dissolved solids, and the major ions are sodium, calcium, sulfate, and bicarbonate.

Sediment concentrations are usually low in the mountainous headwater areas during low to medium flows but are commonly high during high flows, especially in tributaries disturbed by past mining operations. Within the Denver Basin, most tributaries have high sediment yields during peak runoff periods.

Ground-water aquifers in the region are mostly river alluvium, but bedrock aquifers occur in the northern Denver artesian basin. Ground water from the alluvium is used mainly for irrigation. Wells along main streams yield from 400 to 2,000 gpm and average about 900 gpm; wells in tributary valleys yield 50 to 1,800 gpm and average about 800 gpm.

The ground water in alluvium along the South Platte diminishes in quality downstream. The average dissolved-solids content near Denver is about 1,300 mg/l; at the State line, about 1,800 mg/l. The water is usable for irrigation, but some of it has a high salinity hazard.

Bedrock aquifers consist of sand, sandstone, gravel, and conglomerate of Late Cretaceous and Tertiary age. Usually, several horizons yield water to wells, the yields of individual aquifers ranging from 1 to 300 gpm. Water in most areas is under artesian pressure. Many industrial and public-supply wells of moderate capacity tap these aquifers, and in some areas, intense pumping has lowered the artesian head more than 600 feet. The water is generally a sodium type and is of good quality. Locally, mineralization is high because of structural conditions that impede ground-water circulation.

5. SOILS

Tables II-8 through II-10 list some of the characteristics, uses, and limitations of the dominant soil series in all coal regions in the Northern Great Plains coal province. Because soils in the North Central and Fort Union regions are similar, as are those in the Denver and Raton Mesa regions, the attributes of the two pairs appear in tables II-8 and II-10, respectively.

In addition to providing general information for each soil, the tables also list specific items, such as the unified classification of the subsoils for engineering uses and hydrologic groups. The listed soil series are not inclusive, and although they occur extensively, they must be viewed as examples. Detailed onsite soil surveys must be made before all types of soils are known. More detailed information on soil characteristics and limitations may be obtained from the soil-survey reports listed as sources.

Table II-8.--Characteristics, uses, and limitations of dominant soils in the North Central and Fort Union coal regions of the Northern Great Plains coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Cherry	Montana (USDA, 1973a)	CL	12	C	0-25	crops and grasses	cropland and rangeland
Limitations:	Slight to moderate erosion hazard, poor roadfill material.						
Farnuf	Montana (USDA, 1973a)	ML or CL	6	B	0-8	crops and grasses	cropland and rangeland
Limitations:	Slight erosion hazard, susceptible to frost heaving.						
Lambert	Montana (USDA, 1973a)	ML	12	B	2-65	crops and grasses	cropland and rangeland
Limitations:	Moderate to severe erosion hazard, susceptible to frost heaving.						
Norbert	Montana (USDA, 1973a)	CH	3	D	8-65	grasses and juniper	rangeland
Limitations:	Clayey soil, 13 inches to shale bedrock, severe erosion hazard, severe limitations for most uses.						
Tinsley	Montana (USDA, 1973a)	GW	1	A	15-65	grasses	rangeland, sand, and gravel
Limitations:	Gravelly, sandy, droughty soils, severe wind-erosion hazard, soil 4 inches above sand and gravel.						

1/ 2/ 3/ See footnotes at end of table.

Table II-8.--Characteristics, uses, and limitations of dominant soils in the North Central and Fort Union coal regions of the Northern Great Plains coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Turner	Montana (USDA, 1973a)	SW or GW	2	B	0-8	crops and grasses	cropland and rangeland
Limitations:	Sand and gravel from 20 to 40 inches, severe wind-erosion hazard.						
Williams	Montana (USDA, 1973a)	CL	12	B	1-8	crops	cropland
Limitations:	Slight to moderate erosion hazard.						
Badland	Montana (USDA, 1973a)	--	--	--	15-100	some grasses	limited grazing
Limitations:	Very severe erosion hazard, severe limitations to most uses.						
Bainville	North Dakota (USDA, 1968d)	CL	2	C	3-40	crops and grasses	cropland and rangeland
Limitations:	Severe wind- and water-erosion hazard, over clayey shale, low natural fertility.						
Morton	North Dakota (USDA, 1968d)	ML or CL	9	B	0-15	crops	cropland
Limitations:	Moderate erosion hazard, underlain by silty shale.						
Bowbells	Montana (USDA, 1973b)	ML or Cl	9	B	2-4	grasses, legumes, and crops	rangeland and cropland
Limitations:	Slight erosion hazard, slight limitations for most uses.						

1/ 2/ 3/ See footnotes at end of table.

Table II-8.--Characteristics, uses, and limitations of dominant soils in the North Central and Fort Union coal regions of the Northern Great Plains coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Havrelon	Montana (USDA, 1973b)	ML or CL	9	B	0-2	small grains, grasses, and grass hay	cropland and rangeland
Limitations:	Cold soil temperatures, calcareous, slight erosion hazard, salt-tolerant vegetation required.						
Fargo	Montana (USDA, 1967c)	CH	--	D	0-3	sedges and rushes	pasture
Limitations:	Poorly drained, calcareous clays, high water table, slight erosion hazard, severe compaction hazard, soil management very difficult.						

1/ GW: Well-graded gravels or gravel-sand mixtures, little or no fines; GP: Poorly graded gravels or gravel-sand mixtures, little or no fines; GM: Silty gravels, gravel-sand-silt mixtures; SW: Well-graded sands and gravelly sands, little or no fines; SP: Poorly graded sands or gravelly sands, little or no fines; SM: Silty sands, sand-silt mixtures; SC: Clayey sands, sand-clay mixtures; ML: Inorganic silts and very fine sands, rock flour, silty or clayey silts with slight plasticity; CL: Inorganic clays with low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays; MH: Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts; CH: Inorganic clays with high plasticity, fat clays (U.S. Army Corps of Engineers, 1953).

2/ The potential amount of water a soil can hold for plant use.

3/ Hydrologic soil groups are ranked from A to D, depending on their runoff potential: group A soils have lowest rates; group D, highest rates.

Table II-9.--Characteristics, uses, and limitations of dominant soils in the Powder River coal region of the Northern Great Plains coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Cabba	Montana (USDA, 1971c)	ML	2-3	C	15-50	mild and short grasses	rangeland
Limitations:	Shallow soil above shale, low fertility, moderate to severe erosion hazard, cold soil temperatures.						
Elso	Montana (USDA, 1971c)	ML	2-3	D	8-45	short grasses	rangeland
Limitations:	High wind-erosion hazard, low fertility, shallow soil above shale.						
Farland	Montana (USDA, 1971c)	ML	8-10	B	2-8	hay, grain, and grasses	dryland crops and range
Limitations:	Slight to severe water-erosion hazard, severe wind-erosion hazard, high fertility.						
Haverson	Montana (USDA, 1971c)	ML or CL	9-11	B	0-4	hay and small grains	cropland
Limitations:	Severe wind-erosion hazard, moderate fertility.						
Hesper	Montana (USDA, 1971c)	CL	10-12	C	0-15	grasses and small grains	rangeland
Limitations:	Moderate erosion hazard, clayey soil.						

1/ 2/ 3/ See footnotes on page II-116.

Table II-9.--Characteristics, uses, and limitations of dominant soils in the Powder River coal region of the Northern Great Plains coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Hydro	Montana (USDA, 1971c)	CL	10	C	0-8	grasses, small grains, and hay	rangeland and dryland farming
Limitations:							
Midway-Elso	Montana (USDA, 1971c)	CL or CH and ML	1-3	D	8-35	grasses	rangeland
Limitations:	Moderate to severe erosion hazard, shale about 10 inches deep, gullied, low fertility, clayey textured.						
Midway-Elso	Montana (USDA, 1971c)	CL or CH and ML	3	D	35-75	grasses	rangeland
Limitations:	Very severe erosion hazard, entrenched gullies, many shale and sandstone outcrops, low fertility, clayey textured.						
Ringling-Cabba	Montana (USDA, 1971c)	GM or SM and ML	1-2	C	15-50	grasses	rangeland
Limitations:	Slight to moderate erosion hazard, shallow soil above shale, low fertility, over 35-percent coarse fragments.						

1/ 2/ 3/ See footnotes on page II-116.

Table II-10.--Characteristics, uses, and limitations of dominant soils in the Denver and Raton Mesa coal regions of the Northern Great Plains coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Bresser	Colorado (USDA, 1971a)	SC or SM	6-9	B	0-20	winter wheat and alfalfa	cultivated crops
Limitations:	Severe wind-erosion hazard, water table about 10 feet deep, sandy subsoils.						
Fondis	Colorado (USDA, 1971a)	CL	9-12	C	1-9	wheat and grasses	cropland and residential
Limitations:	High fertility, moderate erosion hazard, easily formed compaction layer, clayey soil.						
Nunn	Colorado (USDA, 1971a)	SM	9-12	C	0-3	small grains, alfalfa, and corn	cultivated crops and residential
Limitations:	Moderate wind-erosion hazard, occasional flooding, slight water-erosion hazard, clayey soils.						
Weld	Colorado (USDA, 1971a)	ML-CL	9-12	C	0-5	small grains, alfalfa, corn, and grass	cultivated crops and range
Limitations:	Moderate wind-erosion hazard, slight water-erosion hazard, clayey soils.						
Ascalon	Colorado (USDA, 1968c)	CH	2-6	B	0-9	small grains and sand bluestem	dryland crops and rangeland
Limitations:	Lime layer about 15 inches deep, moderate to severe wind- and water-erosion hazards.						

1/ 2/ 3/ See footnotes on page II-116.

Table II-10.--Characteristics, uses, and limitations of dominant soils in the Denver and Raton Mesa coal regions of the Northern Great Plains coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Bijou	Colorado (USDA, 1968c)	SP	4-8	A	0-3	onions and small grains	cropland
Limitations:	Sand layer about 45 inches deep, severe wind-erosion hazard.						
Dune land	Colorado (USDA, 1968c)	SP	3-6	A	5-25	sparse grass	limited grazing
Limitations:	Actively blowing dunes, very severe wind-erosion hazard.						
Heldt	Colorado (USDA, 1968c)	CL	4-8	C	0-3	saltgrass, blue gramma, and small grains	cropland and rangeland
Limitations:	Saline soils, some slickspots, low permeability, high seasonal water table, high compaction hazard, clayey soils.						
Valentine	Colorado (USDA, 1968c)	SP	2-6	A	1-25	sandreed and sand bluestem	rangeland
Limitations:	Very severe wind-erosion hazard, very sandy soil, vegetation easily destroyed.						
Campus	Colorado (USDA, 1969d)	ML	2-4	B	0-5	winter grains	dryland farming
Limitations:	Pan about 15 inches deep, severe erosion hazard.						

1/ 2/ 3/ See footnotes on page II-116.

Table II-10.--Characteristics, uses, and limitations of dominant soils in the Denver and Raton Mesa coal regions of the Northern Great Plains coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Richfield	Colorado (USDA, 1969d)	ML	4-6	C	0-5	winter grains and grasses	dryland farming and rangeland
Limitations:	Moderate compaction and erosion hazards.						
Slickspots	Colorado (USDA, 1969d)	CL	--	D	0-1	saltgrass, alkali sacaton, and switch grass	pasture
Limitations:	Saline soils, water table about 50 inches deep, very severe management restrictions.						

1/ 2/ 3/ See footnotes on page II-116.

Soil organisms in this province are the same as those described for the Pacific Coast coal province.

6. VEGETATION

Grasses are the dominant plants in this province. Most of the species in the northern part of the province are wheatgrasses (primarily western wheatgrass, often a sod former), needlegrasses, blue grama (another sod grass), and fescues. Because of overgrazing by livestock during growing seasons in the past, and possibly by bison before them, blue grama, sagebrushes, and rabbitbrushes have increased in the grasslands. Lower forms of plantlife sometimes protect the soil in thinned stands of grass; fringed sage, a half-shrub, and prairie globemallow, a forb, are important nongrass plants that occur beside plains prickly pear.

All grasses, except blue grama (a warm-season grower), prosper because of the temperature and precipitation patterns. Seventy percent of the annual precipitation falls as rain during the April to October growing season, facilitating plant growth especially in eastern Wyoming and Montana and western North Dakota where annual precipitation totals between 12 and 16 inches.

The northern coal regions in the province also contain small areas of the cold-desert biome dominated by sagebrush. Other areas are dominated by the ponderosa-pine portion of the montane coniferous forest biome; either grasses or shrubs may dominate or be mixed beneath the pines. Cottonwoods, willows, and elms of the deciduous-forest biome dominate the bottom lands of rivers and their tributaries.

The Denver region is covered mostly by blue grama and buffalo grass, very likely owing to historic overgrazing in this hotter, more southern climate; yucca, too, probably increased because of overgrazing. Western wheatgrass, needleandthread (or needlegrass), fringed sage, and prairie globemallow also occupy this region; four-wing saltbrush occurs along drainage systems; and inland saltgrass indicate high soil alkalinity or salinity. Sand sage and prairie sandreed, a grass, inhabit sandy areas, and plains prickly pear also occupy the region.

Pine, inland Douglas fir, and spruce-fir types of the montane coniferous forest occur in the Raton Mesa region, as do pinon-juniper stands of the woodland-bushland biome and short-grass plains similar to those of the Denver region.

7. WILDLIFE

The wildlife of this province comprises native terrestrial animal associations, aquatic animals of the stream, lake, and pond-marsh communities, and introduced species.

a. Terrestrial

The high annual primary productivity in the grassland communities provides a food base for a large variety of animals that include grazing, burrowing, and swift-running animals and ground-nesting birds. Insect life is abundant, varied, and heavily utilized as food by many secondary consumers. Large herbivores, such as bison and antelope, formerly occupied the province in large numbers, but domestic livestock have now replaced bison as the primary grazing ungulates. Grazing horses, cattle, and sheep often compete with the native herbivores, and practices

used in livestock production have sometimes disrupted the natural grassland ecosystem to the detriment of various wildlife species. Examples are predator- and rodent-control programs and sagebrush eradication in antelope or sage-grouse winter areas. Antelope are still fairly numerous in the grasslands, where they are highly dependent on the brush and forb components for survival (Sundstrom, Hepworth, and Diem, 1973). Drought and severe winter storms periodically cause the size of some wildlife populations to fluctuate widely from year to year.

Between the montane coniferous forest and grassland biomes, animals of the coniferous forest and forest edge often live near grassland animals. Some of these, such as the mule deer and elk, occur on extensions or scattered islands of coniferous forest and related subtypes within the grassland, notably in the Powder River Breaks in Wyoming, the Bull Mountains in Montana, and the Little Missouri River Breaks in North Dakota. The wildlife of these non-grassland habitats reflects the available food, cover, and living space. These habitats may be marginal for some species in particular areas; one example is the small Powder River Breaks elk herd, which survives in an area with few trees and little escape cover other than the topography. These elk may be able to survive here primarily because the breaks still provide relative isolation from civilization (U.S. Bureau of Land Management, 1973).

The deciduous forest-edge biociation extends into the short-grass plains along the major streams that support riparian-woodland

communities. As the interior of the continent became arid in prehistoric times, many species of deciduous trees and their associated animals were able to persist along these streams. The resulting "tongues" of forest extend the forest-edge biociation far into the grasslands. Some species are common in the forest edge over most of its range, whereas others are confined to its western portion (Kendeigh, 1961). The occurrence of riparian woodland within the short-grass plains greatly increases the number and variety of available ecological niches and enables many animals that require heavy escape cover, shade, browse, and tree nesting sites to survive within the grasslands.

Sagebrush, which is especially important to some wildlife in the province, is prominent in parts of the grassland, especially in the Powder River region. Sage grouse use sagebrush almost exclusively for food, nesting, resting, and brooding, and certain sagebrush areas are highly important nesting and wintering sites. These birds sometimes use farmland adjacent to their native habitat, but they are basically dependent on abundant sagebrush and cannot survive in areas lacking this cover (U.S. Fish and Wildlife Service, 1952). Pronghorn antelope also depend heavily on sagebrush, especially Wyoming big sagebrush and silver sagebrush (Sundstrom, Hepworth, and Diem, 1973), and Brewer's sparrows appear to nest almost exclusively in this cover; studies in Montana showed that the number of nesting pairs of Brewer's sparrows declined significantly following sagebrush eradication (Best, 1972).

Some introduced species have become well established in parts of the province. Chukar partridge thrive in areas of rough breaks, and

Hungarian partridge prosper in parts of the Fort Union region. Ring-necked pheasant are plentiful in cropland areas mixed with good winter cover. Wild turkeys now live in some broken-woodland areas of the Powder River and Fort Union regions where they had never occurred before.

Conspicuous mammals in the grasslands of the province include the masked shrew, whitetail jackrabbit (in the northwest), blacktail jackrabbit (in the southeast), desert cottontail, blacktail prairie dog, ground squirrels, northern pocket gopher, plains pocket gopher (in the south), meadow vole, coyote, swift fox, longtail weasel, badger, prairie spotted skunk, and pronghorn antelope. Reptiles include the prairie rattlesnake and eastern short-horned lizard. Birds include the ferruginous hawk, prairie chickens, sharp-tailed grouse, mountain plover, burrowing owl, horned lark, western meadowlark, lark bunting, savannah sparrow, grasshopper sparrow, vesper sparrow, and McCown*s longspur.

Montane coniferous forest and forest-edge mammals include the yellowbelly marmot, golden-mantled ground squirrel, least chipmunk, red squirrel, bushytail woodrat, boreal redback vole, bobcat, mule deer, Wapiti (elk), and porcupine. Birds include the golden eagle, western flycatcher, Clark*s nutcracker, mountain chickadee, mountain bluebird, and pygmy nuthatch. Deciduous forest-edge (riparian-woodland) animals include the red fox, white-tailed deer, fox squirrel, eastern cottontail, striped skunk, raccoon, blue racer, milk snake, red-spotted garter snake, turkey vulture, sharp-shinned hawk, Cooper*s hawk, red-tailed hawk,

Swainson's hawk, mourning dove, common nighthawk, red-shafted flicker, violet-green swallow, common crow, black-billed magpie, loggerhead shrike, and Brewer's blackbird.

There is little available information about the identification and status of the varied invertebrate populations in the province. However, the next section includes comments on a few primarily aquatic species.

b. Aquatic

Aquatic wildlife includes various invertebrates, fishes, birds, mammals, reptiles, and amphibians associated with the stream, lake, and pond-marsh biotic communities.

Stream riffles and hard-bottom pools contain caddisfly larvae, mayfly naiads, stonefly naiads, crayfish, and snails. Of the approximately 40 species of fish in this province, centrarchids are most common. Characteristic fish species include the walleye, northern pike, bluegill, smallmouth and largemouth bass, plains minnow, longnose dace, flathead chub, goldeye, fathead minnow, river carpsucker, black bullhead, channel catfish, stonecat, plains topminnow, plains killfish, and white and various other suckers (Baxter and Simon, 1970; Brown, 1971; Costello, 1964; U.S. Fish and Wildlife Service, 1952). Rainbow trout and brown trout occur in suitable larger streams. Shovelnose and pallid sturgeons and paddlefish survive in the Missouri River and some tributaries. Other stream-associated wildlife include the tiger salamander, plains spadefoot toad, Great Plains toad, leopard frog, and snapping

turtle. The belted kingfisher feeds on stream fish and nests in adjacent banks. Muskrats burrow into stream banks and feed on streamside vegetation. Mink hunt in and near streams for muskrat and fish. Beaver feed on the aspen, willow, and cottonwoods along stream courses and build dams in some localities, creating pools.

The province contains comparatively few lakes, defined here as large, deep, thermally stratified bodies of water. Lake biotic communities occur in lakes such as DeSmet in the Powder River region, Fort Peck Reservoir bordering the Fort Union region, and Cherry Creek Reservoir in the Denver region. In addition to many of the stream fish already mentioned, lakes also contain yellow perch, black crappie, carp, and many species of smaller sunfish; rainbow trout are often stocked and maintained by man in deeper, cooler lakes. Birds commonly inhabiting the lakes and subsisting mainly of fish include common mergansers, California gulls, bald eagles, white pelicans, and osprey. Swallows skimming over the water consume great numbers of emerging midge flys and other insects. Amphibians and reptiles do not commonly occur in lakes, except around the edges.

Prairie potholes, small reservoirs, and stock ponds are common throughout most of the province. They support pond-marsh biotic communities and are generally very productive, but they differ from lakes by usually being smaller and shallower and having rooted vegetation over much of the bottom. Terrestrial and air-breathing aquatic insects occur in surrounding marshes. Amphibians, reptiles, birds, and mammals are usually more numerous than they are in lakes.

Aquatic and emergent vegetation common in the more permanent potholes and ponds support many kinds of insects, amphipods, mites, flatworms, protozoa, and snails. Forms of Coleoptera and Hemiptera, two predominantly terrestrial orders of insects, that have adapted to the pond community include diving beetles, whirligig beetles, and water striders. Terrestrial insects in pond-marsh vegetation are mainly those such as mosquitoes and mites, that live submerged during their immature stages. Such fish as bullheads, suckers, and yellow perch are often abundant. The spadefoot toad and tiger salamander, prominent in stream communities, are also common in pond communities.

Waterfowl and shore birds are probably the most outstanding creatures in pond-marsh communities in this province. Part of the Fort Union region is in the famous duck-producing area known as the prairie pothole region. The extremely high productivity of the region is caused by the large number, wide variety, and high quality of the potholes, which may average 30 per square mile, and the many kinds of associated plants and small animals. In drier portions of the province, manmade stock ponds and small reservoirs support pond-marsh communities and also produce large numbers of waterfowl; common breeding species include the mallard, blue-winged teal, pintail, shoveler, gadwall, American widgeon, and ruddy duck. Characteristic water and shore birds include coots, avocets, killdeer, snipes, sandpipers, and grebes. Many other waterfowl and water birds use the ponds and potholes during migration.

Muskrats are the most characteristic mammal in the pond-marsh community. Mink, a primary predator of muskrats, are usually common

where muskrats are plentiful. Red foxes, raccoons, and skunks also frequent the pond-marsh communities.

c. Endangered and threatened species

Those wildlife species determined by the Secretary of the Interior to be threatened with extinction and named on a list published in the Federal Register are officially designated "endangered species." Species categorized as "threatened" are those likely to become endangered within the foreseeable future throughout all or significant parts of their ranges. Species whose existence is considered endangered are noted in the "United States list of endangered fauna" (U.S. Fish and Wildlife Service, 1974); this list, as amended through September 25, 1975 (U.S. Fish and Wildlife Service, 1975, p. 44418-44423), is reproduced in Appendix 4.

The endangered black-footed ferret and American and arctic peregrine falcons occupy parts of the Northern Great Plains coal province. Ferrets are closely associated with prairie dogs, which are their major food source. They occur primarily in the Fort Union, Powder River, and Denver regions but may form isolated populations throughout the province. Probably less than half a dozen pairs of nesting peregrine falcons occur in this province. Nests are usually in coniferous forests or along major rivers, and extreme care is required to preserve them. The southern bald eagle, also endangered, probably occurs in the Raton Mesa region as a winter resident or migrant.

Except for the grizzly bear in some remote parts of western Montana and Wyoming, there are no threatened species in this coal province.

Some species, although not endangered throughout their ranges, have remnant populations in danger of being eliminated locally. This has prompted States to develop their own "rare and endangered" species lists. Wyoming's list includes such species as the shovelnose sturgeon, goldeye, sturgeon chub, kit fox, upland plover, and western smooth green snake, all of which occur within this province. Other States have, or are developing, comparable lists.

B. CULTURAL ENVIRONMENT

1. LAND USE

The Northern Great Plains coal province is primarily rolling grasslands dissected by major river systems; much of it remains in native vegetations. Extensive-type land uses dominate, as indicated in table II-11, which presents data for four subbasins that contain BLM-administered land in the Missouri River Basin; these subbasins are the Yellowstone River, Upper Missouri, Western Dakota tributaries, and Platte-Niobrara. Pasture and range used by livestock and wildlife ranks first in use, involving from 61 percent to 74 percent of the acreage in the subbasins; croplands, primarily dryland, rank generally second, involving from 8 percent to 25 percent. Forests and woodlands cover from 5 to 14 percent of the subbasins, and other uses, in decreasing order of magnitude, are recreation (up to 3 percent of the subbasins), urban and transportation (up to 2 percent), and fish and wildlife, military, mineral industry, other agriculture, and water (1 percent or less).

Table II-11.--Land uses in subbasins of the Missouri River Basin, 1972 1/

Land use	Yellowstone River		Upper Missouri		Western Dakota tributaries		Platte-Niobrara	
	(thousand acres)	(percent)	(thousand acres)	(percent)	(thousand acres)	(percent)	(thousand acres)	(percent)
Pasture and range	33,628	74	33,252	61	35,253	71	39,671	62
Forest and woodland	6,100	14	7,200	14	2,500	5	5,200	8
Cropland	3,400	8	10,700	20	9,300	19	15,600	25
Recreation	1,400	3	500	1	300	--	400	--
Urban and transportation	200	--	1,200	2	900	2	1,200	2
Fish and wildlife	50	--	100	--	100	--	200	--
Mineral industry	10	--	3	--	3	--	3	--
Military	10	--	7	--	300	--	100	--
Other agriculture	100	--	300	--	200	--	600	1
Water	300	--	700	--	500	1	700	1
Total	45,198		52,962		49,356		63,674	

1/ Data from U.S. Bureau of Land Management, 1972.

a. Agricultural

Agricultural uses, including sheep and cattle grazing and crop production, are the most extensive land uses in the province, involving from 85 to 90 percent of the acreage; grazing alone, accounts for as much as 74 percent of the acreage in one subbasin. Rangelands are highly productive, by comparison to many other federally managed lands, and their average productivity is 6.5 acres per AUM. Cattle operations are dominant and oriented toward cow-calf or cow-calf-yearling production programs. Rangelands managed by the BLM and Forest Service, as well as private holdings, are grazed extensively.

Croplands are distributed throughout the province. Dryland farming is most common, but some farmers irrigate lands along the valleys where water is available. Livestock feeds and human food crops are both important. Major crops include wheat, barley, oats, and hay; others include sugar beets, corn, and dry beans. In terms of value, production is split about evenly between livestock and crop production.

b. Timber production

Forest and woodland vegetation covers from 5 to 14 percent of the land area in the Missouri River subbasins. Timber and woodland types include pinon-juniper, ponderosa pine, Douglas fir, Englemann spruce, and lodgepole pine. National-resource lands have forests and woodlands dominated by pinon and juniper on 5 percent of the subbasins. Forest and woodland areas have moderate wood-product productivity and provide vitally important wildlife habitat. Other significant uses include watershed protection, outdoor recreation, and domestic livestock grazing.

c. Watershed

Annual runoff in the province ranges from 0 to 5 inches. The condition of the Missouri River Basin watershed profoundly affects water quality, and watershed conditions for the national-resource lands in the basin are considered fairly stable: 64 percent are classified as having no erosion to slight erosion; 29 percent, slight to moderate erosion; and 7 percent, moderate to severe erosion.

The Missouri River Basin has 1,345,000 acre-feet of surface-water depletion, most of which is caused by agriculture-related uses and evaporation losses from storage facilites. BLM studies indicate that livestock and watershed improvement activities deplete 45,000 acre-feet or an estimated 3.3 percent of the total depletion in the basin.

d. Mineral industry

Mineral-production land use is minimal in the province but may be significant locally. Minerals produced include coal, bentonite, gravel, other building materials, oil, gas, and gold, but gold does not occur in coal areas.

e. Urban and transportation

Although the province is sparsely populated, up to 2 percent of the Missouri River Basin subbasins are devoted to urban and transportation uses.

Most of the residential, commercial, and industrial uses are concentrated in major urbanized areas such as Great Falls and Billings, Mont. Highways, railroads, pipelines, and powerlines form a transportation network.

f. Wild horse and burro habitat

Wild horse and burro populations are neither large nor extensive in this province. The small, scattered, and isolated populations in Wyoming and Montana are barely significant when compared to those in the Rocky Mountain province.

g. Recreational

Organized recreational facilities are far less numerous on the Northern Great Plains east of the Rocky Mountains. The dominant extensive remote rolling countryside is satisfying to those who value seclusion, but Federal and State facilities are sparse, and recreationists must build interests around available activities or be satisfied with less formal camping and picnicking experiences.

Historic and colorful features, of interest to many tourists, include the Lewis and Clark and Bozeman Trails and the Fort Rock, Crow, and Cheyenne Indian Reservations.

Also in this province is an old Travois Trail, thought by some historians to have been one of the migration trails from Asia; a portion is preserved near Heart Butte, Mont.

Most drainages support substantial trout populations for fishermen, and pronghorn antelope hunting is particularly popular throughout the Northern Great Plains.

2. POPULATION PATTERNS AND CONSIDERATIONS

This province is sparsely populated (less than 10 persons per square mile) and has an almost entirely rural social orientation. Social attitudes and mores are basically conservative and are marked

by relatively slower rates of change than those in other parts of rural America. Ranching, dry farming, and irrigated agricultural land uses are corollaries of a sparse population. Towns are centers for commercial, governmental, and other services and are widely separated along major transportation routes. Townspeople usually share many of the social attitudes of their country neighbors. Older, traditional pioneer social characteristics are prized, such as strong family ties and community social conformity, with somewhat paradoxical emphasis on individual self-sufficiency and personal initiative bordering on rugged individualism. The people of the province are closely attached to the land and its traditional uses.

a. Economic

Economic patterns and attitudes are closely related to, and interact with, the prevailing social and political views. The economy comprises mainly ranching, small-grain agriculture, and irrigated farming along river valleys. Industrial plants exist only in supportive roles, such as the processing of sugar beets, and are not themselves major elements. Towns are trade and transportation centers. Some coal has been mined in the past, but national interest in the coals of the province blossomed only recently. Oil and gas production in the Williston basin has impacted strongly on the economy of the Fort Union region. Recreation and tourism have been, and are becoming increasingly, important economically but not to the extent experienced by the mountain areas to the west.

b. Ethnic

The Northern Plains Indians are the largest single ethnic group in this province, which contains the Arickara, Blackfeet, Chippewa-bee, Crow, Gros Ventre, Mandan, Northern Cheyenne, and Sioux Tribes; members of different tribes speak different languages and exhibit physical differences. Coal underlies the Blackfeet, Crow, Fort Belknap, Fort Berthold, Fort Peck, Northern Cheyenne, Pine Ridge, and Rosebud Reservations, as well as the lands adjacent to these reservations. Some tribes, such as the Crow in 1972, have consented to coal leasing. Others, such as the Northern Cheyenne, are opposed to coal development.

Few Indians have been completely assimilated into the white culture in this province, and there has been discrimination against Indians on the basis of ethnic and cultural attributes.

The Europeans who settled the northern Great Plains were ethnically heterogeneous.

c. Cultural and religious

People in this province are usually conservative in cultural and religious matters. The Indians are also generally culturally conservative, especially as regards land use and occupation. The opposition to coal development demonstrated by the Northern Cheyenne in June 1973 was based partly on the fear that the familiar natural world with which they relate will be despoiled and irrevocably altered by massive strip mining of their reservation and the adjacent lands to which they feel a deep spiritual and psychological attachment.

Archeological and historic sites of national, regional, State, and local significance occur in this province on or adjacent to coal-bearing lands. Sites and structures related to the early fur trade, exploration, settlement, and Indian Wars are scattered profusely throughout the province. Some of these are protected as units of national, State, and local park systems; others are as yet unprotected, and of these, many are in areas containing Federal coal. Federal agencies are continuing to inventory the historic and archeological resources of the province, and many will ultimately be included on the list of National Historic Places maintained by the National Park Service. Historic sites, forts, and battlefields are major tourist attractions in this province.

3. HUMAN-VALUE RESOURCES

a. Esthetic values where Federal coal occurs

Landforms are similar throughout much of the province and are dominantly rounded, uninterrupted slopes broken only by occasional uplifts or drainage systems.

Line patterns are insignificant and are confined mostly to manmade features such as roads, power lines, or fences. In cultivated parts of the province, strong linear patterns are produced by rows of crops or the edges of the cultivated fields.

Color and textural patterns are similar in undisturbed grasslands. Some variations exist, however, where native stands of grass have been replaced by grain or cultivated pasture.

Lack of overall contrasts prevent easy identification or discrimination of dominant elements, but small-scale contrasts may create local elements, especially near a stream valley or topographic break.

b. Historic

This province, like the Rocky Mountain and other provinces, abounds in historic sites, ruins, trails, structures, and objects that are physical evidence of historic importance. Nationally significant identifiable historic resources, such as Fort Union Trading Post, Theodore Roosevelt National Memorial Park, and Custer Battlefield National Monument are units of the National Park System and are administered and protected under Federal statutes and regulations. Other historic and cultural resources are included in State and county park systems. Many smaller and less significant or less well known historic resources are scattered over the province on Federally administered lands; as already noted, Federal agencies are inventorying these resources but are far from finished. Some historic sites, such as the Battle of the Rosebud (June 17, 1876) and the Battle of Wolf Mountain (Jan. 9, 1877), may be affected by surface coal-mining operations. In addition to Indian War battle sites, the province contains many historic military posts, early ranching sites, fur-trading posts, Indian village sites, and historic transportation and communication sites, as well as historic and cultural resources related to:

1. Early exploration by the Lewis and Clark and other expeditions.

2. The history of such Indian tribes as the Arapaho, Arickara, Assiniboine, Blackfeet, Cheyenne, Crow, Gros Ventre, Mandan, Pawnee, and Sioux (many branches) in their interactions with each other and confrontations with the white cultures.
3. Military history as represented in the Powder River War of 1865; the Sioux Wars of 1862-64, 1866-68, and 1876-81; and many smaller campaigns and expeditions still traceable on the land.
4. Economic, social, and developmental history, as exemplified by the plains fur trade, ranching development, exploitation of the buffalo, the farming frontier, transportation and communication development, and the early settlement of towns and communities.

c. Geologic

The most outstanding geologic features of human interest in the province are the many dome mountains, one example of which is the Black Hills, an area 50 by 100 miles, formed by the intrusion of molten rock beneath sedimentary strata. Because the long axis of the Black Hills parallels the Rocky Mountains, the horizontal pressures that formed the Rockies may have also been responsible for shaping the Black Hills dome. The intruding magma sometimes ruptured the covering strata, lifting them irregularly, as in the Moccasin Mountains in Montana.

Other important geologic features include many spectacular caverns excavated naturally in limestones, such as Jewel Cave and Wind Cave National Monuments. Because the northern and eastern borders

of the province were glaciated during the Pleistocene Epoch, one sees there today excellent examples of depositional features such as kettles, moraines, drumlins, and eskers. However, perhaps the most spectacular features in the province are Devils Tower in Wyoming (the remains of a volcanic plug), and the badlands of South Dakota (colorful, highly excavated sandstone beds).

This province, particularly in eastern Wyoming, contains rich deposits of fossils that occur stratigraphically above most coal-bearing layers. The remains of the earliest horses were discovered here, where at one time they flourished beside many other significant early mammals. This occurred at about the same time the organic material that subsequently formed some coal formations of the province was being deposited. All vertebrate fossils are protected by the Antiquities Act of 1906.

d. Archeologic

As previously described under the Rocky Mountain coal province, the earliest dwellers of the plains are believed to have been the Paleo-Indians of the Big-Game Hunting Tradition. The previous description included cultural information for two of the cultural subareas in this province, the Northwestern and Central Plains subareas. The Northern Great Plains coal province contains elements of two other culture subareas, the Northeastern and the Middle Missouri subareas.

Approximately 4000 B.C., the Big-Game Hunting Tradition began changing to the Plains Archaic Culture, which was a hunting-gathering,

nomadic way of life. About 4000 B.C., a period of drier, warmer conditions began, which lasted about 1,000 years. During this time, accelerated erosion and arroyo cutting occurred and conditions were so harsh that few or no humans lived in the western plains. About 3000 B.C., archeological records indicate that the climate had ameliorated sufficiently to support a hunting-gathering existence.

The Northeastern and possibly the eastern part of the Middle Missouri subareas yield sites that date from 4000 to 3000 B.C., so evidently the harsh environment did not pertain there. Plains-Archaic sites are likely to be camps, caves, and bison kills. Some locations show refuse depth that indicates fairly steady, if seasonally intermittent, occupation.

The subsequent stage of cultural development, the Plains Village Tradition, is recorded in the northwestern part of the Central Plains and Northwestern Plains cultural subareas only in attenuated and modified forms. Pottery entered the Northeastern and Middle Missouri subareas after the dawn of the Christian Era, accompanied by the introduction of agriculture. These and other additions entered from the eastern woodlands area, and the continued contact with the people to the east and southeast later facilitated full development of the Plains Village Tradition's values.

Early in the Plains Village period, after A.D. 1000, the largely agricultural people lived in rectangular houses in 50 to 100 person settlements. The gardens were on the river bottoms; the houses, on bluffs or ridges above. Houses of this period were rectangular

earth lodges of earth and timbers and tended to be semisubterranean structures in the eastern part of the subarea and usually surface structures in the west. Middle Missouri houses were larger and usually there were more of them in a village. They too were usually fortified sites. Later, because of drought, aggression, or both, many areas were abandoned, and the people moved south to form very large village sites that were extensively fortified. Others moved to the north and northwest.

Following the introduction of the horse, many Plains Village Tradition people reverted mainly to hunting, while others, like those that remained mostly agricultural, acted as go-between traders of European goods to other Indian groups. The Arikara, Hidatsa, and Mandan and, to a lesser degree, the Pawnee remained agriculturalists well into the European-contact era.

INTERIOR COAL PROVINCE

Of the nationwide total of 530 Federal coal leases, 53 are in this province, all of them in Oklahoma.

A. NATURAL ENVIRONMENT

1. GEOLOGY

The great Interior coal province is almost entirely within the Central Lowland and Interior Low Plateaus physiographic provinces. These are extensive areas of low relief in the interior of the continent east of the Great Plains (Fenneman, 1938; Trumbull, 1960). The province is underlain by Paleozoic sandstones, limestones, conglomerates, shales, and rocks that extend in almost flat-lying layers from the Appalachian Plateaus across the central part of the United States to the Rocky Mountains. These rocks crop out at the surface in the Central Lowland but are buried beneath the younger sedimentary rocks of the Great Plains to the west and the Gulf Coastal Plain to the south. To the north, they overlap on the older Precambrian crystalline rocks of the Superior Upland province.

The coal beds in the Interior coal province are Upper Carboniferous (Pennsylvanian) in age and mostly high-volatile bituminous in rank (fig. 2-5). Their coals are usually of better quality than those farther west, but they are also higher in sulfur content. The principal coal-bearing formations throughout most of the province are the Allegheny and Pottsville Formations, as defined in the Appalachian coal province, or their age equivalents; these formations are Early and Middle Pennsylvanian in age, and the age-equivalent rocks commonly carry local or regional names.

Figure 2-5.--Interior coal province with locations of coal regions and dominant type of coal in each. (After U.S. Department of the Interior, 1975.)

In the Interior province, they form a lower series that contains most of the coal, called the Des Moines Series, and an upper series called the Missouri Series; both are Late Pennsylvanian in age.

Most Federal coal in this province is in the southern part of the Western coal region, mostly in Oklahoma (fig. 2-5). In this area and western Arkansas as well, mountain-building forces of the Ouachita disturbance sufficiently devolatilized the coal beds to raise their rank to low-volatile bituminous and, locally, semianthracite (Campbell, 1929). The coal is mostly of coking quality and is contained in rocks of the Hartshorne Sandstone and the McAlester Shale. The most important coal beds are the Lower Hartshorne, from 2.5 to 6 feet thick, which occurs near the middle of the Hartshorne Sandstone; the Upper Hartshorne, from 1.75 to 5.5 feet thick; and the McAlester coal, from 1.75 to 4 feet thick, which occurs in the McAlester Shale.

The coal-bearing rocks are folded into east- and northeast-trending broad, flat synclines and tightly folded anticlines (Averitt, 1966).

Coal has been mined extensively in areas with moderate to low dips (20 degrees or less), whereas areas with steeply dipping coal beds have been mined only locally. Trumbull (1957) described the coals of Oklahoma and included a detailed classification of the resources.

2. TOPOGRAPHY

The Interior coal province has generally flat to rolling topography with gentle relief and elevations less than 700 feet. The Ouachita and Boston Mountains, which rise to about 2,800 feet in eastern Oklahoma and western Arkansas, are eroded mountain cores.

The province has numerous scenic rolling hills, such as the Ozarks in Missouri and Arkansas; steep bluffs along many rivers; and broken hills in southern Illinois, Indiana, and western Kentucky.

3. CLIMATE

The province has hot humid summers and cold humid winters. Annual precipitation ranges from a low of 24 inches along the western and southwestern boundaries to more than 56 inches in the Ouachita Mountains of western Arkansas; most of the province receives between 32 and 48 inches. March, April, May, and June are the wettest months, when parts of the province receive over 4 inches per month. The rains come during the growing season. Rains in the fall in the province may average over 2 inches per month. The humidity averages between 60 and 70 percent most of the year, although some areas are higher in the fall and winter.

Average temperatures in the southern portion are above 40 degrees in January and above 80 degrees in July; those in the northern portion are above 20 degrees in January and above 70 degrees in July. The number of mean annual freeze-free days ranges from 150 in the north to 210 in the southwest. Winds are typically from the west and northwest in the winter and from the south the rest of the year. This area receives many tornadoes every year.

4. HYDROLOGY

Most of the province has abundant supplies of water, but most industries and municipalities must treat surface water and some of the ground water before it is used. The hydrology of the province differs

in the glaciated and unglaciated parts. In the former, most large surface-water supplies usually have less than 500 mg/l dissolved solids but may have high sediment content and high iron or manganese content. Ground water from river alluvium usually has a higher dissolved solids content than surface water and may be very high locally in iron and manganese. Other ground-water sources in the glaciated area are only sufficient for small domestic and livestock needs, although glacial outwash and buried alluvial channels may yield moderate to large supplies in some areas.

In the unglaciated part of the province, surface-water supplies are highly variable. In most areas underlain by coal, relatively thin beds of sandstone and shale cannot store and transmit large quantities of water. Therefore, these areas experience rapid runoff and streams have high peak flows during intense storms, but discharges are very low during dry periods. The quality of surface water ranges from low dissolved solids and high sediment concentrations during high-flow periods to high dissolved solids and low sediment content during low flows.

Ground-water supplies in the unglaciated areas are from river alluvium, shale, sandstone, limestone, and dolomite aquifers. River alluvium usually yields moderate to large supplies of water of good quality, but the shallow sandstone and limestone bedrock aquifers usually yield less than 25 gpm of medium- to poor-quality water. In some parts of the area, wells over 1,000 feet deep penetrate Cambrian and Ordovician carbonate aquifers beneath the coal-bearing strata and

yield over 500 gpm of good- to medium-quality water (less than 2,000 mg/l dissolved solids).

5. SOILS

Table II-12 lists some of the characteristics, uses, and limitations of the dominant soil series in the Interior coal province. In addition to providing general information for each soil, the table also lists specific items, such as the unified classification of the subsoils for engineering uses and hydrologic groups. The listed soil series are not inclusive, and although they occur extensively, they must be viewed as examples. Detailed onsite soil surveys must be made before all types of soils are known. More detailed information on soil characteristics and limitations for all but the Miami, Ill., soil may be obtained from the soil-survey reports listed as sources.

The soil organisms described for the Pacific Coast coal province also pertain here.

6. VEGETATION

Federal coal leases in this province occur in the northern temperate part of the grassland biome and in the deciduous forest biome. Oak trees and big bluestem grass occur in the western areas. Farther east, bluestem, panic grasses, and Indian grass are interspersed between stands of oak and hickory. Pine is mixed with oak and hickory in the east end of the area, which is heavily forested.

7. WILDLIFE

Federal coal in this province is primarily in eastern Oklahoma. The fauna of this area consists primarily of deciduous forest-edge species

Table II-12.--Characteristics, uses, and limitations of dominant soils in the Interior coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Crete	Nebraska (USDA, 1969a)	CH	9-12	--	0-5	row crops, hay and pasture, and short and reed grasses	range and farming
Limitations:	Moderate erosion hazard, high fertility, high shrink potential.						
Tillman	Texas (USDA, 1964)	CL CH	9-12	--	1-3	short grasses and small grains	range and cultivated crops
Limitations:	High natural fertility, droughty, slight erosion hazard.						
Badland	Texas (USDA, 1964)	--	--	D	2-12 20-75	some short grass	--
Limitations:	This land supports little vegetation; it is thoroughly dissected by large gullies and has bald ridges and knobs; severe erosion hazard.						
Post	Oklahoma (USDA, 1967a)	ML or CL	6-9	C	nearly level	small grains, hay, orchards, and pasture	farming
Limitations:	Flood plain, calcareous substratum, thick surface layer.						

1/ 2/ 3/ See footnotes at end of table.

Table II-12.--Characteristics, uses, and limitations of dominant soils in the Interior coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Range in percent slope	Vegetation	Major use
Richfield	Kansas (USDA, 1965c)	CL or CH	9-12	C	0-3	small grains and native grasses	dry farming and range
Limitations:	Tableland, well drained, susceptible to wind and water erosion, high natural fertility.						
Miami	Illinois	ML	9-12	B	2-35	crops, pasture, and forest	farming
Limitations:	Moderate to severe erosion hazard, severe compaction hazard.						

1/ ML: Inorganic silts and very fine sands, rock flour, silty or clayey silts with slight plasticity; CL: Inorganic clays with low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays; CH: Inorganic clays with high plasticity, fat clays (U.S. Army Corps of Engineers, 1953).

2/ The potential amount of water a soil can hold for plant use.

3/ Hydrologic soil groups are ranked from A to D, depending on their runoff potential: group A soils have lowest rates; group D, highest rates.

(Shelford, 1963). Oak-hickory forest, tall-grass prairie, and transition zones are the major habitat types on these coal lands. Few mammal species have large populations in the forests (Shelford, 1963), but common species include the white-tail deer, raccoon, red fox, gray fox, eastern gray squirrel, fox squirrel, brush mouse, eastern woodrat, eastern cottontail, striped skunk, and opposum.

Representative birds are the tufted titmouse, red-eyed vireo, wood thrush, ovenbird, wild turkey, and bobwhite quail. The greater prairie chicken occurs in savannah cover types.

Waters of the area are generally highly productive. The Arkansas River drainage system reportedly contains 110 species of fish. Most are warm-water species such as buffalo fishes, suckers, carp, catfishes, bullheads, yellow perch, bluegill, sunfishes, and crappies.

Amphibians and reptiles in Federal coal areas are the box turtle, spiny soft-shelled turtle, cricket frog, collared lizard, sixlined racerunner, ringnecked snake, rough green snake, kingsnake, gartersnake, and ground snake (Stebbins, 1966).

Invertebrates, which include insects, worms, snails, and clams, undoubtedly occur in larger numbers and greater variety than do other animals in this province. However, there is little available information about the composition and status of the varied invertebrate populations in the province, other than for highly specialized groups.

Endangered species in this coal province that may occur on Federal coal land are listed in appendix 4.

B. CULTURAL ENVIRONMENT

1. LAND USES

Over 75 percent of the land area is used for some type of agriculture. Cropland accounts for about 50 to 75 percent of this total; pasture, from 5 to 15 percent; and woodland, from 15 to 30 percent.

Coal is plentiful in the province, and some oil and gas exists. Some silver, lead, zinc, and iron occur in the tri-State area of Arkansas, Missouri, and Oklahoma.

Water use is dominated by industrial demands, including major portions for steam-electric power generators. Flooding may be expected once every 2 to 5 years in parts of the area.

2. POPULATION PATTERNS AND CONSIDERATIONS

Federal coal lands in southeastern Oklahoma occur in a sparsely populated area in what was once the Choctaw and Chickasaw Nations. Many inhabitants are part-time coal miners and farmers; some are Indians or of Indian descent.

3. HUMAN-VALUE RESOURCES

a. Esthetic values where Federal coal occurs

Federal coal occurs primarily in eastern Oklahoma in the Western coal region, and gently rolling landforms dominate the Osage Plains where the principal coal deposits occur. Occasionally, uplifts provide interest and contrast within the area. Parts of eastern Oklahoma are heavily forested but not the areas containing Federal coal, so textural and color contrasts there occur among scattered tree groupings and exposed soil or rock.

Agricultural activity and human influences add linear configurations to the landscape.

b. Historic

Much evidence of mid- and late-19th-century life styles still exists in Oklahoma, including structures and uses common to farming and rural life. Old roads and trails are still present, as are the small towns that were there a century or more ago.

c. Geologic

The topography is rolling and moderately hilly in the western part of the southern end of the Great Plains and more hilly in the eastern part. Significant geologic features in the province include the remnants of the Ouachita uplift, now tree covered and laced with many picturesque valleys and streams, as well as some caves, caverns, and hot springs.

d. Archeologic

In the portion of the Interior coal province occupied by Federal coal, the Big-Game Hunting Tradition was the earliest phase of human life and was followed by an Archaic tradition, which appeared earlier here than it did farther north. This tradition was later heavily influenced by the Eastern Archaic and by the Desert Tradition from the West, and this area was apparently on the fringe of most of the neighboring culture areas and, in later Archaic times, was closer to the Edwards Plateau Tradition of present-day northern Texas. Later, the heavily agricultural Caddo influence (a subtradition of the temple mound-building Mississippian Culture) brought newer concepts of government,

religion, and material culture. Being part of the Southern Plains subarea, the people shared the Plains Village Tradition characteristics of large communities, some fortified sites, and an agriculture-based economy. At historic contact times, the area had elements of the surrounding cultures in its population; the Comanche to the west, Wichita to the north, Tonkawa to the south, and the Caddo-Mississippian Tradition to the east.

Archeological remains will continue to be associated with agricultural areas on the river bottoms and village sites on the bluffs or ridges above, camp sites, and tool-chipping sites, but fewer kill sites. Cave sites will be more valuable and significant.

Nationwide, there are 530 Federal coal leases. None occur in this province.

A. NATURAL ENVIRONMENT

1. GEOLOGY

The Coastal Plain physiographic province encompasses the Texas and Mississippi coal regions of the Gulf coal province (Fenneman, 1938; Trumbull, 1960). The area is an extensive lowland, composed primarily of unconsolidated beds of detrital sediments and limestones that dip gently seaward. Outcrop bands are successively older inland.

Coal deposits in the province (fig. 2-6) are mostly lignite and occur in rocks of the Yegua Formation and the Wilcox and Jackson Groups of Eocene age. Bituminous coal occurs in rocks of the Olmos Formation of Late Cretaceous age that crop out in a small district at Eagle Pass, Texas, near the Mexican border. Deposits of cannel coal of Eocene age have been reported in the Mount Selman Formation at the Santo Thomas field about 50 miles southeast of Eagle Pass (Mapel, 1967).

Lignite beds range in thickness from a few inches to 25 feet and occur in soft sandstones and clays. The lignite-containing rocks dip gently toward the Gulf of Mexico and are covered by younger rocks to the south and east. It is unlikely, however, that the lignite extends very far south and east because the beds were formed in relatively narrow belts marginal to transient shorelines. The lignite is used locally in large volumes as an industrial fuel for power generation which, in turn, is used to reduce aluminum ore (Keystone coal catalogs, 1972). There is

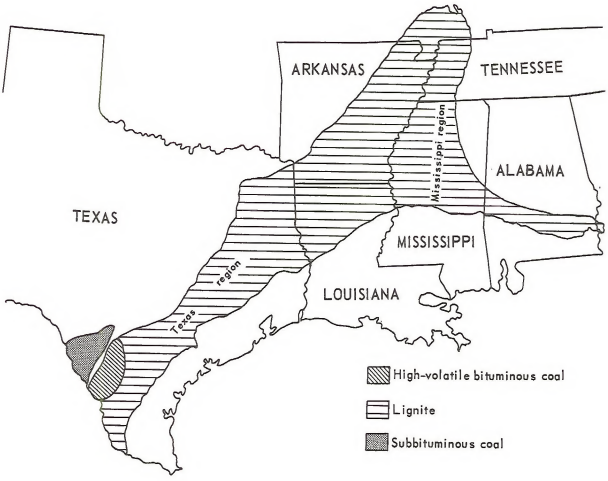

Figure 2-6.--Gulf coal province with locations of coal regions and dominant type of coal in each. (After U.S. Department of the Interior, 1975.)

future mining potential for the lignite in the Angelina, Big Thicket, Davy Crockett, Sabine, and Sam Houston National Forests and the Caddo and Cross Timbers National Grasslands, all of which are in Texas.

2. TOPOGRAPHY

The coastal-plain topography of the Gulf coal province has minimal relief, an elevation less than 300 feet, and significant amounts of coastal flats. The Mississippi River has meandered over much of the middle of the province, creating a large, nearly level alluvial plain. No mountains occur in the province and about 80 percent of the area is gently sloping to nearly level. There are many marshes and swamps.

3. CLIMATE

This province has moderate winters and very hot, high-humidity summers. Annual precipitation varies from 20 inches in southwest Texas to more than 65 inches in southern Louisiana. Most of the area receives 50 inches per year, nearly all as rain, and more than 4 inches per month, except during August, September, and October when the average is slightly lower; coastal Alabama, Florida, Louisiana, and Mississippi may average more than 8 inches of rain during the same wetter months.

January temperatures average 40 degrees in the northern part of the province, 50 degrees in the southern part; July temperatures average above 80 degrees for the whole area. The mean annual freeze-free period is 210 days to the north and more than 270 days near the coast; the Mississippi Delta has more than 300 freeze-free days per year. Winds are varied in direction in winter, typically from the south in the spring and summer, and usually from the northeast in the fall. Hurricanes are occasional threats in late summer.

4. HYDROLOGY

This province has abundant surface-water and ground-water supplies. Surface streams are usually perennial and have good-quality water throughout the year. Sediment content is usually low except during high flow, and droughts are uncommon except in southwest Texas.

Alluvial or bedrock wells may yield over 1,000 gpm of good-quality ground water over much of the area. Many high-capacity wells deeper than 1,000 feet yield water with less than 500 mg/l dissolved solids. The major ions in the potable ground water are calcium, sodium, and bicarbonate.

5. SOILS

Table II-13 lists some of the characteristics, uses, and limitations of the dominant soil series in the Gulf coal province. In addition to providing general information for each soil, the table also lists specific items, such as the unified classification of the subsoils for engineering uses and hydrologic groups. The listed soil series are not inclusive, and although they occur extensively, they must be viewed as examples. Detailed onsite soil surveys must be made before all types of soils are known. More detailed information on soil characteristics and limitations may be obtained from the soil-survey reports listed as sources.

6. VEGETATION AND WILDLIFE

Lignite-bearing land in this province occurs mostly in the oak-hickory and oak-hickory-pine communities of the deciduous forest biome. Some southern grassland and mesquite savannah habitats also exist in the coal regions.

Table II-13.--Characteristics, uses, and limitations of dominant soils in the Gulf coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Land surface	Vegetation	Major use
Reeves	Texas (USDA, 1969b)	CL	3-6	C	level to undulating	desert shrub and salt, tolerant grasses	range
Limitations:	Saline, high corrosion potential, calcareous outwash, gypsum in subsoil.						
Brewster	Texas (USDA, 1969b)	GC or GM	0-3	D	gently undulating to steep	short grasses, midgrasses, and desert shrub	range, recreation, and wildlife
Limitations:	Bedrock within 20 inches, stoniness.						
Goliad	Texas (USDA, 1973c)	CL	3-6	C	level to undulating	short and mid grasses	range crops and wildlife
Limitations:	High shrink-swell potential, severe building-foundation problems, high corrosion potential, shallow to moderate depths to caliche.						
Ector	Texas (USDA, 1969b)	CL	0-3	D	nearly level	short and mid grasses	range crops, wildlife, and recreation
Limitations:	Bedrock or cemented caliche within 80 inches, stoniness, moderate shrink-swell potential, severe erosion hazard.						

1/ 2/ 3/ See footnotes at end of table.

Table II-13.--Characteristics, uses, and limitations of dominant soils in the Gulf coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Land surface	Vegetation	Major use
Victoria	Texas (USDA, 1965b)	CH	9-12	D	nearly level	cotton, sorghum, and onions	cultivated crops
Limitations:	Very high shrink-swell potential, cracks when dry, ponding in depressions, calcareous clays.						
Orelia	Texas (USDA, 1965b)	CL	3-6	D	nearly level	cotton, grain, and sorghum	cultivated crops
Limitations:	Wind blows sandy soils with a hardpan in the subsoil, hardpan slows surface drainage, calcareous substratum.						
Oil Waste Land	Texas (USDA, 1965b)	--	--	—	--	—	—
Limitations:	This land has been damaged by oil, saltwater, mud, or other byproducts of oil fields to such an extent that its productivity has been seriously reduced or destroyed. For more than 25 years, some of this land has been covered by sterile mud, slush, saltwater, and oil to depths of 1 to 4 feet and it is still bare of vegetation. Some areas have been reclaimed.						
Olivier	Louisiana (USDA, 1965a)	CL	3-6	B	nearly level	pine and hardwood forest	pasture, urban use, and wood crops
Limitations:	Somewhat poorly drained, slowly permeable soils, severe erosion hazard.						

1/ 2/ 3/ See footnotes at end of table.

Table II-13.--Characteristics, uses, and limitations of dominant soils in the Gulf coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Land surface	Vegetation	Major use
Sharkey	Louisiana (USDA, 1965a)	CH	9-12	D	nearly level	mixed hardwood forest, perennial grasses, and legumes	cultivated crops, pasture, and hay
Limitations:	Flood plain, difficult to work because of moisture content, cracks when dry, some areas subject to flooding.						

1/ GM: Silty gravels, gravel-sand-silt mixtures; GC: Clayey gravels, gravel-sand-clay mistures; CL: Inorganic clays with low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays; CH: Inorganic clays with high plasticity, fat clays (U.S. Army Corps of Engineers, 1953).

2/ The potential amount of water a soil can hold for plant use.

3/ Hydrologic soil groups are ranked from A to D, depending on their runoff potential: group A soils have lowest rates; group D, highest rates.

The wildlife in these areas is similar to that described for Federal coal lands in the Interior coal province, but some conspicuous species in the Texas coal region that are atypical of the Interior province include the following:

Mammals	Birds	Amphibians and reptiles
Mexican freetail bat	Roadrunner	Texas toad
Mexican ground squirrel	Scaled quail	Texas blind snake
Peccary	Attwater's prairie chicken	Western diamondback rattlesnake
Ringtail		
Hognose skunk		
Red wolf		

Endangered species in this coal province can be determined from appendix 4. Like several States in other provinces, Texas is also developing its own list of endangered and threatened species. However, because there is little Federal coal in this province and no current Federal coal leases, few species are likely to be involved unless the leasing situation changes in the future.

B. CULTURAL ENVIRONMENT

1. LAND USES

Most of the land is devoted to agriculture or forestry. Lignite production is scattered in the northern part of the province, whereas oil and gas occur throughout. Sulfur and salt are produced in Louisiana and Texas. Water use is primarily industrial.

2. POPULATION PATTERNS AND CONSIDERATIONS

Population patterns in this province are very complicated and range from sparsely occupied rural areas to highly industrialized centers such as New Orleans.

Ethnic, cultural, and religious factors in the province include the large populations of French-Creoles and Blacks.

3. HUMAN-VALUE RESOURCES

a. Esthetic

Pine-hardwood forests interspersed with farms characterize much of the province, and the gentle topography bears streams and winding roads that traverse varied landscapes. Esthetic interest centers mainly on the varied terrain, vegetative cover, and human influences.

b. Historic

Various historic and cultural sites occur in this province. East Texas, Arkansas, and Louisiana contain many sites related to early Spanish and French exploration and settlement, Texas settlement and independence, and the Civil War. Alabama and western Florida also contain historic land resources related to early Spanish, French, British, and American activities, the War of 1812, and the Civil War. Fort Smith National Monument, Arkansas Post, and Chalmette Battlefield are examples of historic sites. San Jacinto State Park in Texas preserves the site of that climactic battle in the Texas War for Independence, and areas along the Rio Grande River include camp and battle sites of the Mexican War.

As in other provinces, Federal agencies are inventorying the resources in this province as part of the National Natural and Historic Landmark program, administered by the National Park Service.

c. Geologic

The low, flat coastal plain of this province contrasts with the differentially hilly land and its broad valleys farther inland. Rivers and streams are the most obvious geologic features that have demonstrated their depositional and erosive qualities by forming picturesque oxbow lakes, some of which have become or are becoming bayous with luxurient vegetation. The Mississippi Delta is a classic example of an enormous bird's-foot delta.

Surface water percolating downward through sedimentary rocks has produced many small caves and caverns in the province, but of greater interest are the large caves in southwest central Texas. Many large springs and artesian features are also prominent features, but most striking are the numerous cenotes along the coast, which are fed by underground water sources. However, cenotes and caves do not occur with lignite deposits.

d. Archeologic

Although this province borders the area of the Big-Game Tradition, it supported considerable Archaic exploitation throughout its range: the Desert Tradition from the west, and the Woodland Tradition from the east. Areas such as the Gulf coast had essentially archaic-style human exploitation at contact times.

On the lower Mississippi and along its tributaries, later Meso-American influences evolved into the Mississippian Tradition with its characteristic temple mounds, large concentrations of population, and dominantly agricultural subsistence. While this was developing,

the Woodland variant culture to the east was declining before being replaced by the Mississippian influence. Historic and protohistoric tribes in the province included the Apalachee, Atakapa, Caddo, Chitimacha, Choctaw, Karankawa, Natchez, Quapaw, Tonkawa, and Tunica. Archeologic remains include mound areas, campsites, and habitational sites on ridges and bluffs.

EASTERN COAL PROVINCE

Of the nationwide total of 530 Federal coal leases, 3 are in this province.

A. NATURAL ENVIRONMENT

1. GEOLOGY

The Valley and Ridge and the Appalachian Plateaus physiographic provinces encompass nearly all of the area underlain by the coal-bearing rocks of the Eastern coal province (Fenneman, 1938; Trumbull, 1960). The rocks in these provinces are the sandstones, shales, limestones, conglomerates, and coal beds of the Appalachian basin. These rocks have been greatly disturbed by folding and faulting in the Valley and Ridge province along the eastern side of the basin. On the western side in the Appalachian Plateaus province, the surface dips gently to the west, but the rocks dip inward toward synclinal axes that trend northeast-southwest.

The Appalachian coal region (fig. 2-7) extends uninterruptedly about 800 miles from northern Pennsylvania to western Alabama and across parts of Pennsylvania and Ohio at its widest part (Arndt and other, 1968). The region is defined by outcrops of coal-bearing rocks of the Allegheny, Conemaugh, Monongahela, and Pottsville Formations of Pennsylvanian age; locally these names are used as group names. Along the eastern margin, the rocks are folded into several hundred small subsidiary anticlines and synclines, and some of these structures are separated locally from the main part of the region. On the eastern edge, beds may dip very steeply

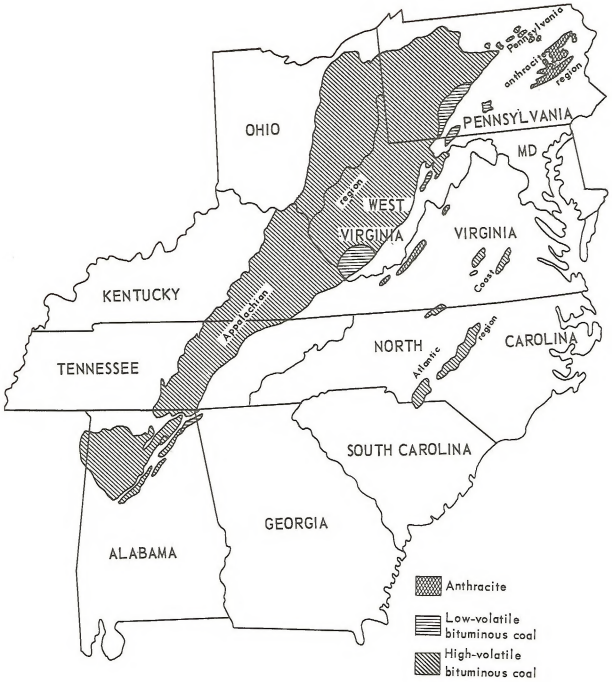

Figure 2-7.--Eastern coal province with locations of coal regions and dominant type of coal in each. (After U.S. Department of the Interior, 1975.)

locally, but moderate dips of about 20 degrees are more characteristic. To the west, the beds dip less steeply until, near the western edge, they are nearly flat. The Pennsylvania anthracite region (fig. 2-7) has steeply dipping folded and faulted beds, and overturned beds are common. These variations in structure are accompanied by parallel variations in rank of coal: That on the western edge of the Appalachian coal basin is high-volatile bituminous; along the highly deformed eastern edge, it is locally medium to low volatile bituminous; and in the intensely folded region to the east, it ranges as high as anthracite.

The Appalachian region has yielded about 23 billion tons of coal from the beginning of mining until 1965. Of that total, roughly one-third was produced from the Pittsburgh coal bed at the base of the Monongahela. This bed has been described as the most valuable mineral deposit in the United States and perhaps in the world, but it is only one of several famous and productive beds in the region. The number of bituminous coal beds thick enough to be mined or used in resource estimates ranges from 24 in Pennsylvania to 62 in West Virginia, and as many as 152 beds having been individually named and described. Even after so much production from this single region, the remaining coal reserves under 0 to 1,000 feet of overburden still total 110 billion tons (as of January 1, 1974).

2. TOPOGRAPHY

This province is mountainous and essentially encompasses the area occupied by the Appalachian Mountains. Here, the extensive areas of bituminous coal occur in the Appalachian Plateaus physiographic province rather than in the Valley and Ridge province where the mountains

are oriented northeast-southwest and have numerous ridges, gaps, and escarpments paralleling the mountain structure. Folds, faults, and steeply dipping strata are common. Few of the peaks exceed 5,000 feet, but the area has relatively rough topography caused by well-developed drainage systems.

3. CLIMATE

The province has hot humid summers and moderate to cold humid winters. Annual precipitation ranges from about 32 inches in the far north to more than 60 inches in the southeast, but most of the province receives between 40 and 50 inches. Fall and winter have the least precipitation. There is adequate moisture during the growing season without irrigation.

Temperatures in the north average between 20 degrees and 30 degrees in January and usually more than 70 degrees in July, except in some of the higher mountains; those in the south average about 40 degrees in January and up to 80 degrees in July. The northern mountainous areas have a mean annual freeze-free period of 120 days; the freeze-free period exceeds 210 days in the south. Winds are typically from the west in winter, from the southwest in spring and summer, and vary in fall. Occasional hurricanes cross the province in the late summer or early fall.

4. HYDROLOGY

The Eastern coal province has abundant surface water, most of which is readily accessible. However, industrial and municipal pollution of surface waters is widespread, and two-thirds of the Nation's acid mine drainage problems occur in the province. The quality of surface waters

is complex. Most unpolluted streams have good-quality water, but municipal and industrial pollutants produce complex chemistry in many of the streams they affect. The sediment content of streams is highly variable, with many disturbed areas contributing large amounts of sediment to streams during storms.

Ground water can be obtained from river alluvium, which yields medium to large amounts (100 to 1,000 gpm), and from bedrock aquifers. The water is generally of good quality. Bedrock aquifers of sandstone and limestone usually yield small amounts of good-quality water. In intensely mined areas, ground-water supplies may be polluted.

5. SOILS

Table II-14 lists some of the characteristics, uses, and limitations of the dominant soil series in the Eastern coal province. In addition to providing general information for each soil, the table also lists specific items, such as the unified classification of the subsoils for engineering uses and hydrologic groups. The listed soil series are not inclusive, and although they occur extensively, they must be viewed as examples. Detailed onsite soil surveys must be made before all types of soils are known. More detailed information on soil characteristics and limitations may be obtained from the soil-survey reports listed as sources.

The soil organisms described for the Pacific Coast coal province also pertain here.

Table II-14--Characteristics, uses, and limitations of dominant soils in the Eastern coal province

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Land surface	Vegetation	Major use
Miami No. 3	Ohio (USDA, 1962a)	ML	9-12	B	gentle to steep	crops, pasture, and forest	farming
Limitations:	Moderate to severe erosion hazard, severe compaction hazard.						
Mardin No. 2	New York (USDA, 1970b)	ML or SM	3-6	D	sloping to steep	crops, pasture, and forest	farming
Limitations:	Fragipan at 18 to 22 inches subject to sloughing and seepage above pan, high water table.						
Appling No. 5	North Carolina (USDA, 1970e)	ML and CL	3-6	D	gently to strongly sloping	crops, pasture, and forest	farming and forestry
Limitations:	Well drained, low, natural fertility, shrink-swell potential, severe erosion hazard.						
Wegram No. 5	North Carolina (USDA, 1970e)	CL and SC	3-6	A	nearly level to sloping	crops, pasture, and forest	farming and forestry
Limitations:	Somewhat excessively drained, low natural fertility, low stability.						

1/ 2/ 3/ See footnotes at end of table.

Table 11-14.--Characteristics, uses, and limitations of dominant soils in the Eastern coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Land surface	Vegetation	Major use
Madison	Georgia (USDA, 1971b)	CL and MH	3-6	B	gently to moderately steep	pine and deciduous forests	farming and forestry
Limitations:	Moderate to high shrink-swell potential, gravelly surface soil, low natural fertility, moderate erosion hazard.						
Tallapoosa	Georgia (USDA, 1971b)	ML, CL and SM	3-6	C	gently to moderately steep	deciduous forests	forestry
Limitations:	Shallow, well drained, low natural fertility, rocky subsoil, severe erosion hazard.						
Chester	Pennsylvania (USDA, 1970a)	ML and CL	9-12	B	gently to steeply sloping	grain, pasture, and deciduous forests	farming and forestry
Limitations:	Well drained, very stony profile, severe erosion hazard.						

1/ 2/ 3/ See footnotes at end of table.

Table II-14.--Characteristics, uses, and limitations of dominant soils in the Eastern coal province--Continued

Soil name	Location (source)	Unified classification 1/	Available water capacity (inches) 2/	Hydrologic group 3/	Land surface	Vegetation	Major use
Lewisberry	Pennsylvania (USDA, 1970a)	SM and GM	6-9	B	gently to steeply sloping	grain, pasture, and deciduous forests	farming and forestry

Limitations: Well drained, gravelly to very stony profile, severe erosion hazards.

1/ GM: Silty gravels, gravel-sand-silt mixtures; SM: Silty sands, sand-silt mixtures; SC: Clayey sands, sand-clay mixtures; ML: Inorganic silts and very fine sands, rock flour, silty or clayey silts with slight plasticity; CL: Inorganic clays with low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays; MH: Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts (U.S. Army Corps of Engineers, 1953).

2/ The potential amount of water a soil can hold for plant use.

3/ Hydrologic soil groups are ranked from A to D, depending on their runoff potential: group A soils have lowest rates; group D, highest rates.

6. VEGETATION

This province contains the deciduous forest biome, primarily along the Appalachian Mountains, but there is considerable range in vegetative types within the province. Oak, hickory, cherry, and maple are prevalent hardwood species, intermingled with shortleaf, loblolly, and Virginia pine, northern balsam fir, and some other conifers.

Natural understories include widely varied shrubs, forbs, and grasses. Farmlands support varied crops, which include corn, small grains, cotton, tobacco, and pasture.

Federal coal is so widely dispersed and of such limited acreage that specific vegetative descriptions will be necessary to relate ground cover to specific occurrences of the coal.

7. WILDLIFE

The limited Federal coal reserves of this province occur in regions where major plant associations are maple-beech-birch and oak-hickory forests, as well as varied wetland habitats. These habitats naturally support wildlife species characteristic of the deciduous forest biome. The Federal coal reserves and existing leases are in small and scattered tracts within these broad communities. Local influences may cause significant deviations from the expected species composition on a particular Federal tract. A more detailed and specific description of the wildlife community would be made on specific tracts should leasing action be contemplated.

Nuts and fleshy fruits produced in the deciduous forest provide a large variety of food for wildlife. Animals such as the gray

squirrel and eastern chipmunk often vary greatly in numbers from year to year, depending on the abundance of nuts and seeds. Important mammals in the province include the white-tail deer, the eastern mole, black bear, gray and red foxes, bobcat, raccoon, gray and fox squirrels, New England cottontail, shorttail shrew, opossum, southern flying squirrel, and white-footed mouse (Kendeigh, 1961; Burt and Grossenheider, 1964). In the southern oak-hickory part of the province, mammal populations are low.

Breeding birds in the maple-beech-birch association include the solitary vireo, black-throated blue warbler, blackburnian warbler, rose-breasted grosbeak, and wild turkey (Shelford, 1963). Typical snakes are the eastern garter snake, red-bellied snake, milk snake, and eastern ringneck snake.

In the oak-hickory association, wild turkeys feed on the fruits of all the common deciduous forest trees, shrubs, and vines, but they favor acorns. This association contains a variety of typical deciduous forest birds. Copperheads, coral snakes, rough green snakes, rat snakes, coachwhips, and speckled king snakes are reported forest snakes. The slimy salamander is the only salamander regularly inhabiting the oak-hickory forest (Shelford, 1963).

Endangered species in this province that may occur on Federal land are listed in appendix 4.

B. CULTURAL ENVIRONMENT

1. LAND USES

Most of the land in this province is devoted to cropland, pasture, and forestry.

Coal, oil, and gas occur in the province, and iron, zinc, and copper are important minerals. Water use is dominated by industrial demands.

2. POPULATION PATTERNS AND CONSIDERATIONS

The province is a large area with many different population variables. Federal coal occurs only in small parts of the Appalachian coal region; this description covers only the areas affected.

a. Economic

The area is the Nation's leading producer of coal. Coal mining has replaced the hunting and subsistence farming economic bases of the original settlers, and, together with the oil and gas resources of Appalachia, a strong derivative chemical industry, an expanding timber industry, and still growing recreation and tourism, coal mining is now one of the leading economic bases in the area.

3. HUMAN-VALUE RESOURCES

a. Esthetic values where Federal coal occurs

A large coastal plain to the east and gently rolling hills and some mountainous areas to the west are the dominant landforms in the province. Seasonal color changes provide varied interest, contrasting the dominant varied shades of green when trees are in full leaf with the brillant hues of the fall colors. In winter, individual tree trunks are apparent until spring growth obscures them.

b. Historic

Vestiges of pioneer mountain life still remaining in the province include log cabins and farm structures, mills, and other

historic buildings and sites. Some areas contain sites related not only to early settlement but also to Indian conflicts and the Civil War.

c. Geologic

The Appalachian Mountains are the Nation's oldest and most eroded mountain chain. They are low, compared to the more recent Rocky Mountains, and have steep slopes and generally rugged terrain underlain by folded sedimentary rocks. Many interesting, unusual, and even unique caverns exist in the province, and speleological interest is continually growing. Owing to the scenic value of the mountains and fertile valleys, many hiking trails have been constructed throughout the area. No geysers occur here, but a few hot springs of moderate appeal do.

d. Archeologic

This province is in the Eastern Woodlands prehistoric area. The Big-Game Hunting Tradition arrived here early, perhaps in some places before it did in the western plains. The Eastern Archaic Tradition, notable for the early introduction of pottery and the development of agriculture arose later owing to the influx of many outside influences. The advanced cultures of the Woodlands Tradition succeeded the Eastern Archaic; its people, the Adena, Copena, and Hopewell, and their variants, were also known as mound builders and were later replaced by elements of the Mississippian Tradition from the west. The Mississippians did not occupy the original territories of the Woodland Tradition, but the people who lived in

these territories felt their influences. Historic and prehistoric tribes in this province included the Cherokee, Chickasaw, Creek, Shawnee, and Yucchi.

The prehistoric inhabitants gravitated to those areas that provided shelter, water, and fuel and were close to game and arable fields. While they may have hunted in the hills and mountains and probably crossed them on trading and migration travels, their main habitations were on level land in the valleys. The province was neither heavily nor uniformly populated, and habitation sites were usually not in coal areas.

CHAPTER III

PROBABLE IMPACT OF THE PROPOSED ACTION

Introduction

The operating and leasing regulations set forth in this statement apply to Federal coal and Indian coal supervised under the Federal trust responsibility of the Secretary of the Interior. In January 1971, a moratorium was declared on Federal coal leasing. As of December 1975 approximately 784,200 acres were under lease, and an additional 496,000 acres encumbered with rights that could lead to leasing. Indian coal lands under lease today total about 260,400 acres. Projected Indian leasing by 1985, it is estimated, would probably no more than double that figure.

Assuming continuation of the present coal production trend over the next decade to meet expanded domestic energy requirements, the cumulative acreage likely to be disturbed by mining on Federal and Indian acreage through 1985 is estimated to be about 50,000 acres. For the most part, the action will focus in 14 Western States, 12 of which presently contain Federal or Indian coal leases. Reclamation efforts in the form of surface manipulation, addition of soil amendments and seeding have been applied to 58 percent of the acreage disturbed by mining on Federal and Indian coal leases through 1974; ultimately all lands mined under these proposed regulations will be rehabilitated.

Up until the late 1960's Federal and Indian coal leases did not contribute significantly to the overall national coal supply, representing less than about 2 percent of the total annual production. In the last five years, however, this percentage has been increasing and in 1974 was estimated to be about 6.2 percent. Because of the anticipated growth in demand for Western coal, it is expected that this increase will continue, reaching perhaps 25 percent by 1985.

Federal and Indian ownership of coal resources in the West is estimated to be approximately 60 percent; the remaining percent is comprised of State and private coal resources. Of the total State and private coal resources approximately one-half is intermingled with Federal and Indian ownership so that the establishment of logical mining units,* in most instances, cannot be accomplished without influencing all types of ownership. In view of the vast Federal and Indian ownership patterns the principal impacts of the proposed revised regulations will be most noticeable in the Western coal producing areas of the Rocky Mountains and Northern Great Plains provinces.

Tables III-1 and III-2 show the location of the 537 existing Federal and Indian coal leases by State and surface ownership. In addition there are 110 prospecting permits which were issued before the BLM Director suspended further approval

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* Defined in Federal Register notice dated December 31, 1975, (p. 60070-60071) on the proposed admendment to 43CFR3500 with regard to diligent development and continuous operations. (See appendix 5.)

Table III-1.--Federal coal leases in the United States 1/

States	Number of leases	Surface ownership in acres: Federal	Surface ownership in acres: Private	Total area leased (acres)	Surface ownership (percent): Federal	Surface ownership (percent): Private
PACIFIC COAST COAL PROVINCE						
Alaska	4	1,520	1,073	2,593	59	41
California	1	80	0	80	100	0
Oregon	3	5,403	0	5,403	100	0
Washington	2	0	521	521	0	100
Total	10	7,003	1,594	8,597	81	19
ROCKY MOUNTAIN AND NORTHERN GREAT PLAINS COAL PROVINCE						
Colorado	114	68,188	54,606	122,794	56	44
Montana	17	1,265	35,032	36,297	3	97
New Mexico	28	14,760	26,198	40,958	36	64
North Dakota	18	0	16,235	16,235	0	100
Utah	199	254,121	13,815	267,936	95	5
Wyoming	91	82,691	117,290	199,981	41	59
Total	467	421,025	263,176	684,201	62	38
INTERIOR AND EASTERN COAL PROVINCES						
Alabama	2	2,388	200	2,588	92	8
Kentucky	2	1,644	0	1,644	100	0
Ohio	1	144	0	144	100	0
Oklahoma	53	1,322	85,692	87,014	2	98
Pennsylvania	2	80	0	80	100	0
Total	60	5,578	85,892	91,470	6	94
Grand total	537	443,606	350,662	784,268	55	45

1/ Data from U.S. Department of the Interior, Bureau of Land Management, as of December 1975.

Table III-2.--Indian coal leases in the United States 1/

States	Number of leases	Surface ownership in acres: Tribal	Surface ownership in acres: Private	Total area leased (acres)	Surface ownership (percent): Tribal	Surface ownership (percent): Private
ROCKY MOUNTAIN AND NORTHERN GREAT PLAINS COAL PROVINCES						
Arizona	2	64,858	0	64,858	100	0
Colorado	1	19,452	0	19,452	100	0
Montana	10	59,080	32,316	91,396	--	--
New Mexico	3	82,860	0	82,860	100	0
Utah	1	0	200	200	0	100
Total	17	226,250	32,516	258,766	87	13
INTERIOR COAL PROVINCE						
Oklahoma	11	0	762	762	0	100
Grand total	28	226,250	33,278	259,528	87	13

1/ Data from U.S. Department of the Interior, Bureau of Indian Affairs, as of December 1975.

of prospecting permits on January 23, 1971, and 183 applications for preference right leases. However, the issuance of a Federal coal lease has not always resulted in physical environmental impacts because a large number of existing leases have never become active mining operations. Existing leases and all new lease applications will be subject to the proposed regulations. The impact on the environment of granting permits and leases under the new standards should be less than would occur under the old regulations. Some applications will be denied on environmental grounds (3041.2-1) where reclamation is not possible or where there are other land-use priorities. Those leases that are granted will be required to comply with stringent standards spelled out in the new regulations. The effect of these regulations will be to impose reclamation and performance standards on virtually all the 50,000 acres which will have been disturbed through 1985.

Overall, the impact of the proposed regulations will vary by State, depending on the specific mining and/or reclamation requirements presently existing for each State. Most States in recent years have enacted legislation to mitigate adverse environmental impacts. The most damaging impacts of surface coal mining occurred initially in the Eastern province States and consequently progressively stronger legal measures have been enacted to promote reclamation of surface mined lands. Not only do all the coal mining States of the Eastern province have laws governing surface

coal mining reclamation operations, but the Southeastern States as a whole probably have the most stringent mining and reclamation requirements in the Nation. Since Federal acreage in these States are small compared to the rest of the U. S., mining operations in the Eastern Province would be affected little by the proposed regulations.

All of the States of the Interior and Gulf provinces except Louisiana, Mississippi, and Nebraska have surface mining and reclamation statutes. These laws are generally not as stringent as in the Eastern province. However, levels of mining have been more moderate and have resulted in fewer environmental problems. Also, natural conditions usually make reclamation work less difficult than on the steeper terrain of the Eastern province.

The State surface mining and reclamation laws of the Rocky Mountain and Northern Great Plains provinces have all been enacted in recent years. (See appendix 6). Unlike the Interior and Eastern coal producing States, the Rocky Mountain and Northern Great Plains provinces did not have a great deal of surface coal mining in the past; many of the adverse environmental impacts of coal mining were from underground mining activities. This situation changed radically in the 1960's when the demand for low-sulfur coal brought a sharp increase in surface mining of the vast coal deposits of the Region. Most of the Western coal producing States have responded to the need to control effects on the environment by enacting legislation aimed at regulating surface mining.

Montana ranks first in the Nation in total strippable coal resources and, of the Western States with surface mining laws, has perhaps the most stringent reclamation requirements, although several other States have laws almost as comprehensive. Wyoming, which ranks second in total strippable coal resources, had no laws requiring mine reclamation prior to 1969; the 1969 Open Cut Land Reclamation Act applied to surface mining of all mineral resources in Wyoming, including Federal surface mining operations but excluding Indian land. The new Wyoming Environmental Quality Act of 1973 (and amendments in 1974 and 1975) superseded the 1969 act, and includes underground mining as well.

Virtually all surface coal mining in the Rocky Mountain, Northern Great Plains and Pacific Coast provinces is regulated by State law except Arizona, where all known coal deposits are on Indian lands and thus surface mining is regulated by Federal and Indian laws.

For the States having less stringent mining and reclamation requirements, the proposed revised Federal regulations would be expected to ameliorate many of the potentially adverse effects of coal mining on the environment. In addition, the proposed revised regulations would tend to result in a greater degree of uniformity of regulations applicable to Federal and Indian coal operations from State to State.

Impact Discussion

Specific impacts resulting from implementation of the proposed regulations as compared to the present regulations are discussed in the following sections.

Fish and Wildlife Resources

Development of coal lands affects wildlife principally by human intrusion, animal displacement, and the degradation or destruction of habitat. The sections of the proposed regulations dealing with these areas represent a tightening of operational controls over environmental degradation. The more significant changes from the old regulations are in the areas of premine planning, more stringent control of exploration and mining operations and of land reclamation and postmining site abandonment.

Wildlife, occurring in the main regions of projected future surface disturbance, varies widely across 14 Western States and Alaska. Species range from wild horses and burros to big-horn sheep, antelope, elk, mule deer, moose, fox, bear, squirrel, various waterfowl and large populations of small mammals and birds. Fish, particularly salmon and trout, in Alaska, could also be affected by coal mining.

It is anticipated that adverse impacts on fish and wildlife resources will be minimized by the proposed regulations. Replacement of wildlife resources to mitigate impacts may not occur until the mined areas are reshaped and revegetated. Replacement of soils and vegetation occurs as contemporaneously as practicable with development and continues through to the fulfillment of the reclamation plan.

The regulatory actions proposed herein are expected to enhance land reclamation efforts generally by speeding up

soil replacement and revegetation appropriate to the predetermined postmining land use objectives. The determination of a postmining use for the land is one part of the premine planning requirements in the regulations (211.10(c)) which also include identification of wildlife populations, endangered species, critical habitat, vegetative species and a soils inventory. It is anticipated that some enhancement of upland wildlife habitat is likely to take place that would not have occurred under the old regulations. This is due primarily to the requirements for soil sampling before and after mining, the emphasis on native vegetative species replacement to support the planned land use, and the extended period of liability for the operator to insure successful revegetation.

It is not expected that all impacts on wildlife from coal mining will be offset. However, adaptation of the proposed improvements in environmental control will lessen the overall impact to wildlife and may, in some instances actually benefit some species. Impacts on rare and endangered species and wild free-roaming horses and burros will be slight. Protection provided in other regulations is not changed by the proposed regulations.

Topography and Drainage

Aesthetically displeasing land forms such as spoil piles, highwalls and unnatural changes in drainage patterns have occurred from mining activity conducted without adequate environmental controls. The creation of these land forms was most prevalent ten or more years ago and attempts were made through State laws and Federal operating regulations to alleviate the problem to some extent. However, the application was in many cases inconsistent from State to State or area to area. These proposed regulations are intended to set uniform standards for activities on all Federal and Indian lands regardless of surface ownership or location. Indiscriminate placement of spoil or uncontrolled subsidence has also resulted on lands where well-conceived mining plans were not required. Without adequate controls unstable spoil material dumped downslope from mining sites may become waterlogged, causing slides which may obstruct stream channels, endanger lives, damage property or destroy vegetative cover needed for slope stability. Reclamation accomplished under the requirements of the proposed regulations is expected to result in topography compatible with surrounding areas. Slopes will be shaped, graded and revegetated to eliminate soil movement. It should be noted however that the topography and drainage patterns on all disturbed acreages will be affected to some degree.

Generally, surface disturbance per ton of coal mined in the East is greater than in the West because coal seams tend to be thinner.

Thus, more acreage in the East must be mined for an equivalent amount of coal from a thicker seam in the West. Also, due to the steepness of slopes in the East, the placement of dumps, regrading and slope stability are often more difficult, thereby, affecting reclamation. On some sites in Wyoming, Montana, and Colorado mining of thick coal beds with thin overburden may result in basins which, if allowed to fill with water, could be beneficially utilized for recreation, wildlife, livestock and agriculture where such postmining land uses are approved.

All active surface mining operations result in some degree of increased erosion even under the most stringent standards. However, provisions in the proposed regulations will limit mining to those areas where reclamation can be attained and assured according to the reclamation standards set forth therein and, in addition, will require the same result as to private surfaces over Federal mineral estate.

The proposed coal mining regulations are drafted to provide a beneficial impact on drainage and postmining landforms by requiring that disturbed lands resulting from coal mining operations be regraded, shaped and revegetated to the approximate original contour thus eliminating spoil piles and high walls. Variances can be permitted only when it is determined by responsible authorities at the bureau director level that an equal or better proposed postmining land use is practicable and attainable. Modifications, if necessary, can be approved where unusual physical conditions

at the site, such as steeply dipping coal beds or multiple seam mining exist and such conditions make backfilling impracticable as a result of the volume of material excavated or the duration of the operation. The Federal lands most affected by the thick coal bed provisions of the regulations are primarily in the Northern Great Plains province

Coal mining operations in the past have improperly constructed or inadequately maintained service roads, pipelines and other such access facilities. Sections 211.40(a)(12) and 3041.2-2(f)(12) of the proposed regulations restrict construction of such facilities in streambeds or near drainage channels to avoid serious alteration of the normal flow of water. Well designed and constructed facilities can be allowed to remain as modes of entry into otherwise inaccessible areas, except where return to the remote and wild aspects of an area is an objective of the approved land-use plan. Such facilities would be of benefit in an emergency situation, such as forest or range fires.

Soils and vegetation

Under the existing regulations very little care was required to insure proper handling of soils. However, the proposed regulations will minimize the adverse effects of coal mining on soils capable of supporting vegetation by requiring topsoil segregation, reclamation of waste storage areas, identification and burial of toxic wastes, subsidence control, slope restrictions and contemporaneous reclamation (secs. 211.31 and 211.40(a) (1 through 4,8) and 3041.2-2(f) (1 through 4,8)). Sections 211.10(c) (2 and 6ii) specifically require sampling of soils and overburden prior to mining to determine which material is to be buried and which stratum is suitable surface material and shall be saved for application to regraded surfaces.

The major soil factors determining potential for reclamation are slope, texture, structure, organic matter, soil micro-organisms, water-holding capacity and chemical properties. These factors must be measured and described in the premine planning process and provisions made to return the disturbed lands to a condition suitable for the postmining land use. This will be done through regrading, detailed soil surveys, soil replacement soil additives, seasonal seeding, and post planting care. Plants will be selected on a site specific basis taking into consideration both long-term and short-term vegetative cover. Under the proposed regulations the operator is responsible for successful revegetation consistent with the approved mining and reclamation plan.

The proposed regulations provide that the operator's responsibility and liability under his performance bond for revegetation of each planting area shall extend until such time as the authorized officer of the Federal surface managing agency, in consultation with the Mining Supervisor, determines that successful revegetation has occurred; provided that this period shall extend for a minimum of five full years following the initial planting, and for a total period of liability not to exceed ten years from the original planting. Adjustments of these time periods are provided for areas such as the Eastern or Midwestern provinces, where climatic conditions accelerate vegetative growth, or for areas where adverse natural conditions retard the revegetative processes more than anticipated at the time of leasing.

Overburden containing toxic or other deleterious matter will be buried to avoid contamination of the overlying topsoil. Surface grading, to acceptable slopes and form required by the regulations, must be completed before topsoils are replaced on the reclaimed mining site.

Owing to harsh environmental conditions, revegetation in certain parts of the Western region and Alaska may be less effective than in other areas of the Nation. Diverse factors such as air, temperature, precipitation amounts and distribution, soil productivity and stability, and availability of plants for reclamation are very important factors governing revegetation potentials of any area. The widely varying physical and ecological conditions common to Alaska and the

Western region indicate that the potential for successful revegetation in these parts of the Nation is extremely site-specific and must be designed accordingly. The regulations permit the latitude needed to accomplish this objective. Through 1974, 10,500 acres have been disturbed by mining involving Federal coal, of which 58 percent has been treated. (See table III-3.)

It is estimated that vegetation will be disturbed on approximately 50,000 acres through 1985. All mined lands must be returned to a vegetative cover equal to or greater than the premining cover, or revegetated with other plantings consistent with the approved postmining land-use plan.

Table III-3.--Treated 1/ strip-mined acreage on Federal coal leases, cumulative through 1974 2/

State	Acres disturbed	Acres treated 1/	Percent
Colorado	1,465 acres	1,361 acres	93
Montana	613	341	56
North Dakota	1,812	926	51
New Mexico	263	167	63
Oklahoma	3,085	1,928	62
Utah	0	0	--
Washington	28	0	0
Wyoming	3,190	1,365	43
Cumulative to 1974	10,500	6,100	58
Data for 1974 alone	1,400	985	70

1/ Treated lands are defined as those lands where reclamation efforts in the form of surface manipulation, use of soil amendments, and seeding have been applied, but full productivity may not yet have been attained.

2/ Data are USGS Conservation Division preliminary figures from 1974 annual report.

Air resources

Practically all mining operations, whether related to actual extraction of resources, crushing and handling of material, or disposal of solid wastes, produce particulate dust which, if not properly controlled, may contribute to air pollution in nearby areas. Dust from mine operations is local but can be severe. However, it can be reduced by treatment of haulage surfaces, planting temporary cover on stockpiles and by revegetation and reclamation of disturbed areas contemporaneously with the mining operations. Sections 211.40(a)(3 and 4) and 3041.2-2(f)(3 and 4) of the regulations specify that mine operators are required to stabilize and protect all surface areas including spoil piles to effectively control attendant air pollution. The required regrading and revegetation of surface-mined areas should result in a decrease of air pollution compared to the old regulations by eliminating or minimizing wind-blown dust from disturbed areas. Inspections of mining operations to determine compliance with measures required in an approved plan for the protection and control of air quality are to be performed and any non-compliance is to be reported to appropriate Federal or State agencies.

Coal refuse banks and coal beds can be ignited by spontaneous combustion, lightning, or through the intentional or careless acts of people. Fires in coal banks and beds emit noxious gases such as hydrogen sulfide and carbon monoxide which can be fatal to humans. Sections 211.40(a)(15) and 3041.2-2(f)(15) require

mine operators to store coal or combustible waste in a location and manner so as not to be a fire hazard. Moreover, the regulations require that waste piles be constructed in compacted layers, including the use of incombustible impervious materials to minimize the fire potential of these banks.

Water resources

Ground and surface water considerations are a special concern in the proposed regulations. The water required for processing or transportation of coal could be a limiting factor in many semi-arid and arid areas and particularly so in the Arctic or interior Alaskan coal fields. Regardless of the type of mining used, a common impact on ground-water reservoirs is usually a lowering of the local water table. Perched water lenses may be drained by fracturing of underlying impermeable strata during mining operations causing wells dependent upon the lenses to go dry. The cone of depression in the water table may extend several miles beyond the mining site, its exact size being a function of aquifer geometry and transmission characteristics as well as the size and shape of the mine pit. Assessments of the impact of surface mining on local ground-water levels must be made on a site-by-site basis because of the wide variety of hydrogeologic situations which could exist at any particular location, and the regulations so provide.

The effect of mining on aquifers is a function of the type and size of the operation. For example, contour mining in the Eastern region can lower upgradient water levels; however, the impact on ground-water resources will probably be of limited extent. Although contour mining may extend for a mile or more, the actual operation removes only a relatively small section of overburden above the coal bed. By way of contrast, removal

of the thick layers of coal in the Powder River Basin of Wyoming may extensively change or completely destroy shallow aquifers at the mine site. Restoration of these aquifers may result after the displaced overburden is returned to the mine pit. However, because the coal beds may be up to 110 feet thick, the amount of overburden available for replacement may be inadequate to restore the ground-water reservoir to its original thickness.

Valley floors, where farming can be practiced in the form of flood irrigation, provide ranchers and farmers with economically valuable agricultural products. The proposed regulations require protection of the surface and ground-water resources of valley floors in arid and semi-arid areas. Such protection could include the prohibition of leasing or mining in areas where an evaluation of the data submitted by the applicant, under secs. 211.10 and 3041.1-2 of the proposed regulations, developed by the Department, or provided through the public participation process of secs. 211.5 and 3041.4, discloses that such essential resources would be jeopardized.

Under the existing regulations ground-water pollution has occurred in many mining areas because of numerous uncased wells, holes, and mine shafts driven deep into the earth and subsequently abandoned. The movement of ground water is always toward areas where the hydraulic head is lowest. In many parts of the country, saline ground water in deep aquifers is under high artesian pressure. Improperly sealed wells or abandoned mines which intercept protective

strata may cause contamination of fresh water aquifers. The proposed regulations in secs. 211.40(a)(7) and 3041.2-2(f)(7) are designed to protect the water quality of ground-water reservoirs by requiring that all shafts, boreholes, wells, and other openings be cased, sealed or otherwise managed to avoid aquifer contamination.

When adequate measures are not required mining can also result in losses of water through surface diversions or subsurface disturbances. Mining near the surface of artesian aquifers, for example, may produce pressure blowouts or heaving through rupture of the overlying aquiclude. Also either during or after mining, the potential exists for continuous long term losses of artesian pressure by leakage between aquifers or by surface or near surface flows. Information concerning location of aquifers, quantity, quality and pressure in accordance with secs. 211.10(c)(6xiii and 7iii); 211.11, and 211.21(a) will assist the Mining Supervisor in imposing specific conditions in approval of the mining plan and minimize adverse effects mentioned above.

In surface water systems the magnitude of effort required to protect the stream flow regime is dependent upon the climate, topography, soils and vegetation. The proposed regulations are structured to reduce the turbidity, toxic runoff and sediment contributions within a water course where mining has or is to occur. Turbidity affects aquatic biota by limiting solar penetration into the water. Sediments deposited on the streambed adversely affect the water quality by smothering benthic organisms and destroying

their life supporting substrata. Shoaling in stream channels can reduce the conveyance capacity of watercourses thereby resulting in flooding. Stream velocities can increase because of shoaling and may cause severe bank erosion. Finally, downstream reservoir siltation and subsequent loss of storage capacity can occur. Carefully designed water transport control systems and treatment are required by the proposed regulations to control sedimentation. Drainage diversion ditches can be dug above highwalls to prevent water movement down and the subsequent erosion of exposed slopes. Runoff collected above the highwall should be conveyed by these ditches to the nearest watercourse. All of the above provisions will incorporate sound engineering practices. Rapid revegetation of mined land, spoil banks, rail and haul road slopes and other disturbed areas will be designed to establish a self-regenerating vegetative cover. Erosion of exposed surfaces from storm runoff can be prevented by the use of mulches, riprap, chemical soil binders, or other stabilizing methods. Roads must be constructed so as not to seriously alter the flow of water in stream beds or drainage channels.

Resource conservation

An important consideration at every coal mine is the conservation of the coal resource. Certain coal mining techniques such as strip mining recover a large percentage of the available resource while other techniques such as auger mining and room-and-pillar underground mining recover substantially less than the total available resource. A balance must be maintained between optimum resource recovery and maintenance of environmental quality. The proposed regulations (sec. 211.30) require maximum practicable recovery of all coal resources and, where feasible, recovery of inplace coal left by underground mining within the lease area. The regulations also require the operator to provide information concerning other mineral resources when encountered in the proposed mining area, e.g., plans must include provisions for the protection of oil and gas wells as well as oil and gas underground resources (secs. 211.10(c)(6)(xiv) and 211.11). The cumulative beneficial impact of these provisions arises from less total land being disturbed per unit output of coal. Auger and highwall mining will be controlled under the proposed regulations to prevent waste of coal that may be recoverable by underground techniques. For multiple beds, entries must be increased in size and aligned vertically. Maps showing the location of these entryways are also required. All of these provisions are aimed at conserving the coal resource.

Land use

All phases of coal mining activity, whether by surface or underground methods, impact upon the land surface and existing land uses. Construction of roads, drill pads, surface structures, and transportation networks; and surface extraction processes, waste disposal and subsidence from underground extraction affect or may reduce existing or curtail future land uses. Postmining land use is strongly influenced by the design and effectiveness of the reclamation programs selected. These regulations require that existing and postmining land use must be given careful consideration during the planning stages for any coal mining operation.

Construction, maintenance, and abandonment of roads, powerlines, pipelines and similar alignments must be carried out in such a manner as to prevent or control erosion and siltation, pollution of air and water, and damage to fish and wildlife or their habitat, or to public or private property. The location grading and revegatation of waste dumps, the design and location, of sediment ponds and water control structures, and the degree of subsidence from underground mining have a strong influence on postmining land use. As with the other aspects of land use described above, the regulations provide sufficient flexibility to consider each mine on a case-by-case basis. In this manner, sequential land use can be planned and mining carried out to optimize the chances of successful sequential use. During the mining operation some disruptions in existing land use will occur, such as displacement

of wildlife and loss of forage or grain production. In the Eastern province where flat land is at a premium, it may be desirable to use head-of-valley fill or mountaintop methods to create flat land. In Alaska, where cropland is at a premium, it may be desirable, when conditions permit, to create cropland rather than return the land to its premining state, although harsh climatic conditions may restrict this alternative. Surface management agencies in cooperation with GS consider such alternatives and formulate requirements to be incorporated in leases, permits and licenses before they are issued by BLM. Regulations dealing with soil replacement, revegetation, drainage, and other related factors also provide sufficient flexibility to allow other equal or higher land uses to be created on the reclaimed mine lands without introducing unnecessary requirements on the operator that are not needed by subsequent uses. This is achieved by allowing land uses other than premining land use under controlled conditions as well as allowing variances from certain restrictive environmental provisions when documentation is provided showing that such measures would unnecessarily conflict with the planned subsequent use (secs. 211.40(a)(1 and 2) and 3041.2-2(f)(1 and 2)).

In the case of recreation, the impact of the proposed regulations may be experienced more profoundly over the long term rather than in the more immediate future. When the reclamation of surface mined lands is completed in accordance with the approved plan, the reclaimed land could become available for other productive

uses such as outdoor recreation. Where this becomes the desired land use, the ultimate impact would be the establishment of additional recreational facilities.

The new regulations provide for input from the public, secs. (211.5 and 3041.4), State and local planning agencies prior to leasing or mine plan approval. In this way recommendations from people affected by the project can be considered in the determination of the postmining land form and usage.

Socioeconomic

Preliminary plans for leasing, and exploration and mining plan requirements called for in the proposed regulations (secs. 211.10 and 3041.1-2) will require a greater amount of technical information to be included in applications and plans submitted for approval. Federal, State, and tribal agencies are in the process of obtaining resource, social and economic data and analyzing the potential impacts which might occur if coal development took place. These data are available to all mining operators to assist them in the preparation of mining and reclamation plans. Where such data are insufficient or outdated, there could be some delay in preparation of the plans while additional information is being collected. Both proposed regulations 43 CFR 3041 and 30 CFR 211 list the data requirements which must be included in the plans. Knowledge of the plan requirements provides the applicant with lead time to research available data or obtain needed data to minimize potential delays in the submission of their applications.

Meeting the requirements of the proposed operating and mining standards could create cost increases in obtaining the above information. Indirect cost increases may also be incurred as a result of delays and uncertainty in the development and production phases of mining. The exploration and mining plan requirements could create a higher demand for scarce engineering and scientific skills, thereby causing expansion and changes in the programs offered by schools of engineering, and in the physical and natural sciences departments

of universities. Implementation and enforcement of the proposed regulations will require expenditure of additional Federal funds to expand and up-grade existing field operations and to seek qualified enforcement personnel. State agencies' costs will also increase as a result of additional staff for monitoring compliance, and coordination activities necessary to assist in the implementation of the proposed regulations. Any additional cost of complying with the proposed regulations would be reflected in higher coal prices, thus impacting both commercial coal buyers as well as consumers.

Potential adverse socioeconomic impacts resulting from implementation of the proposed regulations could stem from the closing of marginal producers* who cannot afford exploration or mining plan development expenses and other compliance costs. Closing of these mines could have a serious effect on localities whose economic survival depends on such operations. Additional local institutions could also be adversely affected as those individuals would constitute a drain on services without contributing to community revenues for a period of time. In addition, certain service and support industries dependent on such mining operations could also be adversely affected.

The more intensive reclamation requirements called for in the proposed regulations should provide greater job opportunities.

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* Defined in this statement as an operator who is capable of supplying goods at a price which merely covers the cost of production.

In addition, the end product of successful reclamation should assist in the creation of a cleaner, healthier environment as well as increased economic benefits derived from increased productivity over that effected under the existing regulations.

Health and safety

Provisions pertaining to the health and safety of miners have been deleted from the revised regulations; standards for these are now covered by the Coal Mine Health and Safety Act of 1969 and the proposal would not directly impact such efforts. Where ongoing activities not in compliance with applicable constraints threaten to endanger public health and safety, either an authorized officer or a mining supervisor is empowered to direct the immediate cessation of such activities, followed by appropriate supplementary enforcement mechanisms.

The proposed regulations (sec. 211.40(a)(9)) preclude surface mining within 200 feet of active and abandoned underground mines and restrict the use of explosives (sec. 211.40(a)(10)) so as to prevent personal injury and property damage. In some cases, however, where it can be established by certified maps or inspection of underground mines that surface mining may be conducted without danger of interference with, or penetration of the underground mine, surface mining may be authorized in an approved plan to be conducted up to but not less than 25 feet of the underground mine.

Comments have been received (as reproduced at the end of this statement) which demonstrate the two opposing views on the above requirement. These are printed verbatim as follows:

1. Environmental Policy Center -

". . . the EIS is gravely irresponsible in failing to discuss honestly the hazards of allowing strip mining to come within 200 feet of active deep mines, as proposed in the regulations. The minimum distance of 500 feet established in H.R. 25 should be expanded to 1000 feet, and subsequent regulations by Interior should also expand this distance to 1000 feet as a minimum."

2. State of Alaska, Office of the Governor, Division of Policy Development and Planning -

"Why should there be a restriction against mining within 200 feet of an underground mine? In the case where the underground and surface mine both operate both operations might gain from joint action in the 200 foot strip and benefit total resource recovery. In the case of an abandoned underground mine there would be no compeling reason, (with underground conditions known and safe stripping operation designed) to leave a 200 foot strip of coal in the ground. The decision would be a matter of operating procedure and should be left to the operator."

Obviously the principal concern should be the prevention of personal injury. This concern is a mandatory consideration in the approval of any surface mining plan for an area where underground mining might be involved, and specific limitations and requirements will be made in mining plan approval conditions to insure the intended objective of safety.

Cultural Resources

Impacts on archeologic, historic and cultural resources will be minimized by requiring compliance with Section 106 of the Historic Preservation Act and Section 2(b) of E.O. 11593 before leases are issued or ground disturbing activities are permitted (sec.3041.1(d)). For sites discovered during excavation activities, some destruction will probably occur. However, the proposed regulations (secs. 211.4(d) and 3041.2-2(d)(2)) would require the operator to take action such as cessation of excavation and immediate notification to the mining supervisor so that an evaluation of the discovery can be made. This should prevent or at least minimize the destruction to these sites.

CHAPTER IV

MITIGATING MEASURES

Virtually all the changed provisions of the proposed regulations are designed to ameliorate many of the potentially adverse effects of coal mining on the environment as compared to past practices. Implementation of the proposed performance standards as described in Chapter I should provide immediate beneficial impacts.

Performance standards contained in secs. 3041.2-2 and 211.40 and the technical examination/environmental analyses (TEEA), sec. 3041.2, will assist in mitigation of impacts. These two sections of the proposed regulations take into consideration the need for the preservation, protection, and enhancement of resources determined to be of greater value than the coal resource proposed for extraction. Additional considerations include recreational, scenic, historic, and other ecological values; the control of erosion, flooding and pollution of water; special treatment of toxic materials; the prevention of air pollution; the reclamation by revegetation, replacement of soil, or by other means, of lands affected by the exploration or mining operations; the prevention of slides; the protection of fish and wildlife and their habitat; and the prevention of hazards to public health and safety.

A TEEA of an area is made with the recognition that actual potential mining sites and mining operations vary widely with respect to topography, climate, surrounding land uses, proximity to densely used areas, and other environmental influences, and that

mining and reclamation requirements should provide sufficient flexibility to permit adjustment to local conditions. Based upon the TEEA, the authorized officer in consultation with the Mining Supervisor and appropriate Federal and State natural resource management or services agencies formulates general requirements which the applicant must meet for the protection of nonmineral resources during exploration or mining operations and for the reclamation of lands or waters affected by exploration or mining operations. The TEEA reflects the current BLM multiple resource planning for the given area to be leased.

Special use restrictions or reclamation requirements normally vary according to site conditions and resources present. Stipulations more stringent than the proposed performance standards can be written specifically for each area and appended to leases. These stipulations may be made even more site-specific on individual mining plans. The stipulations vary according to such local considerations as degree of slope, stability of spoil materials, soil conditions, hydrologic conditions, toxicity of materials, adjacent land use, wildlife habitat, etc. Moreover, after issuance of a lease, permit, or license, the Mining Supervisor, in consultation with the authorized officers of the surface management agencies, can establish additional and more stringent requirements to meet changed or previously unforeseen conditions and incorporate these requirements in mining plans. In addition, sec. 211.1(b) provides that mining plans are approved only where reclamation of affected lands to the standards set forth therein is attainable and assured.

Under the terms of sec. 3041.2-1 any lands included in a mining application where reclamation is not attainable or assured, or which support key wildlife or fisheries habitat, or contain significant scenic, geologic or historic features will be excluded from surface disturbance and protected, preserved or enhanced by the stipulations included in the lease, permit or license. The selection of such lands will be determined by the authorized officer of the BLM based on recommendations of the Mining Supervisor and other appropriate Federal agencies and consultation with applicants, State and applicable local agencies, organizations and industry. Provisions for the local residents to express their concerns and recommendations for consideration are provided for through the public hearing procedures in the new regulations (secs. 211.5 and 3041.4). By elimination of the most environmentally fragile tracts and those with greater multiple-use values than the coal resources within the lease area, adverse impacts are mitigated.

There are many aspects of the regulations that should more fully assure the reestablishment of land stability and usability after mining, such as the requirements for backfilling, compacting, grading, shaping and the reestablishment of vegetative cover (3041.2-2 and 211.40). These proposed regulations will provide flexibility by allowing for modifications in the mining and reclamation processes where newer techniques, methods or other factors are found that will accelerate or enhance the accomplishment of the reclamation objectives.

The new regulations include a statement of policy that non-Federal surface requirements be consistent with the requirements on Federal surface. The same considerations will apply. If the standards cannot be assured on non-Federal surface, the authorized officer is authorized to deny leases, permits, and licenses to mine under such surface ownership. On-site application of more stringent environmental protection practices will increase technical capabilities in the future and help mitigate the cumulative adverse impact. Monitoring of air, water, wildlife, soils, vegetation and similar programs before, during, and after mining should increase our understanding of the complex interactions between mining and the reclamation of the environment for application in the future. Continued improvement in mining and exploration practices under these regulations will lead to increased application of mitigating practices in the following areas: plant species for reclamation of arid, semi-arid, and tundra regions; soil reconstruction and utilization; subsidence prevention and control; effects of mining on water recharge and discharge areas; acid-drainage prevention and treatment; spoils stabilization; water infiltration rates; wildlife and fisheries habitat maintenance or enhancement; and environmental protection techniques for new and experimental mining methods.

State reclamation laws or regulations may be made applicable as Federal law to Federal coal operations by determination of the Secretary of the Interior (secs. 3041.8 and 211.74).

With respect to Indian-owned coal, State laws will not be adopted as Federal law without the consent of the tribes involved. State laws are generally written with concern for problems peculiar to to the State; thus, incorporation of State regulations into Federal leases could make individual lease requirements more site specific and more responsive to local concerns.

The Secretary of the Interior may also enter into agreements to provide for joint Federal-State programs with respect to surface coal mining and reclamation on Federal- but not Indian-owned coal. These agreements shall have as their principal purpose the avoiding of duality of administration and enforcement.

CHAPTER V

PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Although the proposed changes in the regulations are designed to mitigate, if not eliminate, many of the avoidable adverse effects of mining of Federal and Indian coal, the issuance and enforcement of the proposed regulations described in this statement will produce some unavoidable adverse impacts.

Delay in tract selection or approval of leases, permits and licenses under the more stringent regulations cannot be avoided. Time consumed in pre-lease planning, preparation of technical examination/environmental analysis, environmental statements, exploration plans and operation plans may cause unavoidable delays in coal production which may cause a temporary delay in meeting national coal needs. Lengthy delays could result in the shutdown of some coal producers. It is also anticipated that some mining operations could be shut down due to their inability to comply with the proposed regulations. This would create hardship and a degree of adversity to some individuals, mining firms and local communities. Those individuals who become unemployed would suffer a loss of income in spite of the compensation benefits to which they would be entitled. Some workers may find it difficult to obtain employment.

Some smaller communities wholly dependent on mining could find their ability to provide public services reduced. To the extent that some services would not be expanded or would simply be reduced, the local populace would suffer. In addition, the cost of public services could rise for the community members who remain.

It is reasonable to assume that the additional cost of complying with the regulations would either be passed on to the consumers in the form of higher prices or absorbed by the producers, lowering their profit margins.

Much of the Federal or Indian coal subject to these regulations is low in sulfur content. To the extent that implementation of the proposed regulations would delay or prevent the mining of such coal, the national supply of low-sulfur coal may be reduced, and compliance with the Clean Air Act and related emission standards may become more difficult for sources dependent upon such coal.

Assuming continuation of the present coal production trend over the next decade to meet expanded domestic energy requirements, the cumulative acreage likely to be disturbed by mining on Federal and Indian acreage through 1985 is estimated to be about 50,000 acres. For the most part, the action and impacts will focus in 14 Western States, 12 of which presently contain Federal or Indian coal leases. Ultimately all lands mined under these proposed regulations will be rehabilitated.

There will be an unquantifiable loss of wildlife habitat during the period of mining and subsequent revegetation. This will result in local, temporary losses in carrying capacity. Some individuals will be destroyed in the earthmoving processes.

There could be some disturbance of stream beds, siltation from erosion of disturbed lands, and modification of local water levels even under the most stringent application of these regulations. This would affect the aquatic habitat and fisheries resource. Most of these impacts would be temporary and local, but in some unforeseen situations the habitat and fisheries loss might be permanent. Topography and drainage patterns on all disturbed acreages will be affected to some degree. On some sites in Wyoming, Montana, and Colorado mining of thick coal beds with thin overburden may result in basins.

Where unusual physical conditions exist at the site, such as steeply dipping coal beds or multiple seam mining, and such conditions make backfilling impracticable as a result of the volume of material excavated or the duration of the operation, the end results will be most noticeable.

It has been predicted that soils and vegetation will be disturbed on 50,000 acres by 1985. Regardless of the care and competence employed, it can be expected that some delays will occur in achieving planned reclamation results on some lands because of unforeseen difficulties. At any one time there will be a substantial acreage in varying stages of disturbance or reclamation, and the

time period for restoring the land to productivity will normally be several years. There will be temporary, local air pollution by dust particles from earth-disturbing operations in the time areas.

There will be in most mined areas a lowering of the local water table. The cone of depression may extend several miles from the mine site and adversely affect wells and springs. This is expected to be temporary in most cases.

The hydrologic regime may be significantly disrupted in some cases permanently affecting to some degree local water supplies. In some instances, there may be local contamination of fresh water aquifers by saline ground water. The potential exists for continuous long-term loss of artesian pressure. Because of teh required premine studies and application of these regulations, these impacts are expected to be rare.

There will be local, temporary reduction in water quality from siltation, erosion and contamination by mine runoff. During the mining operation and subsequent reclamation the lands will not be available for other uses. This will be a temporary impact. Subsequent to mining there will be some shifts in land use as a result of postmine plans. The extent and character of these land-use changes in the area of the mining operations as a result of improved access and added population. These will, to some degree, be permanent. The significance of the land-use changes, and degree

of adverseness, will depend in large part on particular resources or uses affected. Cultural resources which are discovered in the course of the mining operations may be damaged or possibly destroyed.

CHAPTER VI

THE RELATIONSHIP BETWEEN LOCAL SHORT TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG TERM PRODUCTIVITY

The proposed regulations would permit mining under more stringent environmental protection criteria than have generally been required in the past. For short term mining uses it can be expected that there would be an appreciable reduction of deleterious offsite environmental effects such as acid mine drainage, slides, and siltation of streams and lakes. In States where there have been less stringent or inadequate regulatory programs, there could be an immediate decline in short-term mine productivity as mine operators would have to revise existing mining plans and obtain necessary equipment to comply with more stringent requirements. Some mines operating on marginal profits could be forced to close down under the new requirements.

The proposed regulations should have a beneficial effect on long-term land uses and productivity in general. Regrading and revegetation requirements of the proposed regulations would speed the recovery of the land for other uses, as well as minimize the possibilities for chronic long-term erosion, siltation, and acid drainage. Previously, these effects have often caused problems for mining regions many years after the cessation of active operations. Under the new regulations, therefore, it can be expected that in most cases the long-term usefulness and productivity of most mined lands would be fully restored within a relatively short time after mining

(two to five years, perhaps). The lands will be used for coal mining rather than the present land use for the short-term period of extraction and reclamation. Because of the mining activity, there are expected to be some long-term shifts in land usage even after reclamation.

CHAPTER VII

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Administrative and enforcement expenses and manpower requirements of surface management agencies, the Geological Survey, other Federal and State agencies may be increased as a result of these regulations to meet the commitments of assisting in the review of lease applications, preparation of TEEA's, mining and reclamation plans and site inspections. Given the nature of public demand for tighter mining regulations, this commitment is considered permanent.

For the mining industry, the proposed operating and reclamation standards will require a commitment of additional employees to nonproduction activities. This commitment would include the increased manpower put into preliminary mining studies and administration. It has been estimated that for mine operators these commitments would cost from $1.5 to $3 million for the first two years that the regulations were in effect.

A major commitment of resources would also occur in expenditures for fuel, and materials necessary and additional equipment to accomplish reclamation. For example, a mining operator wishing to expand the size of his operation may have to purchase or lease additional regrading equipment necessary for reclamation that would have to be performed as contemporaneously as practicable with expanding coal extraction operations. To the

extent that heavy earth-moving equipment is generally in short supply (with waiting periods of up to two years for some heavy equipment orders), the equipment used to meet the proposed performance standards would be unavailable for other purposes such as highway construction and building activity. It is estimated that incremental reclamation costs for operations on Federal and Indian lands during 1977 would be about $9 million.

As the proposed regulations are intended to preserve or restore the land for useful purposes, it is not anticipated that the change in regulations would result in any additional irreversible land use changes except in those areas where it was determined that reclamation could provide a postmining land use that was an improvement over what existed prior to mines.

Any impact upon cultural resources is considered an irreversible and irretrievable commitment of resources, since cultural resources are finite and nonrenewable. Their loss due to any action, including salvage excavation, results in a reduction of such resources remaining for future examination and is an irretrievable loss of potential scientific and historic information.

CHAPTER VIII

ALTERNATIVES TO THE PROPOSED ACTION

The major alternatives to the proposed rulemaking which were considered by the Department as a result of its own internal review or as a result of suggestions and comments received during the public comment periods are presented in this chapter. Analysis of the suggestions and changes for individual provisions of the proposed regulations are presented in Appendix 3.

The major alternatives considered included:

1. Take no action, but continue existing practices under existing regulations.
2. Transfer some or all of the Federal responsibility involved to the States.
3. Limit the scope or applicability of the proposed regulations.
4. Publish regulations with less stringent specific provisions.
5. Publish regulations with more stringent specific provisions.
6. Restrict or prevent further development of Federal coal resources.
7. Federal legislation.

Alternative #1 - Take No Action

Under this alternative the leasing and development of Federal and Indian coal resources would continue under existing regulations and directives. The reclamation laws and regulations of the appropriate State would continue to be allowed to apply to operations involving Federal coal, and lease terms to that effect would be enforced.

The reclamation standards under which Federal coal is developed vary widely from area to area. Existing Federal regulations are outdated, and contain few specific standards for environmental protection and surface reclamation. As a result, the setting and enforcement of requirements regarding specific mining operations have been largely determined on an ad hoc basis, and are reflected in the terms and conditions of leases and in the day-to-day decisions of the authorized officers and Mining Supervisors involved. Although State reclamation requirements have become progressively more stringent in recent years, they continue to vary widely from State to State. The overall result has been a wide variation in the degree of environmental protection and surface reclamation required, with only limited guidelines on which industry could plan future development of Federal and Indian coal.

Impacts of Federal coal mining under this alternative would continue to be similar in character to those experienced now, but could become somewhat less intense in the future since increased public awareness and more stringent State regulations will result in more stringent State reclamation standards than those reflected in Table III-3. Even the progressively more stringent State requirements, however, will not achieve the minimum performance reclamation standards for all operations involving Federal coal that would be required by these regulations.

Adoption of this alternative would represent a lost opportunity to clarify the uncertainties as to Federal standards that now exist, which could accelerate current trends away from Federal coal development towards private lands.

Even though some degree of reclamation will be required on all disturbed lands, soil erosion, pollution and loss of ground water, degradation of air quality, loss of vegetation and wildlife habitat, and disruption of agricultural operations could be expected to occur at significantly greater levels.

Alternative #2 - Transfer to the States by rulemaking more, or less, responsibility for surface mining involving Federal coal.

A number of suggestions have been advanced which would result in the transfer to the States of more or less responsibility for regulating surface mining involving Federal coal than has been provided in the proposed regulations. Generally, this alternative would not affect Indian lands unless the tribe(s) and the State(s) involved so agreed.

Comments were received suggesting that (a) State law apply automatically in all cases; (b) Federal law automatically prevail in all cases; and (c) a mechanism similar to that provided in the proposed regulations published in September, but creating a presumption in favor of the application of State law, be implemented. In addition, variations in the proposed mechanism for joint Federal/State management of surface mining were proposed.

Automatic application of State law. All States in which Federal coal is likely to be mined currently have surface mining legislation and/or regulations. The degree of stringency of such State laws, however, varies widely.

Federal coal is primarily located in the West. The Western States, unlike most Central and Eastern coal-producing States, have not experienced major surface coal mining activity in the past. This situation began to change radically in the 1960's, when demand for energy supplies, especially low-sulphur coal, brought a sharp increase in surface mining of the vast coal deposits of the Rocky Mountain and the Northern Great Plains Provinces. Most of the coal-producing States of these Provinces have responded to this problem in recent years by enacting legislation aimed at regulating surface mining. However, stringency of enforcement varies from State to State.

Automatic application of the provisions of State law to the mining of Federal coal would result in impacts similar to those discussed under the preceding alternative (#1). The character and severity of these impacts would vary from State to State, depending on the stringency of the State laws and the degree of enforcement.

Exclusive Federal Regulation. Operations involving Federal and/or Indian coal could be made subject exclusively to the proposed Federal regulation. This would be designed to preempt State authority in this area, and would alleviate any uncertainty as to the effects on Federal coal operations of future State legislation or regulations, and would provide uniform requirements for all Federal and Indian operations. However, State laws are expected to reflect more specifically local environmental problems and concerns. Impacts would for the most part be similar in character and intensity to those of the proposal. In

a few situations, however, more severe impacts could result due to lack of attention to local environmental situations.

Joint Federal/State Administration. The proposed regulations would have the Secretary direct Departmental representatives to confer with appropriate State representatives for the purpose of formulating and entering into agreements to provide for a joint Federal/State program with respect to surface coal mine reclamation operations, for administrative and enforcement purposes.

It has been suggested that some qualifications be expressed upon the nature of such agreements, to clarify Federal intentions and responsibilities in this area. The provisions of both the legislation enacted by the Congress and that proposed by the Administration, for instance, authorized such agreements with respect to operations on land areas containing interspersed or checkerboarded Federal and non-Federal lands, which should for conservation and administrative purposes be regulated as a single management unit. Such agreements might thus be limited to cases where the surface ownership is mixed and substantially or entirely non-Federal.

Adoption of such qualifying language would clarify the importance of the Federal interests involved, and result in fewer possible conflicts with Federal land management responsibilities unrelated to mining. It could increase the efficiency and scope of inspection and enforcement in those areas where duplicative efforts are most likely to occur.

The impacts of this alternative would vary widely depending upon the version of the alternative which might be adopted. At one extreme, the impacts would be similar to those involved in the automatic application of Federal law. At the other extreme, the impacts would be similar to those involved in creating a presumption in favor of the application of State law.

Alternative #3 - Limit the applicability of the proposed regulations

This section discusses a variety of ways in which the Department could limit the degree to which these regulations apply to various types of mining operations.

Small operators. The regulations could be revised to reduce the operational or administrative burden on small operators (for example, those that produce 100,000 tons per year or less). The argument has been made that the costs of preparing an acceptable mining plan and of complying with all applicable reclamation standards could make uneconomical some small-scale operations supplying coal to limited (usually local) markets. If so, this would reduce the number of suppliers of coal in a region, thus limiting competition, or would cause such operations to be moved to lands where possibly less stringent requirements obtain.

Exclusion of this class of operator from any or all of the requirements in these regulations would tend to increase the potential for environmental damage, based upon the fact that small-scale operators may cause disproportionately severe environmental damage because they lack adequate financial resources to accomplish adequate planning or proper reclamation.

As there are currently only 10 to 15 such operations involving Federal or Indian coal, such an exemption may not, in fact, have large adverse environmental impacts; however, the number of such operators may

increase as the market for Western coal expands. Impacts from these exempted operations would be local but could be of significantly greater intensity than under the proposal.

Indian coal. The proposed regulations apply the provisions of 30 CFR 211.40 to operations involving Indian owned coal. Alternatives to the proposal include the following: Exempting Indian owned coal altogether from the purview of these regulations; and exempting or limiting the applicability of the public participation provisions of the proposed regulations. The rationale for this is the fact that the resources owned by Indians and, in most instances, the lands overlying them, while subject to a Federal trust, are private and not public property.

The Indian tribes, or the BIA, could implement separate regulations of greater or lesser stringency. Until this was done, however, the impacts from coal operations on Indian lands would continue at present levels, which permit significantly greater adverse environmental impacts than would be allowed under the proposal. Some lands would not be successfully reclaimed and post mining productivity would be lessened. This could result in continued off-site impacts from soil erosion, as well as water and air pollution.

Non-Federal Surface. It has been proposed that these regulations not apply to the non-Federal surface overlying Federal coal deposits, leaving the operator to comply only with State law.

Approximately one-half of the surface overlying Federal coal is non-Federally owned. The environmental impact of this option is equivalent to adopting Alternative #1 for one-half of the land covered by Federal leases. The proposed regulations create a mechanism which would allow the imposition of State law and regulations, where the environmental protection afforded is at least as stringent as that provided under these regulations, and to the extent that consideration of overriding national interest do not require otherwise.

Existing leases. Under one variation of this option, existing leases and some or all of the existing operations, would not be subject to the requirements of these regulations. The environmental impact of adopting this option is equivalent to adopting Alternative #1 for all or a portion of the 784,200 acres now under Federal or Indian leases. The exemption could be limited to those leases with existing operations or approved plans; this would apply to considerably less acreage.

A variation on this option would be to make these regulations applicable to existing operations immediately, or within an otherwise shorter or longer period than that allowed in the proposed regulations. As proposed, the performance standards contained in the regulations would apply within six months of the effective date with respect to lands from which the overburden has not been removed. During the interim six-month period, existing operations will be allowed to continue, possibly causing environmental damage in excess of that which would occur if the regulations were to become effective

immediately. A longer interim period would increase proportionately the amount of such damage. However, if there were no such interim period, some existing operations might have to close down while on-going activities are upgraded to conform to the new performance standards.

Alternative #4 - Less Stringent Regulations

These regulations could be made less stringent by deleting, making less specific, or making subject to greater administrative discretion any one or combination of the following types of requirements:

1. General obligations, bonding provisions, and performance standards and variances therefrom.
2. Information required to be submitted in operating plans or reports.
3. Provisions for public participation and notification.
4. Provisions for administrative review and decision-making.

There are a virtually infinite number of combinations of such revisions that could be made. Some of the major recommendations that have been made by reviewers are discussed below in order to give examples of the types of environmental impacts that might occur. In addition, Appendix 3 discusses in detail the major specific provisions of the regulations and the alternatives thereto which were considered, and outlines the environmental advantages and disadvantages of each.

These regulations could also be made less stringent by adding additional circumstances under which more stringent State laws would

not be imposed on Federal leases, or by deleting the provision that requires State laws to be at least as stringent as these regulations in order to be made applicable; those options are discussed under Alternative #2.

Variance mechanism. An option under this alternative would be to create a mechanism to grant variances from some or all of the performance standards otherwise applicable. The suggestion has also been made that such a variance mechanism could be limited to certain of the performance standards as set forth in the proposed rulemaking, or to more stringent, less flexible versions thereof.

By introducing the possibility of another administrative procedure, this option would further delay Federal decision-making and encourage producers to develop non-Federal coal resources with respect to which the levels of environmental protection may be less stringent. To the extent that any such variance could be granted during an operation, or more than once, adoption of this option would reduce the certainty associated with the initial approval of a mine plan, and could result in incremental changes with significant overall adverse environmental impacts.

Changes in plans. Regulations could be revised to provide that, once a proposed plan has been approved, no changes could be made by the Mining Supervisor to correct oversights or reflect new information.

While this would be consistent with the provisions of some State laws, and would afford more assurance to an operator as to the conditions under which he might mine, it would amount to creation of a broad de facto relaxation of performance requirements and would fail to provide for changed circumstances. This could result in some measure of increased adverse impacts in specific situations where unforeseen difficulties occur in the mining or reclamation.

Public notice and participation. Alternatives to the proposed action include: no provisions for public hearings; provisions for less formal means of public participation, on a mandatory or discretionary basis; and reduced or omitted provisions for notification to the public of pending actions or available documents.

An important aspect of the proposed provisions for public notice and participation is to allow all concerned public interest groups to decide in an informed manner whether or not to participate in a pending proceeding. On the other hand, a large number of public hearings and available documents may actually diminish effective public participation through dilution of available resources.

Making the public aware of available documents and pending Federal decision-making tends both to ensure that environmental considerations which are relevant to public policy decisions are adequately considered and not overlooked, and to minimize the possibility of abuse of the

administrativ discretion contained in the proposed regulations. To the extent that actual public awareness is reduced or restricted, additional adverse environmental impacts could result although the types and severity of such impacts are impossible to predict.

Alternative #5 - More Stringent Regulations

These regulations could be made more stringent by adding to, making more specific, or making subject to less administrative discretion any one, or any combination, of the following types of requirements:

1. General obligations, bonding provisions, and performance standards;
2. information required to be submitted in operating plans or reports;
3. provisions for public participation and notification; and
4. provisions for administrative review and decision-making.

There is again a virtually infinite number of such revisions or combinations thereof that could be made. Some specific, major recommendations that have been made by reviewers are discussed below. Additional discussion of specific suggested alternatives is found in Appendix 3.

In addition, these regulations could be made more stringent by reducing the discretion of the Secretary to refuse to impose more stringent State laws on Federal leases; this is discussed under Alternative #2.

Absolute control requirements. An option under this alternative would

be to delete the use of the term "to the maximum extent practicable", so that the standards now so modified would become absolute requirements. For example, operators could be required, in returning lands to their approximate original contour, to eliminate all spoil piles and high-walls, under all circumstances.

Such a change would increase the assurance that the standards so prescribed would be met in all cases. However, such absolute controls might operate as de facto prohibitions against mining, even in cases where such a prohibition would not be objectively justified by the environmental benefits achieved. It could, moreover, preclude specific reclamation measures that might be environmentally superior, e.g. creation of rugged terrain for wildlife habitat.

This might have the effect of encouraging development of coal not subject to the proposed regulations, as to which less stringent standards might be applicable.

In general, more stringent regulations could lead to a decrease in both new production as Federal Surface Management Agencies would be required to withhold issuance of leases or approval of mining plans based upon the absence of an adequate basis upon which to determine that proposed reclamation is both attainable and assured, and in production from existing leases as operations become subject to the regulations involved.

Alternative #6 - Further restrict development of Federal coal resources. Since 1971 there has been an effective moratorium on Federal coal leasing, and since 1973 new leases have been issued only if they met certain very restrictive criteria. An alternative available to the Department to reduce the adverse environmental impacts of surface coal mining on Federal lands would be to further restrict the development of Federal coal resources. Several variations of this alternative have been suggested, including allowing mining to occur only where the surface is Federally owned, or not approving any additional mining plans or modifications.

The environmental impacts of a wide range of options under this alternative are comprehensively discussed in the Final Environmental Impact Statement on the Federal Coal Leasing Program. In summary, given the anticipated demand for coal over the foreseeable future, there are no clear environmental advantages to this alternative, and any such advantages as might accrue might well be offset by the adverse environmental impacts of increased coal mining on non-Federal land where controls are less stringent than those being proposed.

Alternative #7 - Federal legislation. Federal legislation could be enacted into law which would control leasing and operations on Federal and/or non-Federal coal resources. The requirements imposed by such legislation could be similar to, more stringent than, or less stringent than those imposed by the proposed regulations. Recent legislative

efforts have included elements not contained in the proposed regulations, such as statutory authority for citizen suits; and provisions for fees and the creation of an abandoned land reclamation fund; provisions which are addressed in different form in the proposed regulations, such as partial or complete prohibition of mining on steep-slope terrain or in areas where natural precipitation is below a minimal amount; and more detailed specific requirements than some which are contained in the proposed regulations, such as those relating to the handling of overburden and construction of certain facilities. This alternative remains possible even if the proposed regulations are implemented.

Impacts of this alternative would depend on the performance standards established by or under any legislation enacted, in comparison with the provisions of the proposed regulations, and General Mining Orders, and the terms and conditions of leases and mine plans issued and approved thereunder. The impacts could be of greater or lesser intensity than those of the proposed regulations.

CHAPTER IX

ANALYSIS OF PUBLIC COMMENT

Consultation and coordination in the development of the environmental statement

The environmental statement was prepared jointly by the U. S. Geological Survey and the Bureau of Land Management, U. S. Department of the Interior, with assistance from intra-Departmental staff consisting of representatives from the offices of various Assistant Secretaries and the Solicitor. The task force was comprised of an interdisciplinary team having expertise in geology, hydrology, mining engineering, range management, wildlife biology, recreation, archaeology, history, landscape architecture, forestry and law. Other agencies and individuals were consulted as appropriate for specific areas for which they have special expertise.

The draft environmental impact statement, DES 75-53, was filed with the Council on Environmental Quality on October 1, 1975. Three thousand and three hundred copies of the draft statement were distributed to Federal and State agencies, U.S. Senators and Representatives, industry organizations, conservation and environmental groups, libraries and others. Comments were requested by November 21, 1975.

At the direction of the Secretary of Interior, public meetings were held on the proposed regulations in Cheyenne,

Wyoming; Denver, Colorado; and Billings, Montana; on December 18, 19, and 20, 1975. The transcript of such meetings and the written comments submitted in connection therewith have been reviewed and considered in preparation of this final EIS.

Public response

The Department has received written comments from more than 100 individuals and organizations, 52 of which specifically commented on the draft environmental impact statement. In addition, 35 persons presented oral statements at the aforementioned public meetings which included several comments on the draft environmental statement. The comments were received from a diverse group of individuals, organizations and Federal, State, and local agencies, and range from support of the statement to a request for a complete rewrite as well as withdrawl of the proposed regulations. Comments on the draft environmental impact statement were received from the following reviewers:

Federal

1. Environmental Protection Agency
2. United States Department of the Interior
   - Fish and Wildlife Service
   - National Park Service
   - Bureau of Outdoor Recreation
   - Bureau of Mines
3. Federal Power Commission
4. Department of Commerce

5. Department of Agriculture

   Soil Conservation Service

6. Department of Transportation

7. Department of the Treasury

State

1. State of Alaska
2. State of Arkansas
3. State of California
4. State of Florida
5. State of Hawaii
6. State of Idaho
7. State of Iowa
8. State of Kansas
9. Commonwealth of Kentucky
10. State of Louisiana
11. State of Maryland
12. State of Michigan
13. State of Missouri
14. State of Nebraska
15. State of Nevada
16. State of North Dakota
17. State of Oregon
18. State of Tennessee
19. State of Texas
20. Commonwealth of Virginia

21. State of Vermont

22. State of West Virginia

23. State of Wyoming

Other organizations and individuals:

1. Rocky Mountain Energy
2. Carter Oil Company
3. Environmental Defense Fund
4. National Resources Defense Council and Sierra Club
5. Common Cause
6. Environmental Policy Center
7. Dr. Jon Ghiselin
8. Mr. John Swanson
9. Congressman John Melcher
10. Northern Plains Resource Council

Response and Disposition of Comments

All comments were carefully reviewed and evaluated by the Department of the Interior and changes were incorporated into the regulations or the final EIS as appropriate. Major issues raised by reviewers are discussed in this Chapter, while more detailed comments or revisions and the specific provisions of the regulations are discussed as alternatives to the proposed action in Chapter VIII or summarized in Appendix 3. Other comments dealing with minor changes to the text of the regulations or EIS have been incorporated as appropriate. Letters containing comments pertaining directly to the EIS are reproduced in Appendix 2.

Many comments disclosed a failure to appreciate the integrated nature of the proposed regulations, and the degree to which redundancies and inappropriate duplication between the BLM and USGS regulations had been eliminated or reduced without substantive changes in Departmental policy from earlier proposed regulations.

Some comments received amounted to more general opinions of the author or originating organization, and these will be available to the Secretary to assist in the decision-making in these instances. Examples of this type of comment are summarized as follows:

1. The Department and the Administration are not concerned with imposing sound controls over coal mining on Federal lands.
2. EPA would be a more appropriate agency to administer surface mine controls over Federal coal than is the Department of of the Interior.
3. The regulations are premature, and the timing of promulgation indicates an intent to undermine efforts in Congress to enact both Federal surface mining legislature and the Coal Leasing Amendments Act of 1975.

Several comments which were repeatedly raised are of particular significance due to their relative importance to the Department's overall program, or the depth of concern expressed by the reviewers. These issues warrant special attention in this section.

Issue # 1: Degree of public participation: Many Federal and State agencies, private organizations, and individuals expressed concern that they have an opportunity for meaningful input into each step of the coal leasing, mining and reclamation program.

Raised by: State of Alaska
State of Michigan
State of Oregon
State of Wyoming
State of California
Fish and Wildlife Service
Environmental Defense Fund
Common Cause
Environmental Protection Agency
Environmental Policy Center
Congressman John Melcher

Response: The proposed regulations significantly expand provisions for public notice of pending actions and opportunities for public comment. Private organizations and individuals may request that they be informed of major elements in this program. Sections 3041.06(x) and 211.2(z), Definition of Notice of Availability, and 3041.4 and 211.5, Procedures and Public Participation, describe how interested groups and individuals may become involved in the proposed coal leasing and operating activity of the Department.

Issue # 2: Public hearings or meetings: The concern was expressed that BLM and GS should hold public hearings on specific actions in the Department's overall coal program.

Raised by: State of Alaska

Environmental Defense Fund

Natural Resources Defense Council & Sierra Club

Environmental Policy Center

Congressman John Melcher

Response: As proposed, the regulations were silent upon the question of whether and under what circumstances a public hearing might be held or required. It was intended that the requirements of the National Environmental Policy Act of 1969 (NEPA) and the Departmental policies with respect thereto would result in conduct of public hearings or public meetings where major administrative actions are involved. The regulations (secs. 3041.4 and 211.5) now expressly provide for such public participation in specified circumstances, and expand requirements to give notice of pending administrative action to other Federal and State authorities, surface owners, and the public in general.

Issue # 3: Degree of administrative flexibility: Many comments expressed concern over the definition and meaning of the phrase "maximum extent practicable", as used to modify certain performance standards.

Raised by: State of Alaska

State of Texas

Fish and Wildlife Service

Natural Resources Defense Council & Sierra Club

Environmental Protection Agency

Environmental Policy Center

Environmental Defense Fund

Common Cause

Congressman John Melcher

Northern Plains Resource Council

Response: The proposed definition of maximum extent practicable has been substantially revised to clarify that the highest level of practicable control must be applied, and that the financial condition of the operator is not relevant to this determination. "Maximum extent practicable," as used in these regulations, is that degree of compliance with a stated absolute control or reclamation objective which provides the highest level of protection of environmental quality and social well-being that is reasonably commensurate with the cost of achieving such protection, without regard to the economic circumstances of the operator involved.

In addition, procedural safeguards against abuse of administrative discretion in the application of this term have been set forth. Where a proposed plan sets forth a level of control or reclamation which is alleged to meet the standard of "maximum extent practicable", such level of control or reclamation shall be specifically identified in the proposed plan, and the plan must set forth the factual basis upon which the operator has made such determination. Any level of control or reclamation so identified shall be specifically referenced in any notice of pending decision.

In determining whether to approve any such proposed level of control or reclamation as being "the maximum extent practicable" the Mining Supervisor must take into account all commerically available technology, and must assess the nature and extent of both tangible and intangible environmental values which would be protected by the application of such technology.

As so defined, and under such implementation procedures, the objectivity and consistency of application of this term have been substantially improved.

It is particularly noted that the concept of cost-benefit analysis of proposed environmental controls has been applied by the courts in construing the National Environmental Policy Act of 1969 and agency actions subject thereto, and that the concepts and language involved in the use of this term have been adopted in such Federal legislature as the Federal Water Pollution Control Act Amendments of 1972 and most recently, throughout the Energy Policy and Conservation Act signed by the President on December 22, 1975.

Issue # 4: Applicability of State laws: Questions were raised concerning the degree to which State laws might apply to operations subject to the proposed regulations, and whether State personnel might be allowed to administer and enforce surface mining and reclamation standards with respect to Federal coal.

Raised by: State of Arkansas
State of North Dakota
State of Wyoming
Natural Resources Defense Council & Sierra Club

Environmental Protection Agency

Environmental Policy Center

Congressman John Melcher

Northern Plains Resource Council

Response: Sections 3041.8 and 211.74 have expanded the proposed machinery for utilizing State laws or reclamation standards, and have set forth mechanisms for future agreements with States as to the administration and enforcement of reclamation standards by State personnel.

The mechanisms now proposed conform to the recommendations of many States, including those represented in the Western Governors Regional Energy Policy Office. They provide for a State-by-State review of the degree of general stringency represented by the laws and regulations of each State where Federal coal is or may be leased, permitted or licensed. The provisions of State law may be applied as conditions of approval of mining plans in those States the Secretary determines by rulemaking that the laws afford general protection of environmental values at least as stringent as would occur under the proposed regulations. Exceptions to such application would thereafter be made on a plan-by-plan basis, based upon findings of overriding material interest. Agreements with individual States relating to adminstration and enforcement mechanisms are provided for. In view of the importance of the interests involved, and the legal and constitutional questions raised, all identified alternatives to this aspect of the proposed action have been carefully

reviewed, and attention is particularly directed to the discussion thereof in Appendix 3.

Issue # 5: Applicability of other laws: Concerns were expressed whether existing laws and regulations, such as those relating to air and water quality, etc., would continue to be applicable to activities subject to the proposed regulations.

Raised by: State of California
State of Kentucky
State of Wyoming
Environmental Defense Fund
Natural Resources Defense Council & Sierra Club
Environmental Protection Agency
Environmental Policy Center
Common Cause
Congressman John Melcher

Response: Several comments indicated confusion as to whether the proposed regulations would provide exemptions from related Federal, State, or local laws and regulations, e.g., the requirements of the Federal Water Pollution Control Act Amendments of 1972 with respect to discharges into surface or ground water systems. The regulations state that, in addition to the requirements imposed therein, "continue to provide that all applicable laws and regulations must be complied with by a lessee or operator." No exemption from otherwise applicable laws is intended or would

be created by the regulations, but any more specific reference to other statutory authorities or enforcement mechanisms which may exist under Federal or State law was not deemed necessary or appropriate.

Issue # 6: Bonds and bonding procedures: Concern was expressed as to the adequacy of bonding requirements and procedures.

Raised by: State of Alaska
State of West Virginia
Environmental Defense Fund
Natural Resources Defense Council & Sierra Club
Rocky Mountain Energy Company
Environmental Protection Agency
Environmental Policy Center
Northern Plains Resource Council

Response: The regulations have been substantially revised. Generally, provisions for the setting, filing, enforcement, and release of bonds are contained in 43 CFR 3504. Sections 3041.3 and 211.41(d) now provide for establishment or release of bonds. The regulations now include more specific language concerning the size of bonds and the procedures to be followed with respect thereto. In addition, the Department has undertaken a review of 43 CFR 3504, and will propose revisions thereof to update and clarify its bonding procedures.

Issue # 7: Flexibility of regulations: Comments were made suggesting that the regulations need to be sufficiently flexible to allow for variations in local physical conditions and for other problems specific to an area or State.

Raised by: State of Texas

State of Alaska

Bureau of Mines

Response: The proposed regulatory mechanism contains several elements which are meant to provide this sort of administrative flexibility or discretion. The performance standards in sections 211.40 and 3041.2-2 of the proposed regulations themselves contain some elements of flexibility so that the Mining Supervisor, in approving a proposed plan or in issuing orders, can impose requirements called for by the particular circumstances in a specific operation or coal mining area. The provisions of sections 211.5 and 3041.4 are intended to help ensure that adequate attention is given to local conditions. Express provision is made for the issuance, by rulemaking, of general mining orders which would apply within particular geographical areas. It should be noted that care has been taken to include procedures in these regulations which are intended to ensure against abuse of the administrative discretion involved in implementing these elements of flexibility. Finally, to the degree that a State's reclamation laws and regulations provide for physical conditions or other problems specific to that State and provide more stringent protection of

environmental values than these regulations, the State's requirements may apply to operations involving Federal coal conducted within the State (secs. 3041.8 and 211.74). Some comments, particularly those of the Environmental Protection Agency, suggested alternatives mechanisms for achieving some of this desired flexibility. Such alternatives are discussed in detail in Chapter VIII and Appendix 3.

Issue # 8: Cost of reclamation: Numerous reviewers raised the question of the additional costs represented by the reclamation required under the proposed regulations, and the impact of such costs on the consumer.

Raised by: Soil Conservation Service
Rocky Mountain Energy Company
Bureau of Mines
Carter Oil Company
State of Alaska
State of Texas

Response: At the time of publication of the proposed regulations for public comment, a negative declaration of the need for an inflationary impact statement pursuant to Executive Order 11821 was prepared by the Department. The Northern Great Plains Resource Program Publication of April 1975 indicated that if reclamation costs were $1,800 per acre, this would result in an increase in the price of coal per ton by about 13 cents for a 10-foot seam, 4 cents for a 30-foot seam and less than 1 cent

for a 150-foot seam. Other estimates* have suggested that reclamation costs would range from about 13.1 cents for a 10-foot seam, 4.4 cents for a 30-foot seam, and less than 1 cent for a 150-foot seam for lands where reclamation costs of $2,000 per acre are incurred. For a lower value of $500 per acre, reclamation costs per-ton of coal would be approximately 3.3 cents, 1.1 cents, and 0.2 cents for a 10-foot, 30-foot, and 150-foot seam respectively. For reclamation costs ranging up to $5,000 per acre, the estimated costs for a 30-foot and 150-foot seam ranged from about 8.2 cents to 2.2 cents per ton of coal respectively. Delivery price of coal at the utilization centers ranges from $10.00 to $18.00 per ton. Using the lowest delivery price ($10.00) and a reclamation cost of 20 cents per ton, which is higher than the costs stated above, reclamation costs would add 2 percent or less to the delivered price of coal. Such costs are not deemed to be unreasonably high, to accomplish the objective of successful reclamation.

Issue # 9: Relationship to other Departmental programs: Questions have been raised concerning the coal leasing program final impact statement, and the need for other or additional environmental impact statements.

Raised by: State of Texas

Rocky Mountain Energy Company

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* Walsh, R.G., Great Plains Agricultural Council, Pub. No. 65, April 1974.

Response: Section 102(2)(c) of the National Environmental Policy Act of 1969 (Public Law 91-190) requires that an environmental impact statement be prepared with respect to any major Federal action which significantly affects the quality of the human environment. The Secretary of the Interior announced on January 26, 1976, that the Department will be preparing regional environmental impact statements, wherein groups of coal-related actions are proposed for a defined geographical area. It is recognized that the preparation of such regional impact statements would not relieve the Department of its responsibility to determine whether or not any subsequent specific action would be such as to require an additional, site-specific EIS under NEPA.

Issue # 10: Rights of private surface owners: Many comments addressed the rights of private surface owners in those cases where the Federal government might own the mineral (coal). Such comments raised the question of whether such a surface owner should be given the right to deny entry, or veto the mining of coal in such circumstances.

Raised by: Environmental Defense Fund
Environmental Protection Agency
Environmental Policy Center
Common Cause
Natural Resources Defense Council & Sierra Club
Congressman John Melcher
Northern Plains Resources Council

Response: The position of the administration of the Department is that the rights of surface owners should be determined under, and implemented by application of, the provisions of State common and statutory law. The proposed regulations expressly provide that they shall not be construed so as to alter any such rights. Where mining does occur, the policy of the Department is to protect the estate of surface owners under the proposed regulations to the same degree as would be required if the Federal government owned the surface estate. In addition, sections 3041.0-4(c) and 211.41(d)(3) provide for consultation with the surface owner with respect to requirements to be incorporated in leases, licenses and permits, while section 3041.04(d) provides for consultation with the surface owner on exploration or mining plans and abandonment. The proposed regulations then ensure that surface owners will have the opportunity for meaningful comment, that their views will be considered, and that, in any event, their lands will be reclaimed if mining is allowed.

Issue # 11: Indian lands: Several comments addressed the manner in which the proposed regulations would apply to coal leasing on Indian lands.

Raised by: Northern Plains Resource Council
Congressman John Melcher
Environmental Policy Center
Natural Resources Defense Council & Sierra Club
Robert Yellowtail, Sr.
Robert Yellowtail, Jr.

Response: The BLM regulations, 43 CFR 3041 apply only to Federal coal, and not to coal owned by Indians. Proposed 30 CFR 211.1(a) provides that the regulations shall apply to operations relating to coal in tribal and allotted Indian lands under leases issued pursuant to 25 CFR parts 171, 172 and 174, while section 211.1(c) provides that while the provisions of 25 CFR part 177 generally apply in the event of inconsistency, the performance standards of proposed 30 CFR 211.40 shall apply in any event. Thus, once the Tribal Council, with approval of the Secretary of Interior, approves a lease, the operating and reclamation standards of proposed 30 CFR 211 will be applicable to that lease. Proposed 30 CFR 211.74(c) now expressly conditions the authority of the Secretary to effect application of State laws to Federal coal where tribal rights are concerned.

Issue # 12: Hearings on the draft EIS: Two comments requested public hearings on the draft environmental impact statement prepared with respect to the proposed regulations.

Raised by: Environmental Defense Fund
Environmental Policy Center

Response: Criteria announced by the Council on Environmental Quality for agency determination of whether a public hearing would be appropriate upon an EIS include the magnitude of the proposed action, the degree of public interest as evidenced by requests, the complexity of the issues and the

likelihood that information of assistance to the agency in the decision making process would be elicited, and the extent of prior public involvement (40 CFR 1500, 38 Fed. Reg. 20550 et seg., August 1, 1973, as amended, 38 Fed. Reg. 21265, August 7, 1973). Few requests for public hearings on the EIS were received. There have been extensive public discussions and review of proposed regulations relating to Federal coal mining as well as extended debates and hearings by the Congress upon surface mine control legislation. In addition, several well publized meetings were held in regard to the proposed regulations themselves, at which many of the comments and discussions concerned the EIS.

There were also comments during these meetings expressing specific reluctance to participate in further public hearings. The public comment period upon the proposed regulations was extended twice, and the record of the public meetings was held open until January 2, 1976.

Under all of these circumstances, the Department has concluded that no further substantive purpose would be served by public hearings specifically addressing the environmental impact statement, and that the likelihood that further information elicited would be of minimal assistance to the Department.

Issue #13: Specific Evaluative Recommedations: A mine-by-mine reclamation report assessing the state-of-the-art of reclamation technology and land management practice was suggested for inclusion in the EIS.

Raised by: Environmental Protection Agency

Response: While we agree with EPA that this information would be desirable, it is not readily available for inclusion. Moreover, at this time it would appear that the information that could be obtained in such a review would be reflective only of the degree to which reclamation has been required and enforced, and has occurred under existing regulations and/or State laws. This would not necessarily reflect the state-of-the-art of reclamation, or what might be accomplished by implementation of the proposed regulations. The Department is currently continuing to evaluate the feasibility and utility of such a review in its ongoing implementation efforts.

Issue #14: Lands Unsuitable for Mining: Several commentators expressed concern that criteria were lacking in the regulations for designation of lands unsuitable for mining.

Raised by: Environmental Protection Agency
Environmental Defense Fund
Environmental Policy Center
Common Cause

Response: The designation of lands as unsuitable for mining whether because land could not be reclaimed or because mining would conflict with other exlusive land use priorities, is essentially a land use planning decision which must be made by the Federal, State or local agency having jurisdiction over the land in question. As far as Federal lands are concerned, a surface management agency can decide to withhold tracts of land from leasing, or to otherwise

protect specific land areas included within a lease, during land use planning processes. Although specific criteria are not set forth, the proposed regulations provide that exploration and mining "are (to be) approved only where reclamation of the affected lands to the standards set forth herein is attainable and assured;...", (Proposed 30 CFR 211.1(b)). Section 211.10(d)(2) further provides that a Mining Supervisor may require that an approved plan be reasonably revised at any time, to correct oversights or reflect changed conditions, on his own or the operators motion or as a result of a petition by an interested person.

Issue #15: Sectional Impacts: Comments were raised concerning the effects of possible slowdown of the development of federally owned coal and the potential resulting increased demand on privately owned coal.

Also, there was concern expressed that the development of Federal Western coals could result in an economic disadvantage with regard to coal prices in the Eastern States.

Raised by: State of Maryland
State of West Virginia
State of Wyoming

Response: Slowdown of development of federally owned coal in Western States is uncertain; however, it is expected that some increase in development of privately owned coal resources could be realized in the near future as a result of implementation of the proposed regulations in the States having less stringent regulations.

Overall, the effects of such delay or impediment should not be significant, and should to a significant degree be balanced by increased willingness to develop Federal coal as a result of the greater certainty that would follow adoption of the proposed regulations.

The proposed regulations would tend to minimize the economic disadvantages to the Eastern province cited by one reviewer as they would result in more stringent standards on all Federal coal lands. This would remove the disincentive which presently exists to mine Federal coal in states having relatively stringent reclamation standards.

Issue #16: Alaskan Lands: The question was raised as to the applicability of proposed 30 CFR 211 regulations to Alaskan lands conveyed to Natives, Native villages, and regional corporations, whether they would be treated as lands with private surface ownership, and what leasing procedures would be followed on lands whose ownership status is still in question.

Raised by: State of Alaska

Response: The 3041 and 211 Regulations do not apply to the public lands in Alaska which have been transferred to Natives, Native villages, or regional corporations, as both surface rights and the mineral estate are being conveyed under appropriate Federal law. Where mining claims exist on the lands, thereby clouding the surface title, the claimant has five years to prove the validity of his claim.

Issue #17: Other related claims raised: Not specifically identified here. As noted above, all comments were reviewed and analyzed. Examples are given below to illustrate the types of collateral issues raised, and some specific responses thereto.

Comment: The new EIS should be broadened to consider the environmental impacts of all the initiatives now underway within the Department which bear on implementation of a Federal coal management program, including but no limited to EMARS, diligence regulations, a new coal lease form and "commercial quantities" definitions.

Response: Proposed regulations were published for public comment on December 31, 1975, which defined diligent development, logical mining unit, and continuous mining operations. A copy of these proposed regulations is included in Appendix 5. The EMARS program was described in detail in the final environmental impact statement on the Proposed Federal Coal Leasing Program, but is discussed as well in the present EIS, Chapter I.

Comment: The draft EIS should include some discussion of the probable impact of lignite coal mining on the National Forests and grasslands of Texas.

Response: This would be the appropriate subject of a separate EIS, regional or site-specific, as appropriate addressing specific proposed actions in the areas involved.

Comment: The degree to which federally owned lands in Texas have been inventoried for locatable resources in Texas

should be addressed.

Response: This is not part of the proposed action or potential impact of the subject regulations . This informtion could be obtained from the State Director, Bureau of Land Management, Federal Building, Santa Fe, New Mexico, 87501.

Comment: The question was raised as to whether the State would be required to reimburse the Federal government for the coal rights under State Forests and Parks.

Response: The proposed regulations do not change existing property rights.

APPENDIX 1-A

TITLE 43 CFR PART 23

SURFACE EXPLORATION, MINING AND RECLAMATION OF LANDS

(Source: 34 F.R. 852,
January 18, 1969.)

Title 43—PUBLIC LANDS: INTERIOR

Subtitle A—Office of the Secretary of the Interior

[Circular No. 2259]

PART 23—SURFACE EXPLORATION, MINING AND RECLAMATION OF LANDS

A new Part 23 is hereby added to Title 43 Code of Federal Regulations, to become effective upon publication in the FEDERAL REGISTER.

Sec.

§ 23.1 Purpose.

It is the policy of this Department to encourage the development of the mineral resources under its jurisdiction where mining is authorized. However, the public interest requires that, with respect to the exploration for, and the surface mining of, such minerals, adequate measures be taken to avoid, minimize, or correct damage to the environment—land, \water, and air—and to avoid, minimize, or correct hazards to the public health and safety. The regulations in this part prescribe procedures to that end.

§ 23.2 Scope.

(a) Except as provided in paragraphs (b) and (c) of this section, the regulations in this part provide for the protection and conservation of nonmineral resources during operations for the discovery, development, surface mining, and onsite processing of minerals under permits, leases, or contracts issued pursuant to: The Mineral Leasing Act of February 25, 1920, as amended (30 U.S.C. 181–287); the Mineral Leasing Act for Acquired Lands (30 U.S.C. 351–359); the Materials Act of July 31, 1947, as amended (30 U.S.C. 601–604); and title 23, United States Code, section 317, relating to appropriation for highway purposes of lands owned by the United States.

(b) The regulations in this part do not cover the exploration for oil and gas or the issuance of leases, or operations thereunder, for oil and gas under the mineral leasing acts, which are covered by regulations in Subpart 3107 and Part 3120 of this title and 30 CFR Part 221; neither do they cover minerals underlying Indian tribal or allotted lands, which are subject to regulations in Title 25 CFR, nor minerals subject to the general mining laws (30 U.S.C. 21–54); nor minerals under the Materials Act which are under the jurisdiction of the Secretary of Agriculture (74 Stat. 205); nor minerals underlying lands, the surface of which is not owned by the U.S. Government.

(c) When more than one permit or contract is expected to be issued to dispose of materials in a particular deposit or tract of land, such as community pits or common use areas, no requirement for reclamation will be made in such permits or contracts and the burden of reclamation will be assumed by the Government. Where reclamation is not required because more than one permit or contract is expected to be issued, there shall be added to the sales price under each permit or contract a reasonable charge to defer the cost of reclamation. In computing such added charge, the authorized officer shall establish the estimated cost of reclamation upon completion of extractive operations for the deposit and the estimated total volume of material to be extracted. The added charge shall be a proportionate share of the estimated cost of reclamation in the same ratio as the material sold under the permit or contract bears to the total estimated volume of the deposit which is expected to be extracted.

(d) The regulations in this part shall apply only to permits, leases, or contracts issued subsequent to the date on which the regulations become effective.

§ 23.3 Definitions.

As used in the regulations in this part:

(a) "Mineral leasing acts" means the Mineral Leasing Act of February 25, 1920, as amended and supplemented (30 U.S.C. 181–287) and the Mineral Leasing Act for Acquired Lands (30 U.S.C. 351–359);

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(b) "Materials Act" means the Act of July 31, 1947, as amended (30 U.S.C. 601–604);

(c) "Mining supervisor" means the Regional Mining Supervisor, or his authorized representative, of the Geological Survey authorized as provided in 30 CFR 211.3 and 231.2 to supervise operations on the land covered by a permit or lease;

(d) "District manager" means the manager of the district office or other authorized officer of the Bureau of Land Management having administrative jurisdiction of and responsibility for the land covered by a permit, lease, contract, application, or offer;

(e) "Overburden" means all the earth and other materials which lie above a natural deposit of minerals and such earth and other materials after removal from their natural state in the process of mining;

(f) "Area of land to be affected" or "area of land affected" means the area of land from which overburden is to be or has been removed and upon which the overburden or waste is to be or has been deposited, and includes all lands affected by the construction of new roads or the improvement or use of existing roads to gain access to an operation and for haulage;

(g) "Operation" means all of the premises, facilities, roads, and equipment used in the process of determining the location, composition or quality of a mineral deposit, or in developing, extracting, or onsite processing of a mineral deposit in a designated area;

(h) "Method of operation" means the method or manner by which a cut or open pit is made, the overburden is placed or handled, water is controlled or affected and other acts performed by the operator in the process of exploring or uncovering and removing or onsite processing of a mineral deposit;

(i) "Holder" or "operator" means the permittee, lessee, or contractor designated in a permit, lease, or contract;

(j) "Reclamation" means measures undertaken to bring about the necessary reconditioning or restoration of land or water that has been affected by exploration or mineral development, mining or onsite processing operations, and waste disposal, in ways which will prevent or control onsite and offsite damage to the environment.

§ 23.4 Application for permission to conduct exploration operations.

No person shall, in any manner or by any means which will cause the surface of lands to be disturbed, explore, test, or prospect for minerals (other than oil and gas) subject to disposition under the mineral leasing acts or the Materials Act without first filing an application for, and obtaining, a permit, lease or contract which authorizes such exploring, testing, or prospecting.

§ 23.5 Technical examination of prospective surface exploration and mining operations.

(a) (1) In connection with an application for a permit or lease under the mineral leasing acts or an application for a permit or an offer to make a contract under the Materials Act, the district manager shall make, or cause to be made, a technical examination of the prospective effects of the proposed exploration or surface mining operations upon the environment. The technical examination shall take into consideration the need for the preservation and protection of other resources, including recreational, scenic, historic, and ecological values; the control of erosion, flooding, and pollution of water; the isolation of toxic materials; the prevention of air pollution; the reclamation by revegetation, replacement of soil, or by other means, of lands affected by the exploration or mining operations; the prevention of slides; the protection of fish and wildlife and their habitat; and the prevention of hazards to public health and safety.

(2) A technical examination of an area should be made with the recognition that actual potential mining sites and mining operations vary widely with respect to topography, climate, surrounding land uses, proximity to densely used areas, and other environmental influences and that mining and reclamation requirements should provide sufficient flexibility to permit adjustment to local conditions.

(b) Based upon the technical examination, the district manager shall formulate the general requirements which the applicant must meet for the protection of nonmineral resources during the conduct of exploration or mining operations and for the reclamation of lands or waters affected by exploration or mining operations. The general requirements shall be made known in writing to the applicant before the issuance of a permit or lease or the making of a contract, and upon acceptance thereof by the applicant, shall be incorporated in the permit, lease, or contract. If an application or offer is made under the Mineral Leasing Act for Acquired Lands and if the lands are under the jurisdiction of an agency other than the Department of the Interior, the requirements must incorporate provisions prescribed by that agency. If the application or offer is made under the Mineral Leasing Act of February 25, 1920, or the Materials Act, and if the lands are under the jurisdiction of an agency other than the Department of the Interior, the district manager shall consult representatives of the agency administering the land and obtain their recommendations for provisions to be incorporated in the general requirements. If the district manager does not concur in the recommendations, the issues shall be referred for resolution to the Under Secretary of the Department of the Interior and the comparable officer of the agency submitting the recommendations. In the case of disagreement on the issues which are so referred, the Secretary of the Interior shall make a determination on the recommendations which shall be final and binding.

(c) In each instance in which an application or offer is made under the mineral leasing acts, the mining supervisor shall participate in the technical examination and in the formulation of the general requirements. If the lands covered by an application or offer are under the jurisdiction of a bureau of the Department of the Interior other than the Bureau of Land Management, the district

manager shall consult representatives of the bureau administering the land. If the lands covered by the application or offer are under the jurisdiction of an agency other than the Department of the Interior and that agency makes a technical examination of the type provided for in paragraph (a) of this section, district managers and mining supervisors are authorized to participate in that examination.

(d) Whenever it is determined that any part of the area described in an application or offer for a permit, lease, or contract is such that previous experience under similar conditions has shown that operations cannot feasibly be conducted by any known methods or measures to avoid—

(1) Rock or landslides which would be a hazard to human lives or endanger or destroy private or public property; or

(2) Substantial deposition of sediment and silt into streams, lakes, reservoirs; or

(3) A lowering of water quality below standards established by the appropriate State water pollution control agency, or by the Secretary of the Interior; or

(4) A lowering of the quality of waters whose quality exceeds that required by the established standards—unless and until it has been affirmatively demonstrated to the State water pollution control agency and to the Department of the Interior that such lowering of quality is necessary to economic and social development and will not preclude any assigned uses made of such waters; or

(5) The destruction of key wildlife habitat or important scenic, historical, or other natural or cultural features; the district manager may prohibit or otherwise restrict operations on such part of an area.

(e) If, on the basis of a technical examination, the district manager determines that there is a likelihood that there will be a lowering of water quality as described in paragraphs (d) (3) and (4) of this section caused by the operation, no lease or permit shall be issued or contract made until after consultation with the Federal Water Pollution Control Administration and a finding by the Administration that the proposed operation would not be in violation of the Federal Water Pollution Control Act, as amended (33 U.S.C. sec. 466 et seq.) or of Executive Order No. 11288 (31 F.R. 9261). Where a permit or lease is involved the district manager's determination shall be made in consultation with the mining supervisor.

(f) Each notice of a proposed appropriation of a materials site filed by the Department of Transportation under 23 U.S.C. 317 shall be transmitted to the proper district manager. The district manager shall cause a technical examination to be made as provided in paragraph (a) of this section and shall formulate the requirements which the State highway department or its nominee must meet. If the land covered by the proposed appropriation is under the jurisdiction of a bureau of the Department other than the Bureau of Land Management, the district manager shall consult representatives of the bureau administering the land. If the district manager determines, or, in an instance in which the land is administered by another bureau, a representative of that bureau determines that the proposed appropriation is contrary to the public interest or is inconsistent with the purposes for which such land or materials are reserved, the district manager shall promptly submit the matter to the Secretary of the Interior for his decision. In other instances, the district manager shall notify the Department of Transportation of the requirements and conditions which the State highway department or its nominee must meet.

§ 23.6 Basis for denial of a permit, lease, or contract.

An application or offer for a permit, lease, or contract to conduct exploratory or extractive operations may be denied any applicant or offeror who has forfeited a required bond because of failure to comply with an exploration or mining plan. However, a permit, lease, or contract may not be denied an applicant or offeror because of the forfeiture of a bond if the lands disturbed under his previous permit, lease, or contract have subsequently been reclaimed without cost to the Federal Government.

§ 23.7 Approval of exploration plan.

(a) Before commencing any surface disturbing operations to explore, test, or prospect for minerals covered by the mineral leasing acts the operator shall file with the mining supervisor a plan for the proposed exploration operations.

The mining supervisor shall consult with the district manager with respect to the surface protection and reclamation aspects before approving said plan.

(b) Before commencing any surface disturbing operations to explore, test, or prospect for materials covered by the Materials Act the operator shall file with the district manager a plan for the proposed exploration operations.

(c) Depending upon the size and nature of the operation and the requirements established pursuant to § 23.5 the mining supervisor or the district manager may require that the exploration plan submitted by the operator include any or all of the following:

(1) A description of the area within which exploration is to be conducted;

(2) Two copies of a suitable map or aerial photograph showing topographic, cultural and drainage features;

(3) A statement of proposed exploration methods, i.e. drilling, trenching, etc., and the location of primary support roads and facilities;

(4) A description of measures to be taken to prevent or control fire, soil erosion, pollution of surface and ground water, damage to fish and wildlife or other natural resources, and hazards to public health and safety both during and upon abandonment of exploration activities.

(d) The mining supervisor or the district manager shall promptly review the exploration plan submitted to him by the operator and shall indicate to the operator any changes, additions, or amendments necessary to meet the requirements formulated pursuant to

§ 23.5, the provisions of the regulations in this part, and the terms of the permit.

(e) The operator shall comply with the provisions of an approved exploration plan. The mining supervisor and the district manager may, with respect to such a plan, exercise the authority provided by paragraphs (f) and (g) of § 23.8 respecting a mining plan.

§ 23.8 Approval of mining plan.

(a) (1) Before surface mining operations may commence under any permit or lease issued under the mineral leasing acts the operator must file a mining plan with the mining supervisor and obtain his approval of the plan. Paragraphs (b) through (g) of this section confer authority upon mining supervisors with respect to mining plans pertaining to permits or leases issued under the mineral leasing acts. The mining supervisor shall consult with the district manager with respect to the surface protection and reclamation aspects before approving said plan.

(2) Before surface mining operations may commence under any permit issued or contract made under the Materials Act, the operator must file a mining plan with the district manager and obtain his approval of the plan. Paragraphs (b) through (g) of this section confer authority upon district managers with respect to mining plans pertaining to permits issued or contracts made under the Materials Act.

(b) Depending on the size and nature of the operation and the requirements established pursuant to § 23.5, the mining supervisor or the district manager may require that the mining plan submitted by the operator include any or all of the following:

(1) A description of the location and area to be affected by the operations;

(2) Two copies of a suitable map, or aerial photograph showing the topography, the area covered by the permit, lease, or contract, the name and location of major topographic and cultural features, and the drainage plan away from the area to be affected;

(3) A statement of proposed methods of operating, including a description of proposed roads or vehicular trails; the size and location of structures and facilities to be built;

(4) An estimate of the quantity of water to be used and pollutants that are expected to enter any receiving waters;

(5) A design for the necessary impoundment, treatment or control of all runoff water and drainage from workings so as to reduce soil erosion and sedimentation and to prevent the pollution of receiving waters;

(6) A description of measures to be taken to prevent or control fire, soil erosion, pollution of surface and ground water, damage to fish and wildlife, and hazards to public health and safety; and

(7) A statement of the proposed manner and time of performance of work to reclaim areas disturbed by the holder's operation.

(c) In those instances in which the permit, lease, or contract requires the revegetation of an area of land to be affected the mining plan shall show:

(1) Proposed methods of preparation and fertilizing the soil prior to replanting;

(2) Types and mixtures of shrubs, trees, or tree seedlings, grasses or legumes to be planted; and

(3) Types and methods of planting, including the amount of grasses or legumes per acre, or the number and spacing of trees, or tree seedlings, or combinations of grasses and trees.

(d) In those instances in which the permit, lease, or contract requires regrading and backfilling, the mining plan shall show the proposed methods and the timing of grading and backfilling of areas to be affected by the operation.

(e) The mining supervisor or the district manager shall review the mining plan submitted to him by the operator and shall promptly indicate to the operator any changes, additions, or amendments necessary to meet the requirements formulated pursuant to § 23.5, the provisions of the regulations in this part and the terms of the permit, lease, or contract. The operator shall comply with the provisions of an approved mining plan.

(f) A mining plan may be changed by mutual consent of the mining supervisor or the district manager and the operator at any time to adjust to changed conditions or to correct any oversight. To obtain approval of a change or supplemental plan the operator shall submit a written statement of the proposed changes or supplement and the justification for the changes proposed. The mining supervisor or the district manager shall promptly notify the operator that he consents to the proposed changes or supplement or, in the event he does not consent, he shall specify the modifications thereto under which the proposed changes or supplement would be acceptable. After mutual acceptance of a change of a plan the operator shall not depart therefrom without further approval.

(g) If circumstances warrant, or if development of a mining plan for the entire operation is dependent upon unknown factors which cannot or will not be determined except during the progress of the operations, a partial plan may be approved and supplemented from time to time. The operator shall not, however, perform any operation except under an approved plan.

§ 23.9 Performance bond.

(a) (1) Upon approval of an exploration plan or mining plan, the operator shall be required to file a suitable performance bond of not less than $2,000 with satisfactory surety, payable to the Secretary of the Interior, and the bond shall be conditioned upon the faithful compliance with applicable regulations, the terms and conditions of the permit, lease, or contract, and the exploration or mining plan as approved, amended

or supplemented. The bond shall be in an amount sufficient to satisfy the reclamation requirements of an approved exploration or mining plan, or an approved partial or supplemental plan. In determining the amount of the bond consideration shall be given to the character and nature of the reclamation requirements and the estimated costs of reclamation in the event that the operator forfeits his performance bond.

(2) In lieu of a performance bond an operator may elect to deposit cash or negotiable bonds of the U.S. Government. The cash deposit or the market value of such securities shall be equal at least to the required sum of the bond.

(b) A bond may be a nationwide or statewide bond which the operator has filed with the Department under the provisions of the applicable leasing regulations in Subchapter C of Chapter II of this title, if the terms and conditions thereof are sufficient to comply with the regulations in this part.

(c) The district manager shall set the amount of a bond and take the necessary action for an increase or for a complete or partial release of a bond. He shall take action with respect to bonds for leases or permits only after consultation with the mining supervisor.

§ 23.10 Reports: Inspection.

(a) (1) The holder of a permit or lease under the mineral leasing acts shall file the reports required by this section with the mining supervisor. The holder of a permit or a party to a contract under the Materials Act shall file such reports with the district manager.

(2) The provisions of this section confer authority and impose duties upon mining supervisors with respect to permits or leases issued under the mineral leasing acts and upon district managers with respect to permits issued or contracts made under the Materials Act.

(b) Operations report: Within 30 days after the end of each calendar year, or if operations cease before the end of a calendar year, within 30 days after the cessation of operations, the operator shall submit an operations report containing the following information:

(1) An identification of the permit, lease, or contract and the location of the operation;

(2) A description of the operations performed during the period of time for which the report is filed;

(3) An identification of the area of land affected by the operations and a description of the manner in which the land has been affected;

(4) A statement as to the number of acres disturbed by the operations and the number of acres which were reclaimed during the period of time;

(5) A description of the method utilized for reclamation and the results thereof;

(6) A statement and description of reclamation work remaining to be done.

(c) Grading and backfilling report: Upon completion of such grading and backfilling as may be required by an approved exploration or mining plan, the operator shall make a report thereon and request inspection for approval. Whenever it is determined by such inspection that backfilling and grading has been carried out in accordance with the established requirements and approved exploration or mining plan, the district manager shall issue a release of an appropriate amount of the performance bond for the area graded and backfilled. Appropriate amounts of the bond shall be retained to assure that satisfactory planting, if required, is carried out.

(d) Planting report: (1) Whenever planting is required by an approved exploration or mining plan, the operator shall file a report with the mining supervisor or district manager whenever such planting is completed. The report shall—

(i) Identify the permit, lease, or contract;

(ii) Show the type of planting or seeding, including mixtures and amounts;

(iii) Show the date of planting or seeding;

(iv) Identify or describe the areas of the lands which have been planted;

(v) Contain such other information as may be relevant.

(2) The mining supervisor or district manager, as soon as possible after the completion of the first full growing season, shall make an inspection and evaluation of the vegetative cover and planting to determine if a satisfactory growth has been established.

(3) If it is determined that a satisfactory vegetative cover has been established and is likely to continue to grow, any remaining portion of the performance bond may be released if all requirements have been met by the operator.

(e) Report of cessation or abandonment of operations: (1) Not less than 30 days prior to cessation or abandonment of operations, the operator shall report his intention to cease or abandon operations, together with a statement of the exact number of acres of land affected by his operations, the extent of reclamation accomplished and other relevant information.

(2) (i) Upon receipt of such report the mining supervisor or the district manager shall make an inspection to determine whether operations have been carried out and completed in accordance with the approved exploration or mining plan.

(ii) Whenever the lands in a permit, lease or contract issued under the mineral leasing acts or the Materials Act are under the jurisdiction of a bureau of the Department of the Interior other than the Bureau of Land Management the mining supervisor or the district manager, as appropriate, shall obtain the concurrence of the authorized officer of such bureau that the operation has been carried out and completed in accordance with the approved exploration or mining plan with respect to the surface protection and reclamation aspects of such plan before releasing the performance bond.

(iii) Whenever the lands in a permit, lease or contract issued under the Mineral Leasing Act of 1920 or the Materials Act are under the jurisdiction of an agency other than the Department of the Interior, the mining supervisor or the district manager, as appropriate, shall consult representatives of the agency administering the lands and obtain their recommendations as to whether the operation has been carried out and completed in accordance with the approved exploration or mining plan with respect

to the surface protection and reclamation aspects of such plan before releasing the performance bond. If the mining supervisor or district manager, as appropriate, do not concur in the recommendations of the agency regarding compliance with the surface protection and reclamation aspects of the approved exploration or mining plan, the issues shall be referred for resolution to the Under Secretary of the Department of the Interior and the comparable officer of the agency submitting the recommendations. In the case of disagreement on issues which are so referred, the Secretary of the Interior shall make a determination which shall be final and binding. In cases in which the recommendations are not concurred in by the mining supervisor or district manager, the performance bond shall not be released until resolution of the issues or until a final determination by the Secretary of the Interior.

(iv) Whenever the lands in a permit or lease issued under the Mineral Leasing Act for Acquired Lands are under the jurisdiction of an agency other than the Department of the Interior, the mining supervisor or the district manager, as appropriate, shall obtain the concurrence of the authorized officer of such agency that the operation has been carried out and completed in accordance with the approved exploration or mining plan with respect to the surface protection and reclamation aspects of such plan before releasing the performance bond.

§ 23.11 Notice of noncompliance; Revocation.

(a) The provisions of this section confer authority and impose duties upon mining supervisors with respect to permits or leases issued under the mineral leasing acts and upon district managers with respect to permits issued or contracts made under the Materials Act. The mining supervisor shall consult with the district manager before taking any action under this section.

(b) The mining supervisor or district manager shall have the right to enter upon the lands under a permit, lease, or contract, at any reasonable time, for the purpose of inspection or investigation to determine whether the terms and conditions of the permit, lease, or contract, and the requirements of the exploration or mining plan have been complied with.

(c) If the mining supervisor or the district manager determines that an operator has failed to comply with the terms and conditions of a permit, lease, or contract, or with the requirements of an exploration or mining plan, or with the provisions of applicable regulations under this part the supervisor or manager shall serve a notice of noncompliance upon the operator by delivery in person to him or his agent or by certified or registered mail addressed to the operator at his last known address.

(d) A notice of noncompliance shall specify in what respects the operator has failed to comply with the terms and conditions of a permit, lease, or contract, or the requirements of an exploration or mining plan, or the provisions of applicable regulations, and shall specify the action which must be taken to correct the noncompliance and the time limits within which such action must be taken.

(e) Failure of the operator to take action in accordance with the notice of noncompliance shall be grounds for suspension by the mining supervisor or the district manager of operations or for the initiation of action for the cancellation of the permit, lease, or contract and for forfeiture of the performance bond required under § 23.9.

§ 23.12 Appeals.

(a) A person adversely affected by a decision or order of a district manager or of a mining supervisor made pursuant to the provisions of this part shall have a right of appeal to the Director of the Bureau of Land Management whenever the decision appealed from was rendered by a district manager, or to the Director of the Geological Survey if the decision or order appealed from was rendered by a mining supervisor, and the further right to appeal to the Secretary of the Interior from an adverse decision of either Director unless such decison was approved by the Secretary prior to promulgation.

(b) Appeals to Director, Bureau of Land Management, or to Director, Geological Survey, and appeals to the Secretary shall be made pursuant to procedures and requirements of Parts 1840 and 1850 of this title, except that for the purposes of an appeal taken from a decision or order of a mining supervisor made pursuant to this part:

(1) The term "Director" wherever it occurs in Part 1850 or 1850 of this title shall mean the Director of the Geological Survey.

(2) The term "Field Commissioner" shall include a person designated by the Director of the Geological Survey to hold a hearing.

(3) Whenever the provisions of Parts 1840 and 1850 of this title require that a document be filed in the Office of the Director, such documents shall be filed in the Office of the Director, Geological Survey (Address: Director, Geological Survey, Washington, D.C. 20240).

(c) In any case involving a permit, lease or contract for lands under the jurisdiction of an agency other than the Department of the Interior, or a bureau of the Department of the Interior other than the Bureau of Land Management, the officer rendering a decision or order shall, in the event of an appeal from such decision or order, designate the authorized officer of such agency as an adverse party on whom a copy of a notice of appeal and any statement of reasons, written arguments or briefs must be served.

(d) Hearings to present evidence on an issue of fact before a Field Commissioner designated by the appropriate Director shall be conducted pursuant to the requirements and procedures set forth in Part 1850 of this title.

§ 23.13 Consultation.

Whenever the lands included in a permit, lease, or contract are under the jurisdiction of an agency other than the Department of the Interior or under the jurisdiction of a bureau of the Department of the Interior other than the Bureau of Land Management, the mining supervisor or the district manager, as appropriate, shall consult the authorized officer of such agency before taking any final action under §§ 23.7, 23.8, 23.10 (c) and (d) (2) and (3), and 23.11(c).

DAVID S. BLACK,
Under Secretary of the Interior.

JANUARY 15, 1969.

[F.R. Doc. 69-747; Filed, Jan. 17, 1969; 8:51 a.m.]

GPO 830-693

APPENDIX 1-B

TITLE 30 CFR PART 211

PROPOSED REVISION OF COAL MINING OPERATING REGULATIONS

(Sources: Federal Register, v.38, no. 82, Monday, April 30, 1973, and Federal Register, v. 40, no. 21, Thursday, January 30, 1975.)

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PART III

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

■

Proposed Revision of Coal Mining Operating Regulations

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

[30 CFR Parts 211, 216]

COAL MINING OPERATING REGULATIONS

Proposed Revision

Notice is hereby given that pursuant to the authority vested in the Secretary of the Interior under the Mineral Leasing Act of February 25, 1920, as amended and supplemented (30 U.S.C. 181–287), the Mineral Lensing Act for Acquired Lands (30 U.S.C. 351–359), 5 U.S.C. 301, the National Environmental Policy Act of 1969 (42 U.S.C. 4321–4347), and various statutes relating to mining on Indian lands, it is proposed to revise 30 CFR part 211 as set forth below.

The primary purpose of the proposed revision is to update the regulations governing operations conducted under coal leases, permits, and licenses, on public domain and acquired lands of the United States and on Indian lands administered by the Department of the Interior by deleting obsolete material and including new provisions and requirements consistent with modern mining practices. The revised regulations clarify the responsibility of lessees, permittees, and licensees for the protection of the surface, the natural resources, the environment and existing improvements during operations for the discovery, testing, development, mining, and preparation of coal and for timely reclamation of disturbed lands.

It is also proposed that 30 CFR part 216, applicable to coal mining operations under leases in the State of Alaska which were issued pursuant to the Alaska Coal Leasing Act of October 20, 1914 (38 Stat. 741), prior to its repeal by Public Law 86–252, September 9, 1959, 73 Stat. 490, be revoked and that operations under those leases also be governed by the regulations in 30 CFR part 211 as set forth below.

It is the policy of the Department of the Interior, whenever practicable, to afford the public an opportunity to participate in the rulemaking process. Accordingly, interested parties may submit written comments, suggestions, or objections with respect to the proposed revision of 30 CFR part 211 and the proposed revocation of 30 CFR part 216 to the Director, U.S. Geological Survey, Washington, D.C. 20244, on or before June 29, 1933. After the period for comments has expired, the proposed regulations will be revised, if deemed necessary, and republished in the FEDERAL REGISTER as interim regulations.

The Department of the Interior is currently conducting an environmental review of the coal leasing program. The Council on Environmental Quality has recommended that regulations for the effective management and protection of the public lands be promulgated to serve as interim regulations pending completion of that environmental review. The revision of 30 CFR part 211 presently proposed is essential for effective management and protection of the public lands. The delay which would be occasioned by the preparation of a separate environmental statement related solely to the proposed regulations or the withholding of promulgation until an environmental statement on the coal leasing program is completed would create a period during which effective management and protection of the public land would be hindered. The proposed regulations are not fundamentally new regulations, but are essentially the existing regulations already applicable to the same mineral resources and land, reorganized, clarified, and, in some respects, amplified. Moreover, the interim nature of the proposed regulations would limit their overall cumulative impact on the quality of the human environment. Accordingly, the proposed regulations are published without the preparation of an environmental statement. When the review and statement on the coal leasing program are completed, the regulations in effect at that time will be revised to conform with the conclusions of the review.

Part 211 of title 30 of the Code of Federal Regulations is revised to read as follows:

PART 211—COAL-MINING OPERATING REGULATIONS

ADMINISTRATION OF REGULATIONS AND DEFINITIONS

AUTHORITY.—34 Stat. 539, 35 Stat. 312 (25 U.S.C. 353 NT); 39 Stat. 781 (25 U.S.C. 396); sec. 32, 41 Stat. 450 (30 U.S.C. 189); 49 Stat. 1967 (25 U.S.C. 501, 502); 52 Stat. 347 (25 U.S.C. 396 a–f); 61 Stat. 913 (30 U.S.C. 359); 5 U.S.C. 301; Public Law 91–190, 83 Stat. 852 (42 U.S.C. 4321).

§ 211.1 Scope and purpose.

(a) The regulations in this part shall govern operations for the discovery, testing, development, mining, and preparation of coal under coal leases, licenses, and permits issued for public domain and acquired lands pursuant to the regulations in 43 CFR group 3500 and the Alaska Coal Leasing Act of October 20, 1914 (38 Stat. 741). These regulations shall also apply to operations for the discovery, testing, development, mining, and preparation of coal in tribal and allotted Indian lands under leases and permits issued under the regulations in 25 CFR parts 171, 172, 173, and 174.

(b) The purpose of the regulations in this part is to promote orderly and efficient prospecting, exploration, testing, development, mining, and preparation operations and production practices without waste or avoidable loss of coal or other mineral deposits or damage to coal or other mineral-bearing formation; to encourage maximum recovery and use of coal resources; to promote operating practices which will avoid, minimize or correct damage to the environment—land, water, and air—and avoid, minimize or correct hazards to public health and safety; and to obtain a proper record and accounting of all coal produced.

(c) These regulations will be interpreted and administered to the fullest extent possible in accordance with the policies of the National Environmental Policy Act of 1969 (83 Stat. 852) 42 U.S.C. 4321–4347.

(d) When the regulations in this part relate to matters included in the regulations in 25 CFR part 177—Surface Exploration, Mining and Reclamation of Lands—pertaining to Indian lands, the regulations in that part shall govern to the extent of any inconsistencies.

(e) When the regulations in this part relate to matters included in the regulations in 43 CFR part 23, the regulations in that part shall govern with respect to technical examinations, issuance or denial of leases, performance bonds, reclamation of land, and reports to the extent of any inconsistencies; otherwise, the regulations in this part shall govern.

§ 211.2 Definitions.

The terms used in this part shall have the following meanings:

(a) *Secretary.*—The Secretary of the Interior.

(b) *Director.*—The Director of the U.S. Geological Survey, Washington, D.C.

(c) *Division Chief.*—The Chief of the Conservation Division, U.S. Geological Survey, Washington, D.C.

(d) *Regional Manager.*—The Regional Conservation Manager, Conservation Division, U.S. Geological Survey.

(e) *Mining Supervisor.*—The Area Mining Supervisor, Conservation Division, U.S. Geological Survey, a representative of the Secretary, subject to the direction and supervisory authority of the Director, the Division Chief, and the appropriate Regional Manager, authorized and empowered to regulate operations and to perform other duties prescribed in the regulations in this part, or a subordinate acting under his direction.

(f) *Lessee.*—Any person or persons, partnership, association, corporation, or municipality to whom a coal lease is issued subject to the regulations in this part, or an assignee of such lease under an approved assignment.

(g) *Permittee.*—Any person or persons, partnership, association, corporation, or municipality to whom a coal prospecting permit is issued subject to the regulations in this part, or as assignee of such permit under an approved assignment.

(h) *Licensee.*—Any individual, association of individuals, or municipality to whom a coal license is issued subject to the regulations in this part.

(i) *Leased lands, leased premises, or leased tract.*—Any lands under a coal lease and subject to the regulations in this part.

(j) *Permit lands.*—Any lands under a coal prospecting permit and subject to the regulations in this part.

(k) *Operator.*—A lessee, permittee, or licensee, or one conducting operations on lands under the authority of the lessee, permittee, or licensee.

(l) *Reclamation.*—The measures undertaken to bring about the necessary reconditioning or restoration of land or water that has been affected by exploration, testing, mineral development, mining, onsite processing operations, or waste disposal, in ways which will prevent or control onsite or offsite damage to the environment.

(m) *Coal.*—Coal of all ranks from lignite to anthracite.

(n) *Mine.*—An underground or surface excavation and all parts of the property of a mining plant, either on the surface or underground, that contribute directly or indirectly to the mining and preparation of coal.

(o) *Preparation.*—The sizing, cleaning, drying, mixing, and crushing of the coal and such other work of preparing coal for market.

(p) *Portal.*—Any surface entrance to an underground mine.

(q) *Entry.*—An underground passage used for haulage, ventilation, or as a manway.

(r) *Shaft.*—A mine opening, the axis of which is approximately vertical, extending from the surface to develop one or more coal deposits.

(s) *Slope.*—A mine opening or inclined entry in a dipping coal formation or an inclined tunnel through rock to intersect a coal bed.

(t) *Drift.*—A mine opening or horizontal entry or passage underground.

(u) *Stripping operation.*—The term "stripping operation" or "strip pit" or "open pit" shall mean a mining excavation or development by means of a surface pit in which material over the coal bed is first removed and the coal itself is then extracted.

(v) *Explosive dust.*—An explosive dust is a combustible solid in airborne dispersion capable of propagating flame when ignited.

(w) *Flammable and explosive gases.*—A mixture of atmospheric air and combustible natural gases in such proportions that the mixture is flammable or explosive.

§ 211.3 Responsibilities.

(a) Subject to the supervisory authority of the Secretary, the regulations in this part shall be administered by the Director of the Geological Survey.

(b) The health and safety of miners engaged in mining operations on lands covered by coal leases, permits and licenses is governed by the Federal Coal Mine Health and Safety Act of 1969.

(c) The Mining Supervisor is empowered to regulate prospecting, exploration, testing, development, mining, and preparation operations under the regulations in this part. The Mining Supervisor in the performance of his duties shall:

(1) *Inspection and supervision of operations to prevent waste or damage.*—Examine frequently the lease, permit, or license lands where operations for the discovery, testing, development, mining, or preparation of coal are conducted or are to be conducted; inspect and regulate such operations, including operations at accessory plants, for the purpose of preventing waste of mineral substances or damage to formations and deposits, or nonmineral resources affected by the operations; and insure that the terms and conditions of the permit, lease, or license and the provisions of the approved exploration or mining plans are being complied with.

(2) *Compliance with regulations, lease, permit, or license terms; and approved plans.*—Require operators to conduct their operations in compliance with the provisions of applicable regulations, the terms and conditions of the leases, permits, or licenses, and the requirements of approved exploration or mining plans.

(3) *Reports on condition of lands and manner of operation; recommendations for protection of property.*—Make reports to the division chief through the regional manager, as to the general condition of lands under permit, lease, or license and the manner in which operations are being conducted and orders or instructions are being complied with; and submit information and recommendations for protecting the coal, the coal-bearing formations, other minerals and the nonmineral resources.

(4) *Manner and form of records, reports and notices.*—Prescribe, subject to the approval of the division chief, the manner and form in which records of operations, reports and notices shall be made.

(5) *Records of production; rentals and royalties.*—Obtain and check the records of production of coal; determine rental and royalty liability of lessees and permittees; collect and deposit rental and royalty payments; and maintain rental and royalty accounts.

(6) *Suspension of operations and production.*—Act on applications for suspension of operations or production or both filed pursuant to 43 CFR 3503.3-2 (e), and terminate, when appropriate, suspensions which have been granted; and transmit to the Bureau of Indian Affairs for appropriate action applications for suspension of operations or production or both under leases on Indian lands.

(7) *Cessation and abandonment of operations.*—Upon receipt of a report of cessation or abandonment of operations, or relinquishment of a lease, permit, or license, inspect and determine whether the operator has complied with the terms and conditions of the permit or lease and the approved exploration or mining plans; and determine and report to the agency having administrative jurisdiction over the lands when the lands have been properly conditioned for abandonment. The mining supervisor, in accordance with applicable regulations, in 43 CFR part 23 or 25 CFR part 177, will consult with, or obtain the concurrence of the authorized officer of the agency having administrative jurisdiction over the lands with respect to compliance by the operator with the surface protection and reclamation requirements of the lease or permit and the exploration or mining plan.

(8) *Wells or prospect holes.*—Prescribe or approve the methods of protection from wells or prospect holes drilled for any purpose through the coal measures and mines on leased lands and on coal lands subject to lease, with a view to the prevention of leakage of oil, gas, water, or other fluid substances that might endanger the life or health of employees, and prescribe or approve methods of obtaining the ultimate extraction, so far as practicable, of coal in the vicinity of such wells.

(9) *Trespass; involving removal of coal deposits.*—Report to the agency having administrative jurisdiction over the lands any trespass that involves removal of coal deposits.

(10) *Water and air quality.*—Inspect exploratory and mining operations to determine the adequacy of water management and pollution control measures for the protection and control of the quality of surface and ground water resources and the adequacy of emission control measures for the protection and control of air quality.

(11) *Compliance with regulations.*—Issue such orders and instructions, not in conflict with the laws of the State in which the leased or permit lands are situated, as necessary to assure compliance with the purposes of the regulations in this part.

(c) In the exercise of his jurisdiction under the regulations in this part, the mining supervisor shall be subject to the direction and supervisory authority of the division chief, and the appropriate regional manager, each of whom may excreise the jurisdiction of the mining supervisor.

§ 211.4 General obligations of licensees, permittees and lessees (including designated operators or agents).

(a) Operations involving the discovery, testing, development, mining, or preparation of coal shall conform to the provisions of the applicable regulations, the terms and conditions of the lease, permit or license; the requirements of approved exploration or mining plans; and the orders and instructions issued by the mining supervisor. The operator shall take precautions to prevent waste and damage to coal-bearing formations, and shall take such steps as may be needed to prevent injury to life or health and to provide for the health and welfare of employees.

(b) The operator shall take such action as may be needed to avoid, minimize, or repair soil erosion; pollution of air; pollution of surface or ground water; damage to vegetative growth, crops, or timber; injury or destruction of fish and wildlife and their habitat; creation of unsafe or hazardous conditions; and damage to improvements, whether owned by the United States, its permittees, licensees or lessees, or by others; and damage to recreational, scenic, historical, and ecological values of the land. The surface of leased or permit lands shall be reclaimed in accordance with the terms and conditions prescribed in the lease or permit and the provisions of the approved exploration or mining plan. Good "housekeeping" practices shall be observed at all times. Where any question arises as to the necessity for or the adequacy of an action to meet the requirements of this paragraph, the determination of the mining supervisor shall control.

(c) All operations conducted under the regulations in this part must be consistent with Federal and State water and air quality standards.

(d) When the mining supervisor determines that a water pollution problem exists, he may require that a lessee, permittee, or licensee maintain records of the use of water, quantity and quality of waste water produced, and the quantity and quality of waste water disposal, including mine drainage discharge, process wastes and associated wastes. In order to obtain this information, the lessee, permittee, or licensee may be required to install a suitable monitoring system.

(e) Full written reports of accidents, inundations, or fires shall be promptly made to the mining supervisor by the operator or his representative. Fatal accidents, accidents threatening damage to the mine, the lands, or the deposits, or accidents which could cause water pollution shall be reported promptly to the mining supervisor by telephone. Reports required by this section shall be in addition to those required by part 80 of this title, or other applicable regulations.

(f) Lessees and permittees shall submit the reports required by 25 CFR part 177 and part 200 of this chapter.

(g) If the operator fails to take appropriate action to protect the mine, coal deposits, or surrounding environment from damage or threatened damage by fire, water, oil, gas, subsidence, or other hazards, or fails to protect properly the mine or deposits or eliminate hazards to the public, upon abandonment or cancelation of a lease, permit, or license, the lessee, permittee, or licensee shall be liable for the expense of labor and supplies used by, or under the direction of the mining supervisor for the protection of the property and elimination of hazards to the public.

§ 211.5 Public inspection of records.

Geological and geophysical interpretations, maps, and data and commercial and financial information required to be submitted under this part shall not be available for public inspection without the consent of the permittee or lessee so long as the permittee or lessee furnishing such data, or his successors or assignees, continues to hold a permit or lease of the lands involved.

§ 211.6 Appeals.

Orders or decisions issued under the regulations in this part may be appealed as provided in part 290 of this chapter.

MAPS AND PLANS

§ 211.10 Exploration, mining and reclamation plans.

(a) *General.*—Before conducting any operations, the operator shall submit to the Mining Supervisor for approval an exploration or mining plan, in quintuplicate, which shall show in detail the proposed exploration, prospecting, testing, development, or mining operations to be conducted. Exploration and mining plans shall be consistent with and responsive to the requirements of the lease or permit for the protection of nonmineral resources and for the reclamation of the surface of the lands affected by the operations. The Mining Supervisor shall consult with the other agencies involved, and shall promptly approve the plans or indicate what modifications of the plans are necessary to conform to the provisions of the applicable regulations and the terms and conditions of the permit or lease. No operations shall be conducted except under an approved plan.

(b) *Exploration plans.*—The Mining Supervisor may require that an exploration plan include any or all of the following:

(1) A description of the environmental conditions within the area where exploration is to be conducted and a general description of the regional environmental conditions.

(2) A narrative description including:

(i) Method of exploration.

(ii) Measures to be taken to prevent or control fire, soil erosion, pollution of surface and ground water, pollution of air, damage to fish and wildlife or their habitat, or other natural resources and hazards to public health and safety.

(iii) Method for plugging drill holes.

(iv) Method for reclaiming lands disturbed by the exploration work, including grading, leveling and revegetation.

(3) Estimated timetable for each phase of the work and for final completion of the program.

(4) Five copies of a suitable map or aerial photograph showing topographic, cultural and drainage features, and the proposed location of drill holes, trenches, access roads, etc.

(c) *Mining plans.*—The Mining Supervisor may require that a mining plan include any or all of the following:

(1) A description of the environmental conditions within the area where mining is to be conducted and a general description of the regional environmental conditions.

(2) A narrative description including:

(i) Nature and extent of the coal deposit.

(ii) Method of mining including mining sequence and production rate.

(iii) Measures to be taken to prevent or control fire, soil erosion, pollution of surface or ground water, pollution of air, damage to fish and wildlife or their habitat or other natural resources, and hazards to public health and safety.

(iv) Method for disposal of refuse, waste or overburden, including location, design to prevent erosion, water pollution, and dump failure.

(v) Design for the necessary impoundment, treatment or control of all runoff water and drainage from mine workings and preparation plants so as to reduce soil erosion and prevent the pollution and increased sedimentation of watercourses.

(vi) The surface reclamation portion of the plan shall include:

(a) A reclamation schedule.

(b) Method of grading, backfilling and contouring.

(c) Method of soil preparation and fertilizer application.

(d) Type and mixture of shrubs, trees, grasses, or legumes to be planted.

(e) Method of planting, including amount and spacing.

(f) Method of abandoning mine openings, including mine portals, shafts, slopes and entries.

(3) Five copies of suitable maps or aerial photographs showing:

(i) Topographic, cultural and drainage features, roads and vehicular trails.

(ii) Cross sections of the deposit.

(iii) Size and locations for mine and surface structures and facilities.

(iv) Location of refuse and waste disposal areas.

(v) Location of settling or water treatment ponds.

(vi) For a surface mine, the planned mine layout map including the coal-outcrop line and a line indicating the

limits to which the mining is expected to extend.

(vii) For an underground mine, the planned mine layout map including locations of shafts, slopes, drifts, main haulageways, aircourses, entries, and barrier pillars; and the proposed widths of all slopes, entries, haulageways, aircourses, rooms, crosscuts, and barrier pillars.

(g) *Changes in plans.*—Exploration and mining plans may be changed by mutual consent of the Mining Supervisor and the operator at any time to adjust to changed conditions or to correct an oversight. To obtain approval of a changed or supplemental plan, the operator shall submit a written statement of the proposed changes or supplement and the justification for the proposed changes.

(e) *Partial plan.*—If the circumstances warrant, or if development of an exploration or mining plan for the entire operation is dependent upon unknown factors which cannot or will not be determined except during the progress of the operations, a partial plan may be approved and supplemented from time to time. The operator shall not, however, perform any operation except under an approved plan.

§ 211.11 Approaching oil, gas, or water wells.

When mining operations approach within 200 ft of wells or bore holes that may liberate oil, gas, water, or other fluid substances, the lessee shall present his plans for mining the coal in proximity to such holes to the Mining Supervisor and obtain his approval before proceeding with the work planned. The plans shall provide that the coal be extracted as completely as practicable with safety and in such manner that the well will not be damaged, and that precautions be taken against the sudden liberation of a body of oil, gas, water, or other fluid. In approaching such holes, the instructions in § 211.42 shall be followed.

§ 211.12 Mine maps.

(a) *General requirements.*—The operator shall maintain an accurate and up-to-date map of the mine, drawn to a scale acceptable to the Mining Supervisor. All maps shall be appropriately marked with reference to Government landmarks or lines and elevations with reference to sea level. Copies of such maps shall be properly posted to date and furnished, in duplicate, to the Mining Supervisor annually or at such other times as he deems necessary. Before any mine or section of a mine is abandoned, closed, or made inaccessible, a survey of such mine or section shall be made and recorded on the map. All excavations in each separate bed shall be shown in such a manner that the production of coal for any royalty period can be accurately ascertained. Additionally, the map shall show the name of the mine, the name of the lessee, the Land Office serial number, the lease boundary lines, surface buildings, dip of the coalbed, true north, the map scale, an explanatory legend, and such other information as the Mining Supervisor shall request.

(b) *Underground mine maps.*—Underground mine maps shall, in addition to the general requirements of paragraph (a) of this section, show all mine workings; the date of extension of the mine workings, and a coal section at each entry face; the location of all surface mine fans; the position of all fire walls, dams, main pumps, fire pipelines, permanent ventilating stoppings, doors, overcasts, undercasts, permanent seals, and regulators; the direction of the ventilating current in the various parts of the mine at the time of making the latest surveys; sealed areas; known bodies of standing water either in or above the workings of the mine; areas affected by squeezes; the elevations of surface and underground levels of all shafts, slopes or drifts; and the elevation of the floor or bottom of the mine workings at regular intervals in main entries, panels or sections, sump areas, etc.

(c) *Surface mine maps.*—Surface mine maps shall, in addition to the general requirements of paragraph (a) of this section, show the date of extension of the mine workings and a coal section at each working face; all worked-out areas; the stripped but unmined coalbed; and the elevation of the top of the coalbeds and the surface.

(d) *Profiles of steeply dipping beds; vertical views of workings.*—When required by the mining supervisor, vertical projections and cross sections shall accompany plan views of steeply dipping beds.

(e) *Other maps.*—The operator shall prepare such other maps of the leased lands as in the judgment of the mining supervisor are necessary to show the surface boundaries; location, surface elevation, depth, and thickness of the coal, and total depth of each bore hole; improvements; reclamation completed; topography, including subsidence resulting from mining; and the geological conditions as determined from outcrops, drill holes, exploration or mining.

(f) *Accuracy of maps.*—The accuracy of maps furnished shall be certified by a professional engineer, professional land surveyor, or other professionally qualified person.

§ 211.13 Failure of lessee to furnish maps.

(a) *Liability of lessee for expense of survey.*—If the operator fails to furnish a required map, the mining supervisor shall employ a competent mine surveyor to make a survey and a map of the mine, the cost of which shall be charged to and promptly paid by the operator.

(b) *Incorrect maps.*—If any map submitted by an operator is believed to be incorrect, the mining supervisor may cause a survey to be made. If the survey shows the map submitted by the lessee to be substantially incorrect in whole or in part, the cost of making the survey and preparing the map shall be charged to and promptly paid by the operator.

PROSPECTING AND EXPLORATION OPERATIONS

§ 211.20 Information required to be submitted.

The operator shall submit promptly to the mining supervisor upon request, completion, suspension of prospecting or exploration operations, or as provided in the leases and permits, signed copies, in duplicate, of records of all prospecting operations performed on the lease or permit lands along with vertical cross sections through the land and a map showing the exact location of coal outcrops, all drill holes, trenches and other prospecting activities. The records shall include a log of all strata penetrated and conditions encountered, such as water, quicksand, gas, or any unusual conditions; copies of all other in-hole surveys, such as electric logs, gamma ray-neutron logs, sonic logs or any other logs produced; and copies of analyses and results of other tests conducted on the land. All drill holes, trenches and excavations will be logged under the supervision of a competent geologist or engineer. Unless otherwise authorized by the mining supervisor, the core and cuttings from test holes shall be retained by the operator for 1 year and shall be available for inspection at the convenience of the mining supervisor. The mining supervisor may sample such parts of the core and cuttings as he deems advisable.

§ 211.21 Core and test holes.

(a) *Abandonment.*—Drill holes, trenches and other excavations for development or prospecting shall be abandoned in a manner to protect the surface and not to endanger any present or future underground operation or any deposit of oil, gas, other mineral substances, or water strata. Methods of abandonment shall be by backfilling, cementing or capped casing, or both, or by other methods approved in advance by the mining supervisor.

(b) *Surveillance wells.*—With the approval of the mining supervisor, drill holes may be utilized as surveillance wells for the purpose of determining the effect of subsequent operations upon the quantity, quality, or pressure of ground water or mine gases.

(c) *Blowout control devices.*—When drilling on lands valuable or potentially valuable for oil and gas or geothermal resources, the drilling equipment shall be equipped with blowout control devices acceptable to the mining supervisor before penetrating more than 100 feet of consolidated sediments unless a greater depth is approved in advance by the mining supervisor.

(d) *Use of wells by others.*—Upon receipt of a written request from the surface owner or surface administering agency, the mining supervisor may approve the transfer of an exploratory well for further use as a water well. Approval of such well transfer will be accompanied by a corresponding transfer of responsibility for any liability for damage and eventual plugging.

WELFARE AND SAFETY

§ 211.25 Sanitary, welfare, and safety arrangements.

The underground and surface sanitary, welfare, health, and safety arrangements shall be in accordance with the regulations of the U.S. Public Health Service and the applicable standards in chapter 1 of this title.

CROSS REFERENCE.—For regulations of the U.S. Public Health Service, Department of Health, Education, and Welfare, see 42 CFR chapter 1.

MINING METHODS AND MINE ABANDONMENT

§ 211.30 Good practice to be observed.

The operator shall observe good practice following the highest standards in prospecting, exploration, testing, development and mining, sinking wells, shafts, and slopes, driving drifts and tunnels, blasting, transporting coal, hoisting, the use of explosives, timbering, pumping, reclamation, and other activities on the leased or permit lands.

§ 211.31 Ultimate maximum recovery.

(a) *Maximum recovery and protection for future use.*—Mining operations shall be conducted in a manner to yield the ultimate maximum recovery of the coal deposits, consistent with the protection and use of other natural resources, sound economic practice, and the protection and preservation of the environment—land, water and air.

(b) *No available coal to be abandoned.*—The lessee shall not leave or abandon any coal which otherwise could be safely recovered by approved methods of mining when in the regular course of mining operations the time shall arrive for mining such coal. No entry, level, or panel workings in which the pillars have not been completely extracted within safe limits shall be permanently abandoned and rendered inacessible, except with the written approval of the mining supervisor.

§ 211.32 Multiple seam mining.

(a) *Sequence of mining.* In general, the available coal in the upper beds shall be worked out before the coal in the lower beds is mined. Simultaneous workings in an upper coalbed shall be kept in advance of the workings in each lower bed. The mining supervisor may authorize mining of any lower beds before mining the available coal in each known upper bed.

(b) *Protective barrier pillars in multiple-seam mining.*—In areas subject to multiple-seam extraction, the protective barrier pillars for all main and secondary slope entries, main haulageways, primary aircourses, bleeder entries and manways in each seam shall be superimposed regardless of vertical separation or rock competency; however, modifications, exceptions, or variations of this requirement may be approved in advance by the mining supervisor.

§ 211.33 Advance workings; underground mines.

(a) *Limits for removing coal.*—Where the room and pillar or other system of mining requires advance working in solid coal, including entries, rooms, and crosscuts or breakthroughs, the lessee, except with the written consent of the mining supervisor, shall not extract by such advance workings or first mining more than 60 percent of the total area of the coalbed within any particular tract or panel entered by said advance workings where the cover is less than 500 feet; nor more than 50 percent where the cover is more than 500 feet and less than 1,000 feet; nor more than 40 percent where the cover is more than 1,000 feet and less than 1,500 feet; nor more than 30 percent where the cover is more than 1,500 feet and less than 2,000 feet; nor more than 20 percent where the cover is more than 2,000 feet. The mining supervisor may require a greater percentage to be left where unfavorable roof or floor conditions exist, where other adverse geologic conditions prevail or where the coalbed is or may be affected by mining elsewhere.

(b) *Pillar size and shape.*—During development, the size and shape of the pillars will be determined by the depth of cover, heights of coal, proposed method of pillar recovery and other conditions associated with the coalbed. The pillars will be of uniform size and shape insofar as is possible and the smallest dimension shall not be less than 20 feet.

(c) *Basis for computing percentage of tract to be mined.*—The percentage of the total area of the coalbed in a tract to be mined on advance mining shall be computed on the basis of the area and not on the basis of the calculated available tonnage.

§ 211.34 Pillar extraction.

(a) The pillar recovery plan must be approved in advance by the mining supervisor.

(b) Where full pillar recovery is undertaken, extraction shall be such as to allow total caving of the main roof in the pillared area.

(c) Pillars of substantial size which must be abandoned prematurely due to safety considerations must be drilled and shot, if possible, to reduce their size so as to minimize side forces overriding the working places.

(d) Pillaring methods shall be designed to eliminate pillar points and pillars that project in by the break line.

(e) The overall pillar recovery system shall be designed to minimize the possibility of outbursts, bounces and squeezes.

§ 211.35 Pillars left for support.

(a) *Shaft, entry and slope pillars.*—A pillar proportionate in size to the depth below the surface and the thickness of coal being extracted shall be left in each coalbed for the support of each shaft, main slope, main entry and main aircourse.

(b) *Shaft pillar size.*—Shaft pillars shall be not less in radius than one-half the thickness of cover over the pillar, but not less than 100 feet in radius.

(c) *Slope, main haulage and main aircourse pillar size.*—A pillar width not less than one-fourth of the thickness of cover above it shall be left on each side of the main slope entry system, main haulage entry system and/or main aircourse system. The pillar width will be determined by the maximum depth of the cover anticipated.

(d) *Openings in shaft and slope pillars.*—Shaft and slope landings, sidings, and entries for haulage, ventilation, manways, and shops may be excavated in a pillar provided the total of such places does not exceed 15 percent of the area of the pillar and that no rooms or other openings are made therein for the sole purpose of obtaining quick production.

(e) *Barrier pillars.*—The operator shall not, without the prior consent of the mining supervisor, mine any coal, drive any underground workings, or drill any lateral boreholes within 50 feet of any of the outside boundary lines of the leased lands, nor within such greater distance of said boundary lines as the mining supervisor may prescribe. Payment up to and including the full value of the coal mined may be required for coal mined within such designated distances of the boundary without the written consent of the mining supervisor.

(f) *Lessee may be required to mine barrier pillars on adjacent lands.*—If the coal on land covered by these regulations beyond any barrier pillar has been worked out and the water level beyond the pillar is below the lessee's adjacent operations, the lessee shall, on the written demand of the mining supervisor, mine out and remove all available coal in such barrier, both in the lands covered by the lease and in the adjoining premises, if it can be mined without hardship to the lessee. Authorization of the mining supervisor shall constitute a modification of the lease to include the necessary land.

(g) *Privately owned coal on adjoining premises.*—If the coal mining rights in adjoining premises are privately owned and this coal has been worked out, an agreement may be made with the coal owner for the extraction of the coal remaining in the boundary pillars which otherwise may be lost.

§ 211.36 Development of leased tract through adjoining mines.

An operator may mine leased land from an adjoining underground mine on land privately owned or controlled or from adjacent leased lands, under the following conditions:

(a) The entire mine and operations therein including that part on land privately owned or controlled shall conform to all the regulations in this part.

(b) Free access for inspection of said connecting mine on land privately owned or controlled shall be given at any reasonable time to the mining supervisor or his representative.

§ 211.37 Surface or open pit mining.

(a) *Fire prevention.*—Accumulations of slack coal or combustible waste shall be stored in a location and manner so as not to be a fire hazard to the coal deposit.

(b) *Coal face to be covered in strip pits.*—Upon completion or indefinite suspension of mining operations in all or any part of a strip pit, the face of the coal shall be covered with noncombustible material that will effectively prevent the coalbed from becoming ignited.

(c) *Underground workings from any strip pit.*—The driving of any underground openings by auger or other methods from any strip pit shall not be undertaken without prior written approval of the mining supervisor.

(d) *Reclamation and restoration of mined area.*—Reclamation must be performed as concurrently with mining as feasible.

§ 211.38 Mining isolated blocks of nonleased coal.

Narrow strips of coal which are owned by the United States between leased lands and the outcrop, or small blocks of coal which are owned by the United States adjacent to leased land that would otherwise be isolated or lost may be mined on written authorization of the mining supervisor. Authorization of the mining supervisor shall constitute a modification of the lease to include the necessary land.

§ 211.39 Mine abandonment; surface openings.

(a) *General requirement for abandonment.*—The operator shall substantially backfill, fence, protect or otherwise effectively close all surface openings, subsidence holes, surface excavations or workings which are a hazard to people or animals. Such protective measures shall be maintained in a secure condition during the term of the lease, permit or license. Before permanent abandonment of operations all openings and excavations, including water discharge points, shall be closed or backfilled according to a plan approved by the mining supervisor.

(b) *Permanent abandonment of shafts.*—Mine shafts shall be abandoned in a permanent manner so as not to cause a public hazard or nuisance. This shall be done by filling the entire depth with incombustible material or by placing a reinforced concrete slab in solid rock and backfilling to the surface. All proposals for abandoning a shaft must have prior approval of the mining supervisor.

(c) *Permanent abandonment of slope and drift openings.*—Slope or drift openings when permanently abandoned shall be effectively sealed with solid incombustible material such as reinforced concrete, solid concrete blocks, or other substantial material; or shall be completely filled with incombustible material for a distance of at least 25 feet into such openings. The surface openings and the coal exposed by the operator shall be covered by a sufficient amount of incombustible material that will effectively prevent the coalbed from becoming ignited. All proposals for abandoning a slope or drift must have prior approval of the mining supervisor.

(d) *Temporary abandonment of surface openings.*—Surface openings at all underground mines which are temporarily closed shall be adequately fenced or equipped with a substantial incombustible gate or door which shall remain locked when not in use. Conspicious signs shall be posted prohibiting entrance of unauthorized persons.

(e) *Permanent abandonment—surface mines and strip pits.*—The highwall of the final cut of any abandoned strip or open pit mine must be graded to a slope not greater than 2 to 1. Details shall be provided in the approved plan of reclamation required under part 211.10.

(f) *Reclamation and cleanup.*—Reclamation and cleanup of surface areas around and near permanently abandoned underground and strip mines must commence without delay following cessation of mining operations.

PROTECTION AGAINST MINE HAZARDS

§ 211.40 Abandonment of undergroound workings.

(a) *Approval for abandonment required.*—No underground workings or part thereof shall be permanently abandoned and rendered inaccessible without the written approval of the mining supervisor.

(b) *Sealing or ventilating abandoned workings.*—All abandoned workings shall be either sealed or ventilated. All seals shall be constructed of solid, substantial, incombustible material, and at least one seal in each sealed area will be fitted with a pipe and valve for testing the atmosphere and pressures in the sealed area.

§ 211.41 Flammable gas and coal dust.

(a) *Flammable gas.*—All active underground workings shall be ventilated by a current of air containing not less than 19.5 percent oxygen by volume, not more than 0.5 percent carbon dioxide by volume, and contain no harmful quantities of other noxious or poisonous gases. The volume and velocity of the current of ventilating air shall be sufficient to dilute, render harmless, and to carry away flammable, explosive, noxious, and harmful gases, dust, and smoke. No dangerous accumulations of flammable gas will be allowed in or on surface coal handling facilities nor near active strip or augering mining or other types of remote coal recovery methods under an open pit highwall.

(b) *Coal dust.*—Accumulations of coal dust, loose coal, and other combustible materials shall not be permitted to accumulate in dangerous quantities in active underground and surface mine workings, on electrical equipment, or on surface coal handling facilities.

§ 211.42 Approaching abandoned workings.

Whenever a working place in an underground mine approaches within 50 ft of abandoned areas which can be inspected or within 200 ft of any abandoned areas of the mine which cannot be inspected and which may contain dangerous accumulations of water or gas, or within 200 ft of any workings of an adjacent mine, a borehole or boreholes shall be drilled to a distance of at least 20 ft in advance of the working face of such working place and shall be continually maintained to a distance of at least 10 ft in advance of the working face. Such boreholes shall be drilled sufficiently close to each other to insure that the advancing face will not accidentally hole through into abandoned areas or adjacent mines. Boreholes shall also be drilled at an angle of 45° and not more than 8 ft apart in the rib of such working places to a distance of at least 20 ft and such rib holes shall be drilled in one or both ribs of such working places as may be necessary for adequate protection of persons working in such places.

§ 211.43 Fire protection and prevention.

All structures within 100 ft of any mine opening shall be of fireproof construction. Flammable material shall not be stored within 100 ft of a mine opening. All shafts shall be fireproof, or adequate fire-control devices, satisfactory to the mining supervisor, shall be installed. All underground offices, stations, shops, magazines, and stores shall be of fireproof construction, or adequately equipped and maintained to eliminate fire hazards. Sufficient materials and firefighting apparatus in working condition shall be maintained at the mine openings and at convenient points in the mine workings for fire emergencies. An adequate water supply shall be held in storage tanks or reservoirs for fire emergencies and shall be available for immediate use through connecting pipelines for either surface or underground fires.

§ 211.44 Alternate source of power for main mine fans.

If deemed necessary by the mining supervisor, all electrically driven main mine fans shall be provided with an alternate source of power for immediate use in case of failure of the electrical power source.

WASTE FROM MINING

§ 211.51 Disposal of mine waste or rejects.

(a) The operator shall dispose of all solid wastes resulting from the mining and preparation of coal and mineral substances as required by the mining supervisor.

(b) All waste or rejects containing practically no coal shall be deposited separately and apart from sized coal for which no immediate market exists. The waste containing coal in such quantity that it may be later separated from the waste by washing or other means shall also be stored separately.

PRODUCTION RECORDS, ROYALTY AND AUDITS

§ 211.60 Production records.

(a) Lessees shall maintain books in which will be kept a correct account by weight of all coal mined; coal sold; to whom sold and the price received; coal stored; coal used on the premise; and coal otherwise disposed of.

(b) Permittees, if producing coal under a prospecting permit, must maintain the same records as required of the lessees in paragraph (a) of this section.

(c) Licensees must maintain a correct record of all coal mined and removed from the land under license.

(d) All records and books maintained by lessees, permittees and licensees showing the required information must be kept current and in such manner that the records can be readily checked by the mining supervisor or his representative upon request.

§ 211.61 Basis for Royalty Computation.

(a) *Sale price.*—The sale price basis for determination of the amount of royalty due shall not be less than the highest and best obtainable market price for coal of similar quality at the usual and customary place of disposal:

(1) At the time of sale, if the coal is sold.

(2) At the time of use by the operator or other disposition, if the coal is used or otherwise disposed of.

(3) On the date the royalty is paid, if the coal is stored for future use, sale, or other disposition.

(b) *Bone or other impurities.*—All bone coal, rock and other impurities may be removed from the raw coal prior to determination of coal weights for royalty purposes.

(c) *Discretion of mining supervisor.*—(1) The right is reserved to the mining supervisor to determine and declare the sale price if it is deemed necessary by him to do so for the protection of the interests of the lessor.

(2) If royalties become due and payable prior to extraction of bone coal, rock, and other impurities or final weighing of coal, the mining supervisor may determine by estimate the weight of the coal for royalty purposes. In addition, the mining supervisor may, after the removal of bone coal, rock and other impurities and final weighing of the coal, require the payment of such additional royalties or allow such credits or refunds as may be necessary to adjust the royalty payments to reflect the true weight of the coal.

§ 211.62 Production reports and payment—other reports.

(a) *Lessees.*—Lessees shall report, on the report form provided, within 30 days after expiration of the period covered by the report, all coal mined from the leased land during each calendar quarter and the sales price basis on which royalty has been paid or will be paid. Except as provided by leases and permits issued under the regulations in 25 CFR parts 171, 172, 173, and 174, the royalty for coal mined shall be paid prior to the end of the third month succeeding the extraction of the coal from the mine.

(b) *Permittees.*—Permittees shall report the prospecting work done, the cost of the work, the results of prospecting and such other information as may be necessary. Permittees shall report all coal mined while determining the existence or workability of the deposit.

(c) *Licensees.*—Licensees shall report all coal mined on a semiannual basis on the report form provided.

(d) *Penalty.*—If a lessee or permittee records or reports less than the true weight or value of coal mined, the Secretary may impose a penalty equal to double the amount of royalty due on the shortage, or the full value of the shortage, which penalty shall be paid in addition to royalty due and payable. If, after warning a lessee or permittee maintains false records or files false reports, a suit to cancel the lease may be instituted in addition to the imposition of penalties.

§ 211.63 Audits.

An audit of the lessee's or permittee's accounts and books may be made annually, or at other such times as may be directed by the mining supervisor, by certified public accountants and at the expense of the lessee. The lessee shall furnish, free of cost, duplicate copies of such annual or other audits to the mining supervisor within 30 days after the completion of each audit.

INSPECTION, ISSUANCE OF ORDERS, AND ENFORCEMENT OF ORDERS

§ 211.70 Inspection of underground and surface conditions.

Operators shall provide means at all reasonable hours, either day or night, for the Mining Supervisor or his representative to inspect or investigate the underground or surface mine conditions; to conduct surveys; to estimate the amount of coal mined; to study the methods of prospecting, exploration, testing, development, preparation, and handling necessary; to determine the volumes, types, and composition of wastes generated, the adequacy of measures for minimizing the amount of such wastes, and the measures for treatment and disposal of such wastes; and to determine whether the terms and conditions of the permit or lease and the requirements of the exploration, mining or reclamation plan have been complied with.

§ 211.71 Issuance of notices, instructions, and orders.

(a) *Address of responsible party.*—Before beginning operations, the operator shall inform the Mining Supervisor in writing of the designation and post office address of the exploration or mining operation, the operator's temporary and permanent post office address, and the name and post office address of the superintendent, or designated operator or agent, who will be in charge of the operations and who will act as the local representative of the operator. Thereafter, the Mining Supervisor shall be informed of each change of address of the mine office or in the name or address of the local representative.

(b) *Receipt of the notices, instructions, and orders.*—The operator shall be considered to have received all notices, instructions, and orders that are mailed to or posted at the mine or mine office, or mailed or handed to the superintendent, the mine foreman, the mine clerk, or higher officials connected with the mine or exploration site for transmittal to the operator or his local representative.

§ 211.72 Enforcement of orders.

(a) *Notice of noncompliance.*—If the Mining Supervisor determines that an operator has failed to comply with the regulations in this part, other applicable departmental regulations, the terms and conditions of the permit or lease, the requirements of an approved exploration or mining plan, or with the Mining Supervisor's orders or instructions, the Mining Supervisor shall serve a notice of noncompliance. The notice shall specify in what respects the operator has failed to comply with the provisions of applicable regulations, the terms and conditions of the permit or lease, the requirements of an approved exploration or mining plan or the orders and instructions of the Mining Supervisor, and shall specify the action which must be taken to correct the noncompliance and the time limits within which such action must be taken. A written report shall be submitted by the operator to verify that noncompliance has been corrected.

(b) *Penalty for noncompliance.*—If, in the judgment of the Mining Supervisor, failure to comply with the regulations, the terms and conditions of the permit or lease, the requirements of approved exploration or mining plans, or with the Mining Supervisor's orders or instructions threaten immediate, serious, or irreparable damage to the environment, the mine or the deposit being mined, or other valuable mineral deposits or other resources, the Mining Supervisor or his representative is authorized, either in writing or orally with written confirmation, to suspend operations without prior notice of noncompliance. Failure of the operator to take action in accordance with the notice of noncompliance shall be grounds for ordering suspension of operations by the Mining Supervisor.

PART 216—OPERATING REGULATIONS GOVERNING THE MINING OF COAL IN ALASKA [REVOKED]

Part 216 of chapter II of title 30 of the Code of Federal Regulations is revoked.

JOHN B. RITCH,
Deputy Assistant Secretary of the Interior.

APRIL 24, 1973.

[FR Doc.73-8318 Filed 4-27-73;8:45 am]

proposed rules

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF THE TREASURY

Bureau of Alcohol, Tobacco and Firearms

[27 CFR Part 7]

[Notice No. 270]

LABELING AND ADVERTISING OF MALT BEVERAGES

Postponed Hearing

The public hearing on proposed amendments to the above part, pertaining to ingredient labeling of malt beverages, which was originally announced for October 1, 1974 (FR Doc. 74-17720), and postponed to February 3, 1975 (FR Doc. 74-21814) has again been postponed to April 15, 1975, at the same time and location. The last date for submission of written material and requests to present oral testimony has consequently been extended to April 8, 1975.

The postponement was caused by unforeseen difficulties arising in connection with the publication of notices of hearing on ingredient labeling of wine and distilled spirits. These hearings were originally intended to be held contemporaneously with the malt beverage hearing, but Congressional and international interest made it desirable to delay publication of these notices to allow sufficient time for interested parties to explore the ramifications of the proposed regulations. Publication of notices of hearing for wine and distilled spirits will be published soon, with all three hearings scheduled during April 1975. As indicated in the previous postponement notice, all alcoholic beverage industries are interrelated, and our final regulations for each will undoubtedly be much the same. As a result, much of the data presented at the wine and distilled spirits hearings will also be relevant to our proposed malt beverage regulation, and prudence would seem to dictate that many of the substantive decisions in connection with the malt beverage regulation be withheld until after the wine and distilled spirits hearings. For this reason, and also the fact that for competitive reasons it is highly desirable that the transition period during which ingredient labeling is optional and the mandatory compliance dates for all three regulations coincide, it is highly unlikely that an earlier hearing date would result in an earlier effective date for the malt beverage regulation.

For these reasons, we have decided that it would be in the best interests of all concerned to postpone the malt beverage ingredient labeling hearing to April 15, 1975, with hearings on wine and distilled spirits to be scheduled for the same month.

Dated: January 28, 1975.

REX D. DAVIS,
Director, Bureau of Alcohol, Tobacco and Firearms.

[FR Doc.75-2906 Filed 1-29-75;8:45 am]

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[50 CFR Part 28]

DUNGENESS NATIONAL WILDLIFE REFUGE, WASH.

Proposed Curtailment of Horseback Riding; Extension of Time

In FR Doc. 74-29393 appearing in the issue of December 18, 1974, (39 FR 43728) the date reading "January 30, 1975," for receiving written comments has been extended and should read "March 1, 1975."

Dated: January 27, 1975.

LYNN A. GREENWALT,
Director,
U.S. Fish and Wildlife Service.

[FR Doc.75-2724 Filed 1-29-75;8:45 am]

Geological Survey

[30 CFR Parts 211, 216]

COAL MINING OPERATING REGULATIONS

On April 30, 1973, a notice and text of a proposed revision of the coal mining operating regulations, governing operations conducted under coal permits leases, and licenses on public and acquired lands of the United States and Indian lands administered by the Department of the Interior, and a proposed revocation of 30 CFR Part 216—*Operating Regulations Governing the Mining of Coal in Alaska*, was published in the FEDERAL REGISTER (38 F.R. 10686-10692). The proposed revision of 30 CFR Part 211 was for the following purposes:

(1) To update the existing regulations by deleting obsolete provisions and including requirements consistent with modern mining practices; and

(2) To clarify the responsibility of lessees, permittees, and licensees for the protection of the surface, the natural resources, the environment and existing improvements during operations for the discovery, testing, development, mining and preparation and handling of coal.

It was also proposed that 30 CFR Part 216, applicable to coal mining operations under leases in the State of Alaska issued pursuant to the Alaska Coal Leasing Act of October 20, 1914 (38 Stat. 741), prior to its repeal by Pub. L. 86-252, September 9, 1959, 73 Stat. 490, be revoked and that operations under those leases also be governed by the regulations in 30 CFR Part 211.

The notice stated that after expiration of the 60-day period provided for submitting comments, suggestions, or objections with respect to the proposed regulations, the regulations would be further revised, if deemed necessary, and republished in the FEDERAL REGISTER as interim regulations. After consideration of the views presented, and in light of policy decisions made subsequent to the April 1973 notice, it is deemed necessary, in accordance with the policy of the Department of the Interior, to afford the public an opportunity to participate in the rulemaking process whenever practicable, to repropose these regulations for further public review.

Therefore, notice is hereby given that pursuant to the authority vested in the Secretary of the Interior under the Mineral Leasing Act of February 25, 1920, as amended and supplemented (30 U.S.C. 181-287), the Mineral Leasing Act for Acquired Lands (30 U.S.C. 351-359), 5 U.S.C. 301, the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347), and various statutes relating to mining on Indian lands, it is proposed to revise 30 CFR Part 211 as set forth below.

It is also proposed that 30 CFR Part 216, applicable to coal mining operations under leases in the State of Alaska which were issued pursuant to the Alaska Coal Leasing Act of October 20, 1914 (38 Stat. 741), prior to its repeal by Pub. L. 86-252, September 9, 1959, 73 Stat. 490, be revoked and that operations under those leases also be governed by the regulations in 30 CFR Part 211 as set forth below.

The Department of the Interior is currently conducting an environmental review of the coal leasing program. The Council on Environmental Quality has recommended that regulations for the effective management and protection of the public lands be promulgated to serve as interim regulations pending completion of that environmental review. The revision of 30 CFR Part 211, presently proposed, is essential for such effective management and protection of the public lands. The delay which would be occasioned by the preparation of a separate environmental statement related solely to the proposed regulations or the withholding of promulgation until an environmental statement on the coal

leasing program is completed would create a period during which effective management and protection of the public lands would be hindered. Moreover, the interim nature of the revised regulations will limit their overall cumulative impact on the quality of the human environment.

Accordingly, the proposed regulations are published without the preparation of an environmental statement. When the review and statement on the coal leasing program are completed, the regulations in effect at that time will be revised to conform with the conclusions of the review.

Additionally, as a matter of policy, it is imperative not to delay any longer the specification of performance standards for surface coal mining on public and acquired lands of the United States and Indian lands administered by the Department of the Interior. So far as possible under existing leasing law, these revised standards will require that surface mined Federal coal land is reclaimed to the standards which will be recommended by the Administration for inclusion in Federal legislation for the regulation of all surface coal mining. The Administration's recommended standards will clarify ambiguities and meet the other objections which led to the withholding of the President's signature from the surface mining bill passed by the 93rd Congress. It is anticipated that by establishing performance standards for mining and reclamation now, permittees, lessees, and licensees will be able to more clearly project and understand obligations and attendant costs in developing the coal deposits in which they have an interest.

Major changes from the April 30, 1973, proposed revision are as follows:

(1) Section 211.1 has been changed to make it clear that the regulations apply to Federal and Indian-owned coal regardless of surface ownership.

(2) Section 211.2 has been expanded to include definitions of "Approximate original contour," "Exploration plan," "Mining plan," and "Mining Operations Orders," and the definition of the term "Reclamation" has been amended.

(3) Section 211.3(b)(2) has been expanded to require that reclamation work be performed as an integral part of the mining operation and be completed within reasonable prescribed time limits, and that in the case of mining operations for which performance standards have been established, reclamation be accomplished in accordance with such standards.

(4) Section 211.3(b)(9) has been amended to enlarge the Mining Supervisor's responsibility for reporting trespasses to include exploration activities conducted in trespass.

(5) Section 211.3(b)(10) has been expanded to require that exploratory or mining operations be conducted in compliance with applicable water or air effluent or emission standards and regulations.

(6) Section 211.3(b)(11) has been amended to provide authority for the Mining Supervisor to issue Mining Operations Orders. These Orders, which require prior approval of the Chief, Conservation Division of the U.S. Geological Survey, will implement the regulations in this Part 211 and will apply to operations in an area or a major portion thereof. Authority to issue Mining Operations Orders is considered desirable because the different conditions which exist on Federal and Indian lands in different parts of the country require variations in the manner in which the general regulations contained in this Part 211 will be implemented.

(7) In § 211.3, paragraph (b)(12) has been added to provide that it is the Mining Supervisor's responsibility to determine the amount of reclamation bond adequate to insure reclamation as required under the mining plan.

(8) In § 211.4(c) the obligation of lessees, permittees, and licensees has been enlarged to include avoidance of serious alteration of the normal flow of water and damage to archaeological values.

(9) In § 211.4(e), a provision has been added to permit the Mining Supervisor to require sampling and analysis of waters affected by mining operations when he has reason to believe a water pollution problem may exist.

(10) In § 211.4(f), the last sentence has been changed to require an operator to submit, within 30 days after an accident, a detailed report indicating the cause of the accident and the corrective action taken.

(11) Section 211.4(h) has been amended to provide that mineral areas shall be reclaimed in such a manner that there will not be continued air or water pollution from the area affecting surrounding or adjacent lands; and to make it clear that an operator fails to take appropriate action to protect the mine, coal deposits, or surrounding environment, the mine and land will not be deemed to have been properly conditioned for abandonment in accordance with the requirements of these regulations.

(12) In § 211.4(i), a provision has been added to permit the Mining Supervisor to specify the type of tests that are to be made to analyze the soil in overburden.

(13) In § 211.5, a new paragraph (b) has been added to require that mining plans be made available for public inspection.

(14) Section 211.10 has been expanded to include the following additional requirements:

(a) Reclamation of mined areas is to be an integral part of a mining plan and must progress contemporaneously with the mining operation.

(b) The Mining Supervisor shall consider public comments received on mining plans when making decisions on such plans.

(c) The items listed in paragraphs (b) and (c) to be included, respectively, in exploration and mining plans are made required items rather than items that the Mining Supervisor could or could not require.

(d) A description of the present land use within and adjacent to exploration and mining areas and projected use after completion of operations is to be included in exploration and mining plans.

(e) Expanded revegetation requirements have been made a part of the exploration plan requirements.

(f) A description of the measures to be taken for prevention of air, surface and water pollution, is to be included in the mining plans.

(g) The surface reclamation portion of an exploration or mining plan is to take into account the impact of the proposed operation on adjacent land uses and the proposed future use of the lands.

(h) The estimated cost of reclamation is to be furnished.

(i) A description of the hydrologic consequence of mining and reclamation is to be furnished to the Mining Supervisor.

(j) The location of surface drainage controls and diversion structures and structure contour lines on mineable coal beds is to be included on mining maps.

(k) Previous underground mines are to be shown on mining maps.

(15) In § 211.37, paragraphs (a), (b), and (c) have been renumbered (b), (c), and (d) respectively. Former paragraph (d) has been designated as paragraph (a) and has been expanded to include performance standards for the reclamation of mined areas affected by coal surface mining operations. These revised standards are based on the performance standards contained in the bill passed by the 93rd Congress (see Conference Report on Surface Mining Control and Reclamation Act of 1974, H.R. Rept. 93–1152, 93rd Cong. 2nd Sess. (1974)). Some changes, particularly in provisions relating to hydrology, siltation and impoundment standards, have been made. It should be noted that performance standards relating specifically to steep-slope surface mining (any slope above twenty degrees) have been omitted from § 211.37(a), since no such mines exist or are contemplated on public and acquired lands of the United States and Indian lands administered by the Department of the Interior. It should be further noted that the limited number of mines which would have qualified as "special bituminous coal mines" under the bill passed by the 93rd Congress (*Id.* at 57) may be subject to alternative requirements regarding standards governing onsite handling of spoils, elimination of depressions capable of collecting water, creation of impoundments, and regrading to approximate original contour. Such alternative requirements will be authorized by Mining Operations Orders issued in accordance with § 211.3(b)(11). These Orders will be published in the FEDERAL REGISTER for public review.

(16) In § 211.39, paragraph (c) has been deleted since it substantially duplicates 30 CFR 211.37(b), and paragraphs (d), (e), and (f) have been redesignated (c), (d), and (e), respectively. Redesignated paragraph (d) has been changed to require that details of reclamation be included in mining plans required under § 211.10; and the 2 to 1 ratio (grade

requirement) for the highwall slope has been deleted. Paragraph (e) has been changed to make it clear that the requirements for reclamation and clean-up following cessation of mining operations includes removal of all the equipment and structures related to the mining operation.

(17) Section 211.51(a) has been changed to require that solid wastes shall be disposed of in a manner that will not cause air and water pollution and will not spontaneously ignite.

(18) Section 211.51(b) has been changed to require that waste piles shall be shaped to blend into the surrounding area, covered with top soil and revegetated.

(19) Section 211.61(a) has been changed to substitute a "value basis" for "sale basis" for the purpose of determining coal royalties, and to provide that coal will be deemed to have been sold when it is delivered at the usual and customary place of shipment.

(20) Section 211.72 has been changed to make it clear that, absent the threat of immediate, serious or irreparable damage to the environment, mine, or other resources, suspension of operations by the Mining Supervisor will not be ordered for non-compliance with regulations, terms and conditions of the lease or permit, or requirements of an approved exploration or mining plan during the period an appeal is pending from a notice requiring corrective action.

(21) Provisions pertaining to the health and safety of miners have been deleted from these regulations since health and safety standards for coal mines are now covered by the Coal Mine Health and Safety Act of 1969, and the regulations in 30 CFR Chapter I.

Additional changes of a minor nature or for clarification but of no substantive effect have also been made in the proposed regulations.

Interested persons may submit written comments, suggestions, or objections with respect to the proposed revision of 30 CFR Part 211 and the proposed revocation of 30 CFR Part 216 to the Director, U.S. Geological Survey, Reston, Virginia 22092, on or before March 3, 1975. After the period for comments has expired, the proposed regulations will be revised, if appropriate, and republished in the FEDERAL REGISTER as interim regulations. It is anticipated that upon republication the regulations will take effect immediately. All applicants for permits, leases, or licenses will thereupon be required to comply with the requirements of this part. Operators holding existing permits, leases, or licenses will be required to comply with the requirements of this part no later than 180 days following the date of republication of these regulations in the FEDERAL REGISTER with respect to lands from which overburden and the coal seam being mined have not been removed.

Part 211 of Title 30 of the Code of Federal Regulations is revised to read as follows:

PART 211—COAL-MINING OPERATING REGULATIONS

ADMINISTRATION OF REGULATIONS AND DEFINITIONS

MAPS AND PLANS

PROSPECTING AND EXPLORATION OPERATIONS

MINING METHODS AND MINE ABANDONMENT

PROTECTION AGAINST MINE HAZARDS

WASTE FROM MINING

PRODUCTION RECORDS, ROYALTY AND AUDITS

INSPECTION, ISSUANCE OF ORDERS, AND ENFORCEMENT OF ORDERS

AUTHORITY: 34 Stat. 539, 35 Stat. 312 (25 U.S.C. 355 NT); 35 Stat. 781 (25 U.S.C. 396); sec. 32, 41 Stat. 450 (30 U.S.C. 189); 42 Stat. 1067 (25 U.S.C. 501, 502); 52 Stat. 347 (25 U.S.C. 396 a–f); 61 Stat. 915 (30 U.S.C. 359); 5 U.S.C. 301; Pub. L. 91–190, 83 Stat. 852 (42 U.S.C. 4321).

ADMINISTRATION OF REGULATIONS AND DEFINITIONS

§ 211.1 Scope and purpose.

(a) The regulations in this part shall govern operations for the discovery, testing, development, mining, preparation, and handling of coal under coal leases, licenses and permits issued for federally-owned coal, regardless of surface ownership, pursuant to the regulations in 43 CFR Group 3500 and the Alaska Coal Leasing Act of October 20, 1914 (38 Stat. 741), and for the reclamation of lands disturbed by such operations. These regulations shall also apply to operations for the discovery, testing, development, mining, preparation, and handling of coal in tribal and allotted Indian lands under leases and permits, regardless of ownership of the surface, issued under the regulations in 25 CFR Parts 171, 172, 173, and 174; and for the reclamation of lands disturbed by such operations.

(b) The purpose of the regulations in this part is to promote orderly and efficient prospecting, exploration, testing, development, mining, preparation and handling operations and production practices, without avoidable waste or loss of coal or other mineral deposits or damage to coal or other mineral-bearing formation; to encourage maximum recovery and use of coal resources; to promote operating practices which will avoid, minimize or correct damage to the environment—land, water, and air—and avoid, minimize or correct hazards to public health and safety; to require effective reclamation of lands; and to obtain a proper record and accounting of all coal produced.

(c) These regulations will be interpreted and administered to the fullest extent possible in accordance with the policies of the National Environmental Policy Act of 1969 (83 Stat. 852; 42 U.S.C. 4321–4347).

(d) When the regulations in this part relate to matters included in the regulations in 25 CFR Part 177—Surface Exploration, Mining and Reclamation of Lands—pertaining to Indian lands, the regulations in that part shall govern to the extent of any inconsistencies, except with respect to the performance standards of § 211.37.

(e) When the regulations in this part relate to matters included in the regulations in 43 CFR Part 23, the regulations in that part shall govern with respect to technical examinations, issuance or denial of leases, performance bonds, and reports to the extent of any inconsistencies; otherwise, the regulations in this part shall govern. In any event, the performance standards of § 211.37 shall apply.

(f) The responsibility for enforcement of the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 U.S.C. 801) and the coal mine health and safety regulations contained in Chapter I of this Title is vested in the Mining Enforcement and Safety Administration, Department of the Interior, and compliance with the regulations in this part shall not be deemed to fulfill any requirements contained in the regulations promulgated under that act.

§ 211.2 Definitions.

The terms used in this part shall have the following meanings:

(a) *Secretary.* The Secretary of the Interior.

(b) *Director.* The Director of the U.S. Geological Survey, Department of the Interior.

(c) *Division Chief.* The Chief of the Conservation Division, U.S. Geological Survey.

(d) *Conservation Manager.* A Conservation Manager, Conservation Division, U.S. Geological Survey.

(e) *Mining Supervisor.* The Area Mining Supervisor, Conservation Division, U.S. Geological Survey, a representative of the Secretary, subject to the direction and supervisory authority of the Director, the Division Chief, and the appropriate Conservation Manager, authorized and empowered to regulate operations and to perform other duties prescribed in the regulations in this part, or a District Mining Supervisor or other subordinate acting under his direction.

(f) *Lessee.* Any person or persons, partnership, association, corporation, or municipality to whom a coal lease is issued subject to the regulations in this part, or an assignee of such lease under an approved assignment.

(g) *Permittee.* Any person or persons, partnership, association, corporation, or municipality to whom a coal prospecting permit is issued subject to the regulations in this part, or an assignee of such permit under an approved assignment.

(h) *Licensee.* Any individual, association of individuals, or municipality to whom a coal license is issued subject to the regulations in this part.

(i) *Leased lands, leased premises, or leased tract.* Any lands under a coal lease and subject to the regulations in this part.

(j) *Permit lands.* Any lands under a coal prospecting permit and subject to the regulations in this part.

(k) *Operator.* A lessee, permittee, or licensee, or one conducting operations on lands under the authority of the lessee, permittee, or licensee.

(l) *Reclamation.* The process of land, air, and water treatment that restricts and controls water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, erosion, and other harmful effects resulting from exploration, mineral development, mining, on-site processing operations or waste disposal so that the affected area, including where appropriate, areas adjacent to the mining site are restored to a stable condition capable of supporting the uses which they were capable of supporting prior to exploration, mining or processing operations, or an equal or better economic or public use suitable to the locality.

(m) *Coal.* Coal of all ranks from lignite to anthracite.

(n) *Mine.* An underground or surface excavation and all parts of the property of a mining plant, either on the surface or underground, that contribute directly or indirectly to the mining and preparation and handling of coal.

(o) *Preparation.* The sizing, cleaning, drying, mixing, and crushing of the coal and such other work of preparing coal for market.

(p) *Portal.* Any surface entrance to an underground mine.

(q) *Entry.* An underground passage used for haulage, ventilation or as a manway.

(r) *Shaft.* A portal, the axis of which is approximately vertical, extending from the surface to develop one or more coal deposits.

(s) *Slope.* An inclined mine opening or inclined entry in a dipping coal formation or an inclined tunnel through rock to intersect a coal bed.

(t) *Drift.* A horizontal mine opening or horizontal entry or passage underground.

(u) *Stripping operation.* The term "stripping operation" or "strip pit" or "open pit" shall mean a mining excavation or development by means of a surface pit in which material over the coal bed is first removed and the coal itself is then extracted.

(v) *Approximate original contour.* A surface configuration achieved by backfilling and grading of the mined area so that it closely resembles the surface configuration of the land prior to mining (although not necessarily the original elevation) and blends into and complements the drainage pattern of the surrounding terrain, with all highwalls, spoil piles, and depressions eliminated except that water impoundments may be permitted where the Mining Supervisor determines that they are in compliance with the requirements of this part.

(w) *Exploration plan.* A detailed plan submitted to the Mining Supervisor for approval prior to operations commence, showing the location and type of work to be conducted, environmental protection procedures, access and support roads, and reclamation procedures to be followed upon completion of operations to restore and revegetate disturbed areas.

(x) *Mining plan.* A detailed plan submitted to the Mining Supervisor for approval prior to commencement of mining operations showing location, method of mining and extent, and all related activities necessary and incident to such operations, and to show steps to be taken to protect the environment during operations and the reclamation methods to be used to restore and revegetate the disturbed areas.

(y) *Mining Operations Orders.* A formal numbered order issued by the Mining Supervisor, with the prior approval of the Division Chief, which implements the regulations in this part and applies to operations in an area or a major portion thereof.

§ 211.3 Responsibilities.

(a) Subject to the supervisory authority of the Secretary, the regulations in this part shall be administered by the Director through the Division Chief, the Conservation Manager, and the Mining Supervisor.

(b) The Mining Supervisor is empowered to regulate prospecting, exploration, testing, development, mining, preparation, handling, and reclamation operations under the regulations in this part. The Mining Supervisor in the performance of his duties shall:

(1) *Inspection and supervision of operations to prevent waste or damage.* Examine as frequently as necessary the lease, permit, or license lands where operations for the discovery, testing, development, mining or preparation and handling of coal are conducted or are to be conducted; inspect and regulate such operations, including operations at accessory plants, for the purpose of preventing waste or degradation of mineral substances or damage to formations and deposits, or non-mineral reserves affected by the operations, and to insure that the provisions of applicable laws and regulations, the terms and conditions of the permit, lease, or license and the requirements of the approved exploration or mining plans are being complied with.

(2) *Compliance with regulations, lease, permit, or license terms; and approved plans.* Require operators to conduct their operations in compliance with the provisions of applicable laws and regulations, the terms and conditions of the leases, permits, or licenses, and the requirements of approved exploration or mining plans, and require that reclamation work be performed in an environmentally sound manner and as contemporaneously as practicable with the mining operation, within time limits prescribed by the Mining Supervisor; and that, in the case of mining operations for which performance standards have been established, require that reclamation be accomplished in accordance with such standards.

(3) *Reports on condition of lands and manner of operation; recommendations for protection of property.* Make reports to the Division Chief through the Conservation Manager, as to the general conditions of lands under permit, lease, or license and the manner in which operations are being conducted and orders or instructions are being complied with; and submit information and recommendations for protecting the coal, the coal-bearing formations, other minerals and the non-mineral resources.

(4) *Manner and form of records, reports and notices.* Prescribe, subject to the approval of the Division Chief, the manner and form in which records of operations, reports and notices shall be made.

(5) *Records of production; rentals and royalties.* Obtain and check the records of production of coal; determine rental and royalty liability of lessees and permittees; collect and deposit rental and royalty payments; and maintain rental and royalty accounts.

(6) *Suspension of operations and production.* Act on applications for suspension of operations or production or both filed pursuant to 43 CFR 3503-2(e), and terminate, when appropriate, suspensions which have been granted; and transmit to the Bureau of Indian Affairs for appropriate action applications for suspension of operations or production or both under leases on Indian lands.

(7) *Cessation and abandonment of operations.* Upon receipt of a report of cessation or abandonment of operations, or relinquishment of a lease, permit, or license, inspect and determine whether the operator has complied with the terms and conditions of the permit or lease and the approved exploration or mining plans; and determine and report

to the agency having administrative jurisdiction over the lands when the lands have been properly conditioned for abandonment. The Mining Supervisor, in accordance with applicable regulations, in 43 CFR Part 23 or 25 CFR Part 177, will consult with, or obtain the concurrence of the authorized officer of the agency having administrative jurisdiction over the lands with respect to compliance by the operator with the surface protection and reclamation requirements of the lease or permit and the exploration or mining plan.

(8) *Wells or prospect holes.* Prescribe or approve the methods of protection from wells or prospect holes drilled for any purpose through the coal measures and mines on leased lands and on coal lands subject to lease, with a view to the prevention of leakage of oil, gas, water, or other fluid substances that might damage coal deposits or contaminate surface water and/or ground water, and prescribe or approve methods of obtaining the maximum extraction, so far as practicable, of coal in the vicinity of such wells.

(9) *Trespass.* Report to the agency having administrative jurisdiction over the lands any trespass that involves exploration activities or removal of coal deposits.

(10) *Water and air quality.* Inspect exploratory and mining operations to determine the adequacy of water management and pollution control measures for the protection and control of the quality of surface and ground water resources and the adequacy of emission control measures for the protection and control of air quality and require that the exploratory or mining operations be conducted in compliance with applicable water and air effluent or emission standards and regulations.

(11) *Compliance with regulations.* Issue Mining Operations Orders and other orders and instructions necessary to assure compliance with the purposes of the regulations in this part.

(12) *Posting of Reclamation Bonds.* Determine the amount of reclamation bonds or other equally appropriate financial arrangements so that they are at all times sufficient to satisfy the estimated costs of the reclamation requirements of the approved exploration or mining plan in the event that reclamation is not completed in accordance with the plan.

§ 211.4 General obligations of licensees, permittees and lessees (including designated operators or agents).

(a) Operations involving the discovery, testing, development, mining, preparation, handling of coal, and reclamation of lands shall conform to the provisions of applicable laws and regulations; the terms and conditions of the lease, permit, or license; the requirements of approved exploration or mining plans; and the orders and instructions issued by the Mining Supervisor.

(b) The operator shall take precautions to prevent waste and damage to coal-bearing formations or other mineral formations.

(c) The operator shall take such action as may be needed to avoid, minimize, or control soil erosion; pollution of air; pollution of surface or ground water; serious alteration of the normal flow of water; damage to vegetative growth, crops, or timber; injury or destruction of fish and wildlife and their habitat; creation of unsafe or hazardous conditions; damage to improvements, whether owned by the United States, its permittees, licensees or lessees, or by others; and damage to recreational, scenic, historical, archaeological, and ecological values of the land. The surface of leased or permit lands shall be reclaimed in accordance with the terms and conditions prescribed in the lease or permit and the provisions of the approved exploration or mining plan. Good "housekeeping" practices shall be observed at all times. Where any question arises as to the necessity for or the adequacy of an action to meet the requirements of this paragraph, the determination of the Mining Supervisor shall be final, subject to the right of appeal as provided in Part 290 of this chapter.

(d) All operations conducted under the regulations in this part must be consistent with appropriate requirements as established pursuant to the Federal Water Pollution Control Act as amended and the Clean Air Act as amended.

(e) If the Mining Supervisor has reason to believe that a water pollution problem exists, he may require that a lessee, permittee, or licensee sample and analyze water affected by the mining operations. When the Mining Supervisor determines that a water pollution problem exists, he shall require that a lessee, permittee, or licensee maintain records of the use of water, quantity and quality of waste water produced, and the quantity and quality of waste water disposal, including mine drainage discharge, process wastes and associated wastes. In order to obtain this information, the lessee, permittee, or licensee may be required to install a suitable monitoring system.

(f) Accidents threatening damage to the mine, the lands, or the deposits, or accidents which could cause water pollution shall be reported promptly to the Mining Supervisor by telephone. Within 30 days after an accident the operator shall submit to the Mining Supervisor a detailed report of damages caused by the accident and the corrective action taken.

(g) Lessees and permittees shall submit the reports required by 25 CFR Part 177, 43 CFR Part 23, and Part 200 of this chapter.

(h) The mined area shall be reclaimed in such a manner that there will not be continued air or water pollution from the area affecting surrounding or adjacent lands. If the operator fails to take appropriate action to protect the mine, coal deposits, or surrounding environment from damage or threatened damage by fire, water, oil, gas, or other hazards, or fails to protect properly the mine or deposits or eliminate hazards to the public, such mine and lands shall not be deemed to have been properly conditioned for abandonment in compliance with §§ 211.3(c)(7) and 211.39 of this part, and the lessee, permittee, or licensee shall be liable for the expense of labor and supplies used by, or under the direction of the Mining Supervisor for the protection of the property, air, water, and other environmental resources and elimination of hazards to the public.

(i) In areas where strip mining is anticipated, the operator shall drill an adequate number of core holes in the overburden overlying the coal, the stratum immediately below the coal to be mined, and will log each stratum penetrated and have each stratum analyzed for at least the following: nitrogen, phosphorus, potassium, pH, and any other tests which the Mining Supervisor may specify. The analyses will be used to determine which material must be buried during the stripping operations and to determine suitable material that will be placed near the surface for favorable propagation of vegetation. The number of holes and analyses will be specified by the Mining Supervisor.

§ 211.5 Public inspection of records.

(a) Geological and geophysical interpretations, maps, and data and commercial and financial information required to be submitted under this part shall not be available for public inspection without the consent of the permittee or lessee so long as the permittee or lessee furnishing such data, or his successors or assignees, continues to hold a permit or lease of the lands involved.

(b) Mining plans submitted under § 211.10 of this part will be made available for public inspection in the office of the appropriate Mining Supervisor. For new mine plans, for major modifications in existing surface mine plans, or for surface related changes in existing underground plans submitted for approval, interested parties will have a 30-day period after publication of notice to inspect such plans in the office of the District or Area Mining Supervisor and to comment thereon. A notice of the availability of the plan will be posted at the appropriate office on the day the plan is received and a copy of the posting will be mailed to the appropriate county clerk for posting or publication.

§ 211.6 Appeals.

Orders or decisions issued under the regulations in this part may be appealed as provided in Part 290 of this Chapter.

MAPS AND PLANS

§ 211.10 Exploration and mining plans.

(a) *General.* Before conducting any operations, the operator shall submit to the Mining Supervisor for approval an exploration or mining plan, in quintuplicate, which shall show in detail the proposed exploration, prospecting, testing, development, mining and reclamation operations to be conducted. Exploration and mining plans shall be consistent with and responsive to the requirements of the lease or permit for maximizing recovery of the resources, for the protection

of non-mineral resources and for the reclamation of the surface of the lands affected by the operations. The mining plan must show that reclamation is an integral part of the plan and will progress contemporaneously with the mining operation and must provide sufficient information to substantiate the effectiveness of the proposed reclamation method. The Mining Supervisor, after considering all comments received pursuant to § 211.5(b), shall approve or disapprove the plan or indicate what modifications are necessary to conform to the provisions of the applicable regulations and the terms and conditions of the permit or lease. No operations shall be conducted except in accordance with an approved plan.

(b) *Exploration plans.* The Mining Supervisor shall require that an exploration plan include all of the following:

(1) A description of the environmental conditions within the area where exploration is to be conducted and a general description of the regional environmental conditions.

(2) A description of the present land use within and adjacent to the area and the projected use after completion of operations.

(3) A narrative description including:

(i) Method of exploration and types of equipment to be used.

(ii) Measures to be taken to prevent or control fire, soil erosion, pollution of surface and ground water, pollution of air, damage to fish and wildlife or their habitat, or other natural resources and hazards to public health and safety. Such measures shall include the actions necessary to meet the requirements of the applicable Federal and State environmental regulatory agencies.

(iii) Method for plugging drill holes.

(iv) Measures to be taken for surface reclamation which shall take into account the impact of the proposed operation on adjacent land uses and the proposed future use of the lands explored and shall include:

(A) A reclamation schedule.

(B) Method of grading, backfilling, and contouring.

(C) Method of soil preparation and fertilizer applicatior.

(D) Type and mixture of shrubs, trees, grasses, or legumes to be planted.

(E) Method of planting, including amount and spacing.

(4) Estimated timetable for each phase of the work and for final completion of the program.

(5) Five copies of a suitable map or aerial photograph showing existing topographic, cultural and drainage features, and the proposed location of drill holes, trenches, access roads, etc.

(c) *Mining plans.* The Mining Supervisor shall require that a mining plan include all of the following as appropriate to either surface or underground mines:

(1) A description of the environmental conditions within the area where mining is to be conducted and a general description of the regional environmental conditions. The description of the area environmental conditions shall include as a minimum types, depths, and distribution of soils and types, density, and distribution of vegetation. The description of the regional environmental conditions shall include a monthly range of temperature, precipitation, average direction and velocity of prevailing winds, and the dominant wildlife species.

(2) The conditions of the land covered by the mining plan prior to any mining including:

(i) The uses existing at the time the mining plan is submitted for approval, and if the land has a history of previous mining, the uses which preceded any mining.

(ii) The capability of the land prior to any mining to support a variety of uses giving consideration to soil and foundation characteristics, topography and vegetative cover.

(3) The use which is proposed to be made of the land following reclamation, including a discussion of the utility and capacity of the reclaimed land to support a variety of alternative uses and the relationship of such uses to existing land use policies and plans, and the comments of any State and local governments or agencies thereof which would have to approve or authorize the proposed use of the land following reclamation.

(4) A detailed description of how the proposed postmining land use is to be achieved and the necessary support activities which may be needed to achieve the proposed land use.

(5) A narrative description including:

(i) Nature and extent of the coal deposit, including estimated recoverable reserves.

(ii) Method of mining, including mining sequence and production rate.

(iii) The engineering techniques proposed to be used in mining and reclamation and a description of the major equipment; the plan for the control of surface water drainage and of water accumulation; the plan, where appropriate, for backfilling, soil stabilization, and compacting, grading, and appropriate revegetation (where vegetation existed immediately prior to mining); and estimate of the cost per acre of the reclamation, including a statement as to how the operator plans to comply with each of the requirements set out in § 211.37(a) of this part.

(iv) The anticipated or actual starting and termination dates of each phase of the mining operation and number of acres of land to be affected.

(v) The steps to be taken to comply with applicable air and water quality laws and regulations and any applicable health and safety standards.

(vi) The consideration which has been given to developing reclamation in a manner consistent with local, physical, environmental, and climatological conditions and current mining and reclamation technologies.

(vii) The consideration which has been given to insuring the maximum practicable recovery of the mineral resource.

(viii) A detailed estimated timetable for the accomplishment of each major step of reclamation.

(ix) The consideration which has been given to making the surface mining and reclamation operations consistent with applicable State and local land use plans and programs.

(x) Method of abandoning mine openings, including mine portals, shafts, slopes and entries.

(xi) The logs and analyses of core samples taken of the strata and a description of the method of depositing the spoils based on these samples.

(xii) A description of the hydrologic consequences, if any, of the mining and reclamation operations, both on and off the mine site, with respect to the hydrologic regime, quantity and quality of water in surface and ground water systems, including sufficient data regarding dissolved and suspended solids under seasonal flow conditions and sufficient data for the mine site and surrounding area so that an assessment can be made of the probable cumulative impacts of the anticipated mining operation upon the hydrology of the area.

(6) Five copies of suitable maps or aerial photographs showing:

(i) Topographic, cultural, and natural drainage features, roads, and vehicular trails.

(ii) The name of the watershed and location of the surface stream or tributary into which mine waters will be discharged, if applicable.

(iii) Cross-section maps or plans of the land to be affected including the actual area to be mined, showing pertinent elevation and location of test borings or core samplings and depicting the following information: the nature and depth of the various strata of overburden; the location of subsurface water, if encountered, and its quality; the nature and thickness of any coal or rider seam above the coal seam to be mined; the nature of the stratum immediately beneath the coal seam to be mined; all mineral croplines and the strike and dip of the coal to be mined within the area of land to be affected; existing or previous surface mining limits; the location and extent of known workings or any underground mines, including mine openings to the surface; the location of aquifers; the estimated elevation of the water table; the location of spoil, waste, or refuse areas and topsoil preservation areas; the location of all impoundments for waste or erosion control; any settling or water treatment facilities; constructed or natural drainways and the location of any discharges to any surface body of water on the area of land to be affected or adjacent thereto; and profiles at appropriate cross-sections of the anticipated final surface configuration that will be achieved pursuant to the operator's proposed reclamation activities.

(iv) Size and locations for mine and surface structures and facilities.

(v) For an underground mine, the planned mine layout, including location

of shafts, slopes, drifts, main haulageway, aircourses, entries and barrier pillars; and the proposed widths of all slopes, entries, haulageways, aircourses, rooms, crosscuts, and barrier pillars.

(d) *Changes in plans.* Exploration and mining plans may be reasonably revised or supplemented by the Mining Supervisor at any time to adjust to changed conditions or to correct an oversight. If the operator seeks to obtain approval of a changed or supplemental plan, he shall submit a written statement of the proposed changes or supplement and the justification for the proposed changes.

§ 211.11 Approaching oil, gas, or water wells.

When mining operations approach wells or bore holes that may liberate oil, gas, water, or other fluid substances, the lessee shall present his plans for mining the coal in proximity to such holes to the Mining Supervisor and obtain his approval before proceeding with the work planned.

§ 211.12 Mine maps.

(a) *General requirements.* The operator shall maintain an accurate and up-to-date map of the mine, drawn to a scale acceptable to the Mining Supervisor. All maps shall be appropriately marked with reference to Government landmarks or lines and elevations with reference to sea level. Copies of such maps shall be properly posted to date and furnished, in duplicate, to the Mining Supervisor annually or at such other times as he deems necessary. Before any mine or section of a mine is abandoned, closed or made inaccessible, a survey of such mine or section shall be made and incorporated in the map. All excavations in each separate bed shall be shown in such a manner that the production of coal for any royalty period can be accurately ascertained. Additionally, the map shall show the name of the mine; the name of the lessee; the Land Office serial number, or Bureau of Indian Affairs lease or permit contract number, tribal name of tribal land, allotment number if allotted land, and name of Indian reservation; the lease boundary lines; surface buildings, dip of the coal bed; true north; the map scale; and explanatory legend; and such other information as the Mining Supervisor shall request.

(b) *Underground mine maps.* Underground mine maps shall, in addition to the general requirement of paragraph (a) of this section, show all mine workings; the date of extension of the mine workings, and a coal section at each entry face; the location of all surface mine fans; the position of all fire walls, dams, main pumps, fire pipelines, permanent ventilating stoppings, doors, overcasts, undercasts, permanent seals and regulators; the direction of the ventilating current in the various parts of the mine at the time of making the latest surveys; sealed areas, known bodies of standing water, either in or above the workings of the mine, areas affected by squeezes; the elevations of surface and underground levels of all shafts, slopes or drifts; and the elevation of the floor or bottom of the mine workings at regular intervals in main entries, panels or sections, and sump areas.

(c) *Surface mine maps.* Surface mine maps shall, in addition to the general requirements of paragraph (a) of this section include date of extension of the mine workings and a coal section at each working face; all worked out areas; the stripped but unmined coal bed; and the elevation of the top of the coal beds and the surface.

(d) *Profiles of steeply dipping beds; vertical view of workings.* When required by the Mining Supervisor, vertical projections and cross-sections shall accompany plan views of steeply dipping beds.

(e) *Other maps.* The operator shall prepare such other maps of the leased lands as in the judgment of the Mining Supervisor are necessary to show the surface boundaries; location, surface elevation, depth and thickness of the coal and total depth of each bore hole; improvements; reclamation completed; topography, including subsidence resulting from mining; and the geological conditions as determined from outcrops, drill holes, exploration or mining.

(f) *Accuracy of maps.* The accuracy of maps furnished shall be certified by a professional engineer, professional land surveyor, or other professionally qualified person.

§ 211.13 Failure of lessee to furnish maps.

(a) *Liability of lessee for expense of survey.* If the operator fails to furnish a required map, the Mining Supervisor shall employ a competent mine surveyor to make a survey and a map of the mine, the cost of which shall be charged to and promptly paid by the operator.

(b) *Incorrect maps.* If any map submitted by an operator is believed to be incorrect, the Mining Supervisor may cause a survey to be made. If the survey shows the maps submitted by the lessee to be substantially incorrect in whole or in part, the cost of making the survey and preparing the map shall be charged to and promptly paid by the operator.

PROSPECTING AND EXPLORATION OPERATIONS

§ 211.20 Information required to be submitted.

The operator shall submit promptly to the Mining Supervisor upon request, completion, suspension of prospecting or exploration operations, or as provided in the leases and permits, signed copies, in duplicate, of records and geologic interpretation of all prospecting operations performed on the lease or permit lands, including recoverable reserve calculations, along with vertical cross-sections through the land and a map showing the exact location of coal outcrops, all drill holes, trenches and other prospecting activities. The records shall include a log of all strata penetrated and conditions encountered, such as water, quicksand, gas, or any unusual conditions; copies of all other in-hole surveys, such as electric logs, gamma ray-neutron logs, sonic logs or any other logs produced; and copies of coal analyses and results of other tests conducted on the land. All drill holes, trenches and excavations will be logged under the supervision of a competent geologist or engineer. Unless otherwise authorized by the Mining Supervisor, at least one-fourth of the core from a longitudinal split from core holes shall be retained by the operator for one year and shall be available for inspection at the convenience of the Mining Supervisor. The Mining Supervisor may sample such parts of the core and cuttings as he deems advisable.

§ 211.21 Core and test holes.

(a) *Abandonment.* Drill holes, trenches, and other excavations for development or prospecting shall be abandoned in a manner to protect the surface and not to endanger any present or future underground operations or any deposit of oil, gas, other mineral substances, or water strata. Methods of abandonment shall be by backfilling, cementing or capped casing, or both, or by methods approved in advance by the Mining Supervisor.

(b) *Surveillance wells.* With the approval of the Mining Supervisor, drill holes may be utilized as surveillance wells for the purpose of determining the effect of subsequent operations upon the quantity, quality, or pressure of ground water or mine gases.

(c) *Blowout control devices.* When drilling on lands valuable or potentially valuable for oil and gas or geothermal resources, the operator shall, when required by the Mining Supervisor, set and cement casing in the hole and install suitable blowout prevention equipment.

(d) *Use of wells by others.* Upon receipt of a written request from the surface owner or surface administering agency, the Mining Supervisor may approve the transfer of an exploratory well for further use as a water well. Approval of such well transfer will be accompanied by a corresponding transfer of responsibility for any liability for damage and eventual plugging.

MINING METHODS AND MINE ABANDONMENT

§ 211.30 Good practice to be observed.

The operator shall observe good practice following the highest standards in performing any operations on the leased or permit lands.

§ 211.31 Maximum recovery.

(a) *Maximum recovery and protection for future use.* Mining operations shall be conducted in a manner to yield the maximum recovery of the coal deposits, consistent with the protection and use of other natural resources, sound economic practice, and the protection and preservation of the environment—land, water, and air.

(b) *No available coal to be abandoned.* The lessee shall not leave or abandon any coal which otherwise could be safely recovered by approved methods of mining when in the regular course of mining operations the time shall arrive for mining such coal. No entry, level, or panel

workings in which the pillars have not been completely extracted within safe limits shall be permanently abandoned and rendered inaccessible, except with the written approval of the Mining Supervisor.

§ 211.32 Multiple seam mining.

(a) *Sequence of mining.* In general, the available coal in the upper beds shall be worked out before the coal in the lower beds is mined. Simultaneous workings in an upper coal bed shall be kept in advance of the workings in each lower bed. The Mining Supervisor may authorize mining of any lower beds before mining the available coal in each known upper bed.

(b) *Protective barrier pillars in multiple seam mining.* In areas subject to multiple seam extraction, the protective barrier pillars for all main and secondary slope entries, main haulageways, primary aircourses, bleeder entries and manways in each seam shall be superimposed regardless of vertical separation or rock competency; however, modifications, exceptions, or variations of this requirement may be approved in advance by the Mining Supervisor.

§ 211.33 Advance workings; underground mines.

Where the room and pillar or other system of mining requires advance workings in solid coal, including entries, rooms or crosscuts, the lessee shall leave sufficient pillars to insure the ultimate maximum recovery of the coal deposits.

§ 211.34 Pillar extraction.

(a) The pillar recovery plan must be approved in advance by the Mining Supervisor.

(b) Where full pillar recovery is undertaken, extraction shall be such as to allow total caving of the main roof in the pillared area.

(c) Pillars of substantial size which must be abandoned prematurely due to safety considerations must be drilled and shot, if possible, to reduce their size so as to minimize undue forces overriding the working places.

(d) Pillaring methods shall be designed to eliminate pillar points and pillars that project in by the breakline.

(e) The overall pillar recovery system shall be designed to minimize the possibility of outbursts, bounces and squeezes.

§ 211.35 Pillars left for support.

(a) *Barrier pillars.* The operator shall not, without the prior consent of the Mining Supervisor, mine any coal, drive any underground workings, or drill any lateral bore holes within 50 feet of any of the outside boundary lines of the leased lands, nor within such greater distance of said boundary lines as the Mining Supervisor may prescribe. Payment up to and including the full value of the coal mined may be required for coal mined within such designated distances of the boundary without the written consent of the Mining Supervisor.

(b) *Lessee may be required to mine barrier pillars on adjacent lands.* If the coal on land covered by these regulations beyond any barrier pillar has been worked out and the water level beyond the pillar is below the lessee's adjacent operations, the lessee shall, on the written demand of the Mining Supervisor, mine out and remove all available Federal coal in such barrier, both in the lands covered by the lease and in the adjoining premises, if it can be mined without hardship to the lessee.

(c) *Privately or tribally owned coal on adjoining premises.* If the coal mining rights in adjoining premises are privately or tribally owned and this coal has been worked out, an agreement may be made with the coal owner for the extraction of the coal remaining in the boundary pillars which otherwise may be lost.

§ 211.36 Development of leased tract through adjoining mines.

An operator may mine leased land from an adjoining underground mine on land privately owned or controlled or from adjacent leased lands, under the following conditions:

(a) The entire mine and operations therein including that part on land privately owned or controlled shall conform to all the regulations in this part.

(b) Free access for inspection of said connecting mine on land privately owned or controlled will be given at any reasonable time to the Mining Supervisor or his representative.

§ 211.37 Surface mining.

(a) *Performance standards for reclamation of mined areas.* Performance standards for the reclamation of mined areas affected by coal surface mining operations shall require the operator as a minimum to:

(1) Conduct surface coal mining operations so as to maximize the utilization and conservation of the solid fuel resource being recovered so that reaffecting the land in the future through surface coal mining can be minimized.

(2) Restore the land affected to a condition at least fully capable of supporting all actual or practicable uses which it was capable of supporting prior to any mining, or higher or better uses of which there is a reasonable likelihood, so long as such use or uses do not present any actual or probable hazard to public health or safety or pose any actual or probable threat of water diminution or pollution, and the operator's declared proposed land use following reclamation is not deemed to be impractical or unreasonable, inconsistent with applicable land use policies and plans, involves unreasonable delay in implementation, or is violative of Federal, State, or local laws.

(3) With respect to all surface coal mining operations backfill, compact (where advisable to insure stability or to prevent leaching of toxic materials), and grade in order to restore the approximate original contour of the land with all highwalls, spoil piles, and depressions eliminated, unless small depressions are needed in order to retain moisture to assist revegetation or as otherwise authorized pursuant to this part; provided, however, that in surface coal mining which is carried out at the same location over a substantial period of time where the operation transacts the coal deposit, and the thickness of the coal deposits relative to the volume of overburden is large, and where the operator demonstrates that the overburden and other spoil and waste materials at a particular point in the mining site or otherwise available from the entire mining site is insufficient, giving due consideration to volumetric expansion, to restore the approximate original contour, the operator, at a minimum, shall backfill, grade, and compact (where advisable) using all available overburden and other spoil and waste materials to attain the lowest practicable grade but not more than the angle of repose, to provide adequate drainage and to cover all acid forming and other toxic materials, in order to achieve an ecologically sound land use compatible with the surrounding region; and provided further, that in surface coal mining where the volume of overburden is large relative to the thickness of the coal deposit and where the operator demonstrates that due to volumetric expansion the amount of overburden and other spoil and waste materials removed in the course of the mining operation is more than sufficient to restore the approximate original contour, the operator shall after restoring the approximate contour, backfill, grade, and compact (where advisable) the excess overburden and other spoil and waste materials to attain the lowest grade but not more than the angle of repose, and to cover all acid-forming and other toxic materials, in order to achieve an ecologically sound land use compatible with the surrounding region and that such overburden or spoil shall be shaped and graded in such a way as to prevent slides, erosion, and water pollution and is revegetated in accordance with the requirements of this part.

(4) Stabilize and protect all surface areas including spoil piles affected by the mining and reclamation operation to effectively control erosion and attendant air and water pollution.

(5) Remove the topsoil from the land in a separate layer, replace it on the backfill area, or if not utilized immediately, segregate it in a separate pile from other spoil and when the topsoil is not replaced on a backfill area within a time short enough to avoid deterioration of the topsoil, maintain a successful cover by quick growing plants or other means thereafter so that the topsoil is preserved from wind and water erosion, remains free of any contamination by other acid or toxic material, and is in a usable condition for sustaining vegetation when restored during reclamation, except if topsoil is of insufficient quantity or of poor quality for sustaining vegetation, or if other strata can be shown to be more suitable for vegetation requirements, then the operator shall remove, segregate, and preserve in a like manner such other strata which is best able to support vegetation.

(6) Restore the topsoil or the best available subsoil which has been segregated and preserved.

(7) Protect offsite areas from slides or damage occurring during surface mining and reclamation operations, and not deposit spoil material or locate any part of the operations or waste accumulations outside the mining site.

(8) Create, if authorized in the approved mining plan, permanent impoundments of water on mining sites as part of reclamation activities only when it is adequately demonstrated that:

(i) The size of the impoundment is adequate for its intended purposes.

(ii) The impoundment dam construction will be so designed as to achieve necessary stability with an adequate margin of safety compatible with that of structures constructed under Pub. L. 83-566 (16 U.S.C. 1006).

(iii) The quality of impounded water will be suitable on a permanent basis for its intended use and that discharges from the impoundment will not degrade the water quality in the receiving stream.

(iv) The level of water will be reasonably stable.

(v) Final grading will provide adequate safety and access for proposed water users.

(vi) Such water impoundments will not result in the diminution of the quality or quantity of water utilized by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses.

(9) Fill all auger holes with an impervious and noncombustible material in order to prevent drainage.

(10) Minimize the disturbances to the prevailing hydrologic balance at the mine site and in associated offsite areas and to the quality and quantity of water in surface and ground water systems, both during and after surface coal mining operations and during reclamation by:

(i) Avoiding acid or other toxic mine drainage by such measures as, but not limited to, preventing or removing water from contact with toxic producing deposits; treating drainage to reduce toxic content which adversely affects downstream water upon being released to water courses; or casing, sealing, or otherwise managing bore holes, shafts, and wells to keep acid or other toxic drainage from entering ground and surface waters.

(ii) Conducting surface mining operations so as to prevent to the maximum extent practicable additional contributions of suspended solids to streamflow or runoff outside the mining site above natural levels under seasonal flow conditions as measured prior to any mining, and avoiding channel deepening or enlargement in operations requiring the discharge of water from mines.

(iii) Removing temporary or large siltation structures from drainways after disturbed areas are revegetated and stabilized.

(iv) Restoring recharge capacity of the aquifer at the mine site to approximate premining conditions.

(v) Preserving to the maximum extent practicable throughout the mining and reclamation process the hydrologic integrity of alluvial valley floors in arid and semiarid areas.

(vi) Such other actions as the Mining Supervisor may prescribe.

(11) With respect to surface disposal of mine wastes, coal processing wastes, and other wastes in areas other than the mine working or excavations, stabilize all waste piles in designated areas through construction in compacted layers, including the use of incombustible and impervious materials, if necessary, and assure the final contour of the waste pile will be compatible with natural surroundings and that the site can and will be stabilized and revegetated according to the provisions of this part.

(12) Refrain from surface coal mining within 500 feet from active and abandoned underground mines in order to prevent breakthroughs and to protect the health or safety of miners: Provided, that the Mining Supervisor may permit an operator to mine closer to an active or abandoned underground mine where this does not create hazards to the health and safety of miners and shall permit an operator to mine near, through or partially through an abandoned underground mine working where such mining through will achieve improved resource recovery, abatement of water pollution, or elimination of public hazards, and such mining shall be consistent with the provisions of this part.

(13) With respect to the use of existing or new impoundments for the disposal of coal mine wastes, coal processing wastes, or other liquid or solid wastes, incorporate the best engineering practices for the design and construction of water retention facilities and construct or reconstruct such facilities to insure that the construction will be so designed to achieve necessary stability with an adequate margin of safety to protect the health and safety of the public, and which at a minimum, is compatible with that of structures constructed under Pub. L. 83-566 (16 U.S.C. 1006); that leachate will not pollute surface or ground water; that no mine waste such as coal fines and slimes determined as unsuitable for construction constituents by sound engineering methods and design practices are used in the construction of water impoundments, water retention facilities, dams, or settling ponds; and that the structures are so located as to minimize danger to the public health and safety.

(14) Insure that all debris, acid forming materials, toxic materials, or materials constituting a fire hazard are treated or disposed of in a manner designed to prevent contamination of ground or surface waters or sustained combustion.

(15) Insure that explosives are used only in accordance with existing State and Federal law and the requirements specified by the Mining Supervisor which shall include provisions to:

(i) Provide adequate advance written notice by publication and/or posting of the planned blasting schedule to local governments and to residents who might be affected by the use of such explosives and maintain for a period of at least two years a log of the magnitudes and times of blasts.

(ii) Limit the type of explosives and detonating equipment, the size, the timing and frequency of blasts based upon the physical conditions of the site so as to prevent injury to persons, damage to public and private property outside the mining site, adverse impacts on any underground mine, and change in the course, channel, or availability of ground or surface water outside the mining site.

(16) Insure that all reclamation efforts proceed in an environmentally sound manner and as contemporaneously as practicable with the surface mining operations.

(17) Insure that construction, maintenance, and postmining conditions of access roads into and across the site of operations will control or prevent erosion and siltation, pollution of water, damage to fish or wildlife or their habitat, or public or private property, except that the Mining Supervisor may permit the retention after mining of certain access roads where consistent with land use plans and programs and where necessary may permit a limited exception to the restoration of approximate original contour for that purpose.

(18) Refrain from the construction of roads or other access ways up a stream bed or drainage channel or in such proximity to such channel so as to seriously alter the normal flow of water.

(19) Establish on the regraded areas, and all other lands affected, a diverse, effective and permanent vegetative cover native to the area of land to be affected and capable of self-regeneration and plant succession at least equal in extent of cover to the natural vegetation of the area; except, that introduced species may be used in the revegetation process where desirable and necessary to achieve the approved postmining land use plan.

(20) Assume the responsibility for successful revegetation, as required by paragraph (a)(19) of this section, for a period of five full years after the last year of augmented seeding, fertilizing, irrigation, or other work in order to assure compliance with paragraph (a)(19) of this section, except in those areas or regions of the country where the annual average precipitation is 26 inches or less, then the operator's assumption of responsibility and liability will extend for a period of 10 full years after the last year of augmented seeding, fertilizing, irrigation, or other work; except when the Mining Supervisor approves a long-term intensive agricultural postmining land use, the applicable 5 or 10-year period of responsibility for revegetation shall commence at the date of initial planting for such long-term intensive agricultural postmining land use; and except further that when the Mining Supervisor approves a long-term, intensive, agricultural postmining land use as part of the mining plan, he may grant exceptions to the provisions of paragraph (a)(19) of this section.

(21) Meet such other criteria as are necessary to achieve reclamation in accordance with the purposes of this part, taking into consideration the physical, climatological, and other characteristics of the site, and to insure the maximum

practicable recovery of the mineral resources.

(b) *Fire prevention.* Accumulations of slack coal or combustible waste shall be stored in a location and manner so as not to be a fire hazard. If a coal seam exposed by surface mining or accumulation of slack coal or combustible waste becomes ignited during the term of a lease, the operator will immediately extinguish the fire.

(c) *Coal face to be covered in strip pits.* Upon completion or indefinite suspension of mining operations in all or any part of a strip pit, the face of the coal shall be covered with non-combustible material that will effectively prevent the coal bed from becoming ignited.

(d) *Underground workings from any strip pit.* The driving of any underground openings by auger or other methods from any strip pit shall not be undertaken without prior written approval of the Mining Supervisor.

§ 211.38 Mining isolated blocks of nonleased coal.

Narrow strips of coal which are owned by the United States between leased lands and the outcrop, or small blocks of coal which are owned by the United States adjacent to leased land that would otherwise be isolated or lost may be mined on written authorization of the Mining Supervisor.

§ 211.39 Mine abandonment: surface openings.

(a) *General requirement for abandonment.* The operator shall substantially backfill, fence, protect or otherwise effectively close all surface openings, auger holes, subsidence holes, surface excavations or workings which are a hazard to people or animals. Such protective measures shall be maintained in a secure condition during the term of the lease, permit or license. Before permanent abandonment of operations, all openings and excavations, including water discharge points, shall be closed or backfilled according to the mining plan approved by the Mining Supervisor.

(b) *Permanent abandonment of shafts.* Mine shafts, slopes and drift openings shall be abandoned in a permanent manner. All proposals for abandoning shafts, slopes, and drift openings must have prior approval of the Mining Supervisor.

(c) *Temporary abandonment of underground mines.* Surface openings at all underground mines which are temporarily closed shall be adequately fenced or equipped with a substantial incombustible gate or door which shall remain locked when not in use. Conspicuous signs shall be posted prohibiting entrance of unauthorized persons. Such temporary abandonment shall not relieve the operator of his obligation to comply with the provisions of his approved mining plan.

(d) *Permanent abandonment—surface mines and strip pits.* Details for permanent abandonment of surface mines and strip pits shall be provided in the approved mining plan required under Section 211.10 of this part.

(e) *Reclamation and clean-up.* Reclamation and clean-up of surface areas around and near permanently abandoned underground and strip mines, including removal of equipment and structures related to the mining operation, must commence without delay following cessation of mining operations.

PROTECTION AGAINST MINE HAZARDS

§ 211.40 Abandonment of underground workings.

Approval for abandonment is required. No underground workings or part thereof shall be permanently abandoned and rendered inaccessible without the written approval of the Mining Supervisor.

§ 211.41 Coal dust.

Accumulations of coal dust, loose coal and other combustible materials shall not be permitted to accumulate in areas where it is likely to cause air or water pollution.

WASTE FROM MINING

§ 211.51 Disposal of mine waste or rejects.

(a) The operator shall dispose of all solid wastes resulting from the mining and preparation of coal in a manner that will not cause air and water pollution and will not spontaneously ignite.

(b) All waste or rejects containing practically no coal shall be deposited separately and apart from sized coal for which no immediate market exists. Waste piles shall be shaped to blend into the surrounding area, covered with topsoil and revegetated.

(c) Waste containing coal in such quantity that it may be later separated from the waste by washing or other means shall also be stored separately.

PRODUCTION RECORDS, ROYALTY AND AUDITS

§ 211.60 Production records.

(a) Lessees shall maintain books in which will be kept a correct account by weight of all coal mined; coal sold, to whom sold and the price received; coal stored, coal used on the premises; and coal otherwise disposed of.

(b) Licensees must maintain a correct record of all coal mined and removed from the land under license.

(c) All records and books maintained by lessees and licensees showing the required information must be kept current and in such manner that the records can be readily checked by the Mining Supervisor or his representative upon request.

§ 211.61 Basis for Royalty Computation.

(a) *Value basis.* The value basis for determination of the amount of royalty due shall not be less than the best obtainable market price. In the determination of market price of coal sold used by the operator or stored, due consideration shall be given the applicable contracts, the highest and best obtainable market price for coal of similar quality at the usual and customary place of disposal, and other relevant matters. Coal will be deemed to be sold when it is delivered at the usual and customary place of shipment.

(b) *Bone or other impurities.* All bone coal, rock and other impurities may be removed from the raw coal prior to determination of coal weights for royalty purposes.

(c) *Discretion of Mining Supervisor.* (1) The right is reserved to the Mining Supervisor to determine and declare the value either before or after receipt of royalty payments if it is deemed necessary by him to do so for the protection of the interests of the lessor.

(2) If royalties become due and payable prior to extraction of bone coal, rock and other impurities or final weighing of coal, the Mining Supervisor may determine by estimate the weight of the coal for royalty purposes. In addition, the Mining Supervisor may, after the removal of bone coal, rock and other impurities and final weighing of the coal, require the payment of such additional royalties or allow such credits or refunds as may be necessary to adjust the royalty payments to reflect the true weight of the coal.

§ 211.62 Production reports and payment—other reports.

(a) *Lessees.* Lessees shall report, on the report form provided, within 30 days after expiration of the period covered by the report, all coal mined from the leased land during each calendar quarter and the value basis on which royalty has been paid or will be paid. Except as provided by leases and permits issued under the regulations in 25 CFR Parts 171, 172, 173, and 174, the royalty for coal mined shall be paid prior to the end of the third month succeeding the extraction of the coal from the mine.

(b) *Permittees.* Permittees shall report the prospecting work done, the cost of the work, the results of prospecting and such other information as may be necessary (see § 211.20 of this part). Permittees shall report all coal mined while determining the existence or workability of the deposit.

(c) *Licensees.* Licensees shall report all coal mined on a semi-annual basis on the report form provided.

(d) *Penalty.* If a lessee or permittee records or reports less than the true weight or value of coal mined, the Secretary may impose a penalty equal to double the amount of royalty due on the shortage, or the full value of the shortage. If, after warning, a lessee or permittee maintains false records or files false reports, a suit to cancel the lease may be instituted in addition to the imposition of penalties.

§ 211.63 Audits.

An audit of the lessee's or permittee's accounts and books may be required annually, or at other such times as may be directed by the Mining Supervisor, by qualified independent certified public accountants and at the expense of the lessee. The lessee shall furnish, free of cost, duplicate copies of such annual or other audits to the Mining Supervisor within 30 days after the completion of each auditing.

INSPECTION, ISSUANCE OF ORDERS AND ENFORCEMENT OF ORDERS

§ 211.70 Inspection of underground and surface conditions.

Operators shall provide means at all reasonable hours, either day or night, for the Mining Supervisor or his representative to inspect or investigate the underground or surface mine conditions; to conduct surveys; to estimate the amount of coal mined; to study the methods of prospecting, exploration, testing, development, preparation, and handling necessary; to determine the volumes, types, and composition of wastes generated, the adequacy of measures for minimizing the amount of such wastes, and the measures for treatment and disposal of such wastes; and to determine whether the terms and conditions of the permit or lease and the requirements of the exploration or mining plan have been complied with.

§ 211.71 Issuance of notices, instructions, and orders.

(a) *Address of responsible party.* Before beginning operations, the operator shall inform the Mining Supervisor in writing of the designation and post office address of the exploration or mining operation, the operator's temporary and permanent post office address, and the name and post office address of the superintendent, or designated operator or agent, who will be in charge of the operations and who will act as the local representative of the operator. Thereafter, the Mining Supervisor shall be informed of each change of address of the mine officer or in the name or address of the local representative.

(b) *Receipt of the notices, instructions and orders.* The operator shall be considered to have received all notices, instructions, and orders that are mailed to or posted at the mine or mine office, or mailed or handed to the superintendent, the mine foreman, the mine clerk, or higher officials connected with the mine or exploration site for transmittal to the operator or his local representative.

§ 211.72 Enforcement of orders.

(a) If the Mining Supervisor determines that an operator has failed to comply with the regulations in this part, other applicable Departmental regulations, the terms and conditions of the permit or lease, the requirements of an approved exploration or mining plan, or with the Mining Supervisor's orders or instructions, and such non-compliance does not threaten immediate, serious, or irreparable damage to the environment, the mine or the deposit being mined, or other valuable mineral deposits or other resources, the Mining Supervisor shall serve a notice of non-compliance upon the operator by delivery in person to him or his agent or by certified or registered mail addressed to the operator at his last known address. Failure of the operator to take action in accordance with the notice of non-compliance or to appeal to the Director pursuant to Part 290 of this chapter shall be grounds for suspension of operations by the Mining Supervisor.

(b) The notice shall specify in what respects the operator has failed to comply with the provisions of applicable regulations, the terms and conditions of the permit or lease, the requirements of an approved exploration or mining plan or the orders or instructions of the Mining Supervisor, and shall specify the action which must be taken to correct the noncompliance and the time limits within which such action must be taken. A written report shall be submitted by the operator when a non-compliance has been corrected.

(c) If, in the judgment of the Mining Supervisor, failure to comply with the regulations, the terms and conditions of the permit or lease, the requirements of approved exploration or mining plans, or the Mining Supervisor's orders or instructions threatens immediate, serious, or irreparable damage to the environment, the mine or the deposit being mined, or other valuable mineral deposits or other resources, the Mining Supervisor or his representative is authorized, either in writing or orally with written confirmation, to suspend operations without prior notice of non-compliance.

PART 216—OPERATING REGULATIONS GOVERNING THE MINING OF COAL IN ALASKA

Part 216 of Chapter II of Title 30 of the Code of Federal Regulations is revoked.

Dated: January 23, 1975.

JACK W. CARLSON,
Assistant Secretary of the Interior.

[FR Doc.75-2646 Filed 1-29-75;8:45 am]

DEPARTMENT OF AGRICULTURE

Animal and Plant Health Inspection Service

[9 CFR Parts 303, 381]

RETAIL STORES AND RESTAURANTS

Rendering and Refining of Edible Livestock Fat; Definition of Calendar Year for Purposes of Exemption

Notice is hereby given in accordance with the administrative procedure provisions in 5 U.S.C. 553, that the Animal and Plant Health Inspection Service proposes to amend § 303.1 of the Federal meat inspection regulations (9 CFR 303.1), pursuant to the authority in the Federal Meat Inspection Act, as amended (21 U.S.C. 601 et seq.), to permit retail stores or restaurants exempted from inspection to render or refine livestock fat. It is also proposed under that Act and the Poultry Products Inspection Act (21 U.S.C. 451 et seq.) to amend § 303.1 and to amend § 381.10 of the poultry products inspection regulations to define the period constituting a "year" for the purposes of the retail store definition for exemption from Federal inspection under both Acts.

Statement of considerations. The Federal Meat Inspection Act (FMIA) and the Poultry Products Inspection Act (PPIA), with certain exceptions, require federal inspection of the preparation of products subject to their provisions. However, under the Acts and regulations, operations of types traditionally and usually conducted at retail stores and restaurants are exempted from the inspection requirements when conducted at retail stores or restaurants or similar retail-type establishments under specified conditions. One of the conditions for the retail store exemption is that the store must not sell in any "year" more than specified quantities of products to non-household consumers.

The present meat inspection regulations exclude the rendering or refining of livestock fat from the definition of operations of types traditionally and usually conducted at retail stores and restaurants. Information has been furnished to the Department to indicate that such operations may be traditional and usual at such establishments. Therefore, it is proposed to terminate this exclusion.

In addition, the proposal would clarify the term "year" as meaning a calendar year in § 303.1(d)(2)(iii) of the meat inspection regulations and in § 381.10(d)(2)(iii) of the poultry products inspection regulations, for purposes of the retail store exemptions under both Acts.

The proposed amendments would be as set forth below:

1. Section 303.1(d)(2)(i)(c) would be amended to read as follows:

§ 303.1 Exemptions.

* * * * * * *

(d) * * *

(2) * * *

(i) Operations of types traditionally and usually conducted at retail stores and restaurants are the following: * * *

(c) Curing, cooking, smoking, rendering or refining of livestock fat, or other preparation of products, except slaughtering or the retort processing of canned products;

* * * * * * *

2. Section 303.1(d)(2)(iii) would be amended by inserting "calendar" immediately before the word "year" and by inserting "(i.e., January 1 through December 31)" immediately after the word "year".

§ 381.10 [Amended]

3. Section 381.10(d)(2)(iii) would be amended by inserting "calendar" immediately before the word "year" and by inserting "(i.e., January 1 through December 31)" immediately after the word "year".

Any person wishing to submit written data, views, or arguments concerning the proposed amendments may do so by filing them, in duplicate, with the Hearing Clerk, U.S. Department of Agriculture, Washington, D.C. 20250, or if the material is deemed to be confidential, with the Inspection Standards and Regulations Staff, Scientific and Technical Services, Meat and Poultry Inspection Program, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Washington, D.C. 20250, by March 31, 1975.

Any person desiring opportunity for oral presentation of views should address

APPENDIX 1-C

PROPOSED SURFACE MANAGEMENT OF FEDERAL COAL RESOURCES (43 CFR 3041) AND COAL MINING OPERATING REGULATIONS (30 CFR 211)

(Source: Federal Register, v. 40, no. 173, Friday, September 5, 1975.)

school provides benefits similar in nature to services provided in the United States by local governments. The employees have no compensation includible in gross income as a result of their children attending the employer-sponsored school without paying tuition.

Example (19). An employer maintains a day care center on its premises for pre-school children of its employees who desire to use the facility. Paragraph (a) does not apply because the employer incurred substantial additional costs. Under paragraph (b) the most important relevant factor in this case is that section 214 of the Internal Revenue Code provides special rules regarding the deduction of day care and certain other expenses. It would frustrate the policy of section 214 if the fair market value of the services of the day care center were not included in gross income of the employees utilizing them and then deducted only to the extent provided in section 214. The employees whose pre-school children use the day care center have compensation includible in gross income. They may have an offsetting deduction under section 214.

(g) *Effective date.* (1) No employee of the United States shall be treated as having compensation includible in gross income by reason of the use of any official vehicle owned or operated by or on behalf of the United States on or before September 5, 1975.

(2) No employer of an automobile agency or related business shall be treated as having compensation includible in gross income by reason of the use of a car furnished by his employer as a "demonstrator" without charge (see example (14) of paragraph (f)) on or before (insert date this Notice is published in the FEDERAL REGISTER).

PAR. 2. Paragraph 1.61–2(d) is amended by adding at the end thereof the following new subparagraph:

§ 1.61–2 Compensation for services, including fees, commissions, and similar items.

* * * * *

(d) *Compensation paid other than in cash.* * * *

(6) For special rules relating to certain incidental facilities, goods, and services benefiting employees, see § 1.61–16.

[FR Doc.75-23695 Filed 9-4-75; 8:45 am]

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

Geological Survey

[43 CFR Parts 23, 3040]

[30 CFR Parts 211, 215]

COAL MINING OPERATING REGULATIONS

Notice of Proposed Rulemaking

Notice is hereby given that pursuant to the authority vested in the Secretary of the Interior under the Mineral Leasing Act of February 25, 1920, as amended and supplemented (30 U.S.C. 181–287), the Mineral Leasing Act for Acquired Lands (30 U.S.C. 351–359), (5 U.S.C. 301), the National Environmental Policy Act of 1969 (42 U.S.C. 4321–4347), and various statutes relating to mining on Indian lands, is now proposed to revise 30 CFR Part 211, and 43 CFR 23, and to promulgate a new subpart 3041 of 43 CFR, as set forth below. It is also proposed that 30 CFR Part 216, applicable to coal mining operations under leases in the State of Alaska which were issued pursuant to the Alaska Coal Leasing Act of October 20, 1914 (38 Stat. 741), prior to its repeal by P.L. 86–252, September 9, 1959 (73 Stat. 490), be revised and that operations under those leases also be governed by the regulations in 30 CFR Part 211 as set forth below.

On January 30, 1975, and on April 30, 1973, notices and texts of proposed revisions to the coal mining operating regulations of the U.S. Geological Survey were published in the FEDERAL REGISTER (38 FR 10686; 40 FR 4428). Those regulations governed operations conducted under coal permits, leases, and licenses on public and acquired lands of the United States and Indian lands administered by the Department of the Interior. The previously proposed regulations would also govern the mining of coal in Alaska and, therefore, were proposed to revoke 30 CFR Part 216, which contains such regulations.

Prior to the publication of the 211 regulations proposed on January 30, 1975, the President had withheld signature from S. 425, the surface mining legislation passed by the 93rd Congress.

On February 7, 1974, the proposed Federal surface mining legislation was submitted by the Administration along with a detailed analysis of the unacceptable adverse effects which S. 425 would have had. Thereafter, the Congress passed H.R. 25, which failed to meet the objections which had led to the President's disapproval of S. 425, and would have resulted in greater adverse impacts than that bill. The President vetoed H.R. 25 on May 20, 1975, and that veto was sustained by the House of Representatives on June 10, 1975.

As the President noted in his veto message, recent revisions of State laws regarding surface mining have improved the environmental controls imposed upon lands subject to their jurisdiction. This situation may be expected to continue, as States update, amend, and revise their controls.

A major portion of the Nation's coal resources lies in Federal ownership. Timely and orderly development of this domestic energy resource is a matter of high priority to the Nation as a whole and to the Federal Government, as the custodian of these resources on behalf of all of the people.

At the same time, it is imperative to insure that in developing such resources appropriate consideration is given to the serious environmental concerns associated with mining. Development must be balanced against these concerns, and allowed to take place only when and under such circumstances as will assure such balancing protection.

The proposed regulations 43 CFR 3041 were formerly covered by 43 CFR 23, and relate to the leasing, permitting, and licensing of coal and reclamation regulations by the BLM. The proposed regulations 30 CFR 211 again relate to coal exploration and mining operations, and reclamation of affected lands.

The purpose of the proposed set of regulations is to delete obsolete provisions, update existing regulations so as to impose reclamation and performance standards upon operations relating to Federal coal, and clarify the responsibility of lessees, permittees, and licensees for the protection of the surface, natural resources, environment, and existing improvements during all such operations.

Together, the proposed regulations govern pre- and post-leasing operations conducted under coal permits, leases, and licenses on public and acquired lands of the United States, regardless of surface ownership. In addition, the new proposed 30 CFR 211 would govern operation on Indian lands administered by the Department of the Interior, and 30 CFR Part 216 is again accordingly proposed to be revoked.

Finally, conforming amendments to 43 CFR Part 23 to reflect the new proposed 43 CFR Part 3041 are also proposed.

The proposed regulations provide specific language to clarify responsibilities of lessees, permittees, and licensees for all phases of coal mining operations on public and acquired lands of the United States and Indian lands administered by the Department of the Interior. The scope of the regulations addresses not only the "orderly and efficient development" phase of the operations, but also the total spectrum of events beginning with the pre-lease land-use planning and environmental analyses into prospecting, exploration, and testing activities and extending through the development, mining, production, and coal processing practices, as well as the abandonment and reclamation measures.

Under the proposed regulations, leases, permits, and licenses for coal would be issued, and plans of operation approved only where reclamation of the affected lands, pursuant to the standards set forth, is attainable and assured, and reclamation programs will be required to be undertaken as contemporaneously as practicable with mineral development.

The new regulations set forth environmental standards that will be used in conducting pre-lease, permitting, and licensing examinations, from which the terms and conditions of the lease, permit, or license will be developed.

Performance and reclamation standards that would automatically apply to all operations subject to these regulations are provided and set forth in identical terms in each proposed regulation so that performance and reclamation requirements will be consistent throughout the pre-leasing, exploration mining, reclamation, and abandonment phases of coal operations.

The new regulations further require that exploration and/or mining plans, describing in detail the operations to be undertaken, be prepared and submitted in advance of that operation.

These two revisions are complimentary, and designed to create a coordinated mechanism for coal development.

Under the proposed 43 CFR Part 3041, a decision mechanism is outlined whereby decisions as to whether coal leasing should occur, and what specific conditions might be applied to a lease, will be made after appropriate environmental review. Under the proposed 30 CFR Part 211, the Geological Survey will monitor coal operations, and enforce lease terms and conditions and general performance standards which are included in identical language in both regulations.

The Department of the Interior is currently completing an environmental review of its entire coal leasing program. This review will be published shortly, and will contain a formal mechanism defining with greater specificity the Department's coal leasing policy. With the proposed regulations, it will constitute a unified program to direct future development of our resources. Several elements of the proposed regulations should be specifically noted and public comment is specifically requested thereon.

First, the relationship between Federal and State jurisdiction and reclamation standards has arisen in the recent proposed legislation. On the one hand, it is clear that the States have a direct public policy interest in coal development within their geographical boundaries. In addition, the historical development of coal resources has, in many areas, resulted in patterns of intermingled tracts of Federal and private ownership with respect to which coordinated regulatory mechanisms would be desirable.

On the other hand, it is also clear that Federal coal resources belong not to one or more of the several States, but to the Nation as a whole. The Federal interest in assuring the timely and orderly development of such resources must be implemented with that end in mind.

A mechanism is, therefore, proposed in these regulations which would satisfy both Federal and State interests. This mechanism would allow the Secretary of the Interior to direct that some or all of the existing State laws, regulations, practices, and procedures of a State relating to reclamation be applied by Federal officers within that State as a matter of Federal law. Such discretion may be exercised at the request of the Governor, if the Secretary, upon review of that State's regulations, determines that such application would:

(a) Effectuate the purpose of the proposed regulations;

(b) Afford protection of the environmental values which would be at least as stringent as would occur under otherwise applicable Federal standards; and

(c) Would be consistent with the interest of the United States in the timely and orderly development of its coal resources.

Such an order would remain in effect until rescinded or amended, and would enable Federal and State concerns to be appropriately balanced.

It has been and is the current practice of the Department to include in coal leases a provision requiring compliance in State and local laws. It is also the practice of the Mining Supervisors of the Geological Survey to follow this practice in the implementation of their responsibilities with respect to ongoing operations. The proposed mechanism would allow continuation of this existing practice, while reserving the power to insure that the National interest in resource development is accommodated.

It is hoped that this mechanism will have the effect of encouraging those States without comprehensive, reasonable regulatory mechanisms to enact such control, with the assurance that the development of Federal coal within their boundaries may take place on similar terms.

Second, the method of applying the proposed regulatory mechanism to existing operations, and the timing of such application, is not specifically addressed. The notice of proposed rulemaking for the proposed 211 regulations published on January 30, 1975, provided: "Operators holding existing permits, leases, or licenses will be required to comply with the requirements of this part no later than 180 days following the date of republication of these regulations in the FEDERAL REGISTER with respect to lands from which overburden and the coal seam being mined have not been removed." Public comment is expressly requested upon the question of whether separate provision should be made within the proposed regulations to cover existing regulations, or whether separate effective dates for the regulations should be provided for new and existing operations, and in either event what time period for compliance is appropriate.

SPECIFIC PROVISIONS OF THE REGULATIONS

DEFINITIONS

No attempt has been made comprehensively to define terms of general applicability which have accepted scientific definitions. In the event that additional terms are suggested for specific definition, they will be included in the final regulations.

The following specific provisions are common to both proposed regulations:

Approximate Original Contour. The definition has been changed from the earlier proposed 211 regulations so as to eliminate operative portions of the previous definition, which are more properly included in the main body of the regulations.

Logical Mining Unit. This term is defined for the first time in the proposed regulations and represents an approach to coordination of development planning between public and private lands.

Maximum Extent Practicable. Also defined for the first time, this concept is intended to express a qualification applicable to given performance standards or levels of control which would incorporate a cost benefit balancing of technological feasibility, economic cost, and tangible and intangible environmental benefits attributable to various levels of such standard or control. It is not intended to imply that economic considerations will automatically prevail in determining the level of controls which must be utilized. On the other hand, it is intended that cost benefit balancing will reduce the possibility that disproportionately expensive technology might be required to be employed where only incremental, minimal environmental advantage would result therefrom.

Reclamation. This term has been restated so as to eliminate operative language setting forth degrees of reclamation, which is more properly set forth in the body of the regulations. The phrase "consistent with" is intended to express the concept that post-mining rehabilitation efforts should be addressed in the first instance with reference to the premining condition, but that actual reclamation measures and post-mining conditions and uses are properly considered, approved, and executed pursuant to the operative provisions of the regulations and the approved plan of operations.

Significant Valley Floor Vegetation. The term is used as a qualifying note in determining certain areas of valley floors subject to hydrological protection in the body of the regulations.

GENERAL OPERATION AND RECLAMATION REQUIREMENTS

(References are to the proposed 30 CFR Part 211 regulations.)

Section 211.4(a) requires that all operations conform to the provisions of applicable laws and regulations, including effluent and emission limitations.

Section 211.4(c) imposes a general obligation to conduct the maximum extent practicable specific elements of environmental concern. It is not intended that this general obligation substitute for the more precise requirements which may be imposed by these regulations or provisions of other applicable laws or regulations.

Section 211.4(d) has been simplified from the earlier proposed revisions of this part, and clarified to provide that water quality be monitored so as to establish such data as may be necessary to determine procedures or measures required to comply with the proposed regulations.

Section 211.5(b) has been expanded to insure actual public notice of proposed mining plans.

Section 211.10(a) now provides that a proposed mining plan shall, where possible, include all operations in an approved logical mining unit. It should be noted that it is not intended that resulting inclusion of portions of an operation involving non-federal coal in such a plan would expand federal jurisdiction beyond appropriate limits, by either requiring a federal bond on such non-federal operations or by imposing the requirements of the operating or performance standards or enforcement mechanisms of the regulations to such operations.

Section 211.10(d) authorizes the mining supervisor to require reasonable revisions or supplements to approved plans where changed conditions or unforeseen circumstances exist, or approve changes at the request of an operator. Where any such revision would be major, the public notice provisions of § 211.5(b)

will apply. In the event of disagreement as to the propriety of any such change, an appeal from the mining supervisors decision will lie under Part 290 pursuant to § 211.73.

RECLAMATION AND PERFORMANCE STANDARDS

(References are to the proposed 30 CFR 211 texts, but identical language is included in the proposed 43 CFR 3041.)

Section 211.40(a) (2) requires the operator to reclaim affected lands pursuant to his approved plan and as contemporaneously as practicable with operations, to a condition at least fully capable of supporting previous practicable uses or equal or better uses that can reasonably be attained. It is intended that this provision would authorize the Department to require reclamation, where appropriate, to a use that was practicable prior to mining but not necessarily in effect. To require exact parity between postmining and pre-mining land condition would impose an impossible burden. Requiring reclamation to a condition capable of supporting equal or better uses that can reasonably be achieved affords adequate assurance that post-mining land condition will be acceptable.

Section 211.40(a) (3) requires restoration to the approximate original contour to the maximum extent practicable. Variances from that requirement based upon equal or better post-mining land uses or unusual conditions may be granted only by the Director of the Geological Survey, with the concurrence of the Director of the Bureau of Land Management. Any such variance will, of course, be included in an approved plan of operations, and thus subject to appropriate public consideration.

Section 211.40(a)(8) sets forth the requirement that disturbances to prevailing hydrologic conditions be minimized, and in subparagraph (iv) specifically requires protection of the surface and ground water resources of valley floors which provide water sources that support significant vegetation or existing uses.

Subparagraph 211.40(a)(16) imposes the obligation to revegetate affected lands and authorizes the use of introduced species where quick cover is desirable.

Section 211.40(a)(17) sets forth the time limitations within which liability upon the operator's bond for revegetation will apply. A maximum period of liability of 10 years from the first plant-in$_{a}$ date is provided. After substantial review of this question, it is felt that this period is appropriate. Failure of successful revegetation after 10 years of effort is felt to be determinative of the question of whether the additional efforts represented by expending the retained portion of the bond would be successful. On the other hand, in some circumstances it will be apparent from the conditions at the site of operations that successful revegetation is likely to occur within the 5 year minimum time period. Where this is the case, authority is provided to waive the automatic application of this minimum period at the time of lease issuance. It should be noted that operation of this waiver would not in any way diminish the burden upon the operator to establish that revegetation has in fact successfully been accomplished within that period.

SPECIFICATION PROVISIONS OF 43 CFR 3041

Section 3041.0–4 spells out the specific areas of responsibility of the BLM and the Geological Survey with respect to surface management and operations for coal development, consistent with internal Departmental orders.

Section 3041.0–6 sets forth the procedures whereby the environmental impact on both an area-wide and specific tract basis will be assessed prior to making a determination as to whether leasing, permitting, or licensing will be allowed. This procedure provides for obtaining the views and recommendations of the Geological Survey and other appropriate Federal agencies, for holding public hearings, where necessary, and for consultation with State and local governments and interested parties, including surface owners where applicable.

Section 3041.0–7(c) allows the authorized officer of the Federal surface management agency, in consultation with the Mining Supervisor, to establish additional and more stringent requirements than required by the performance standards set forth in Section 3041.0–7 (b), to meet exceptional and special circumstances such as the degree of slope and soil conditions.

Section 3041.0–7(d) allows the authorized officer to propose to the Mining Supervisor that an approved exploration or mining plan be revised or supplemented to adjust to changed conditions or to correct oversights. This is consistent with and complementary to the authority in 30 CFR 211.10(d) to require such changes.

Section 3041.0–8 permits an operator to use only so much of the surface of the lands as is deemed necessary, and has been designated in an approved plan. It is expressly provided that use of Federal lands for a power generation plant or commercial or industrial facility requires a special permit. This is not intended to imply that other facilities which might require permits under other laws would be relieved of any such obligations under the regulations proposed here. Facilities directly related to the mining, processing, and preparation of the coal resource would not require a separate permit.

Section 3041.1, the requirement for submission of a preliminary plan by an applicant for a coal lease, permit, or license, is an expansion of the requirements of 43 CFR Part 23. The purpose of the preliminary plan is to provide operational and environmental information which will assist the authorized officer in evaluating the proposed operation, and in the preparation of necessary impact statements and the terms and conditions to be included in a lease, permit, or license, if issued.

Section 3041.5 is different from Part 23 in that it requires a notice of availability of the application and its proposed terms, conditions, and special stipulations, for inspection and comment thereon. No action may be taken on any application until interested parties have had 30 days to comment. The application and proposed terms and conditions will remain available for inspection thereafter in the proper BLM office.

Section 3041.7(b) is different from Part 23 in that it allows the authorized officer, in emergency situations where activities threaten immediate, serious, or irreparable damage to the environment, resources, health and safety of the employees and the public, to order the immediate cessation of such activities. Although exercise of this authority would normally be the responsibility of the USGS, it is felt that where such extraordinary circumstances exist any authorized representative of responsible agencies of the United States should be able to take the limited immediate action set forth, to prevent the adverse environmental effect described.

A detailed environmental impact statement on the proposed regulation has been prepared in compliance with Section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)). The statement is being printed and will be available in approximately three weeks. A notice of availability will be published in the FEDERAL REGISTER.

In accordance with the Department's policy on public participation in rulemaking, interested parties may submit written comments, suggestions, or objections with respect to the proposed regulations to the Director, Bureau of Land Management, Department of the Interior, Washington, D.C. 20240 and the Director, U.S. Geological Survey, Reston, Virginia 22092, on or before November 4, 1975.

After the expiration of such period for comment, and the expiration of the appropriate comment period upon the above mentioned environmental impact statement, the proposed regulations will be revised, if appropriate, and republished in the FEDERAL REGISTER in final form.

A new subpart 3041 is proposed to be added to 43 CFR, to read as follows:

PART 3040—ENVIRONMENT AND SAFETY

Subpart 3041—Surface Management—Federal Coal Resources

Sec.

Subpart 3041—Surface Management—Federal Coal Resources

§ 3041.0–1 Purpose.

(a) The purpose of these regulations is to establish rules to be followed in the management of the Federally-owned coal estate consistent with the policies, goals, and objectives established by the Acts cited in § 3041.0–3 of this Subpart, regardless of surface ownership or method of operation.

(b) It is the policy of the Department to encourage the development of Federally-owned coal, where such development is authorized, through a program that will provide for the protection, orderly development and conservation of Federal mineral and nonmineral resources in a manner that will minimize adverse effects to society and the environment resulting from coal development. It is also the policy of the Department to authorize leases, permits, and licenses for coal only where reclamation of the affected lands to the standards set forth herein is attainable and assured and a reclamation program will be undertaken as contemporaneously as practicable with mineral development. Departmental policy regarding privately owned surface where the mineral estate is Federally owned is that any mineral activity on the private surface should be conducted to result in protection of environmental values which is at least as stringent as would apply to Federally owned surface.

§ 3041.0–3 Authorities.

These regulations are issued pursuant to: The Mineral Leasing Act of February 25, 1920, as amended (30 U.S.C. 181–287), and the Mineral Leasing Act For Acquired Lands (30 U.S.C. 351–359). Additional regulations governing the issuance of Federal coal leases, permits, and licenses are found in 43 CFR 3500 of this Chapter, including the specific requirement in § 3501.2–6 that the consent of the Department of Agriculture or other administering agency be obtained with respect to leases, permits, and licenses covering acquired lands subject to the jurisdiction of such other Federal surface managing agency. Regulations governing lease or permit operations are found in 30 CFR 211. Regulations setting forth the general and basic policies for disposal and management of the public lands are found in 43 CFR 1725 of this Chapter.

§ 3041.0–4 Responsibilities.

(a) The Bureau of Land Management (BLM) exercises at the Bureau level the Secretary's discretionary authority to determine whether or not leases, permits, and licenses are to be issued. The Bureau of Land Management is responsible for issuing mineral leases, permits, and licenses, and is the office of record in mineral leasing matters.

(b) The Geological Survey (GS) exercises the Secretary's delegated authority regarding operations conducted within the area of operation by permittees, lessees, and licensees and determines the action to be taken by them from the standpoint of the development, conservation, and management of mineral resources under the jurisdiction of the Department. The Geological Survey is responsible for all geologic, engineering, and economic value determinations for the Department's mineral leasing program. These determinations include: the mineral characteristics of lease and permit areas; parcelling; amounts of bonds; royalties; unit values; rentals; mineral resource evaluations; reserves; investments, diligent development, and minimum production requirements; and all other terms and conditions relating to mineral operations under leases and permits.

(c) The Bureau of Land Management or other Federal surface management agency, in cooperation with the Geological Survey, and, in the case of non-Federal surface, the surface owner, formulates the requirements to be incorporated in leases, permits, and licenses for the protection of the surface and non-mineral resources and for reclamation, using the surface operating and reclamation performance standards contained in § 3041.0–7 of these regulations and in 30 CFR Part 211.

(d) The Geological Survey, before approving exploration and mining plans, or the abandonment of operations, consults with the Bureau of Land Management or other Federal surface management agency on the adequacy of the surface use, environmental protection, and reclamation aspects of such plans and will not grant approval if inconsistent with the BLM's or other Federal surface management agency's recommendations without further discussions.

(e) As to the lands outside of the area of operations the authorized officer of the BLM or other Federal surface management agency is responsible for conducting compliance examinations and for assuring compliance by the lessee, permittee, or licensee, with the requirements of this Subpart, and the terms and conditions of a lease, permit, or license and for reporting infractions to the GS for discussion with, or orders to, the lessee, permittee, or licensee. As to the lands inside the area of operations the GS examines operations to ensure compliance with environmental protection and rehabilitation requirements. GS refers to BLM any instance of noncompliance with lease terms which may require cancellation action, and BLM may initiate such action. With respect to approval of access roads, pipelines, utility routes and other surface uses outside the operating areas, the Bureau of Land Management, or other Federal surface management agency, has the primary responsibility but obtains the recommendations of the Geological Survey before taking final action. Orders to operators for any remedial action are the responsibility of the Geological Survey.

(f) Subject to the Supervisory authority of the Secretary, the regulations in this Subpart shall be administered by the Director, Bureau of Land Management through the authorized officer having jurisdiction over the lands subject to these regulations and authorized to perform the duties described. Prior to the issuance of any coal lease, permit, or license, the authorized officer will consult with and receive and consider recommendations from the Mining Supervisor, the Federal surface management agency when other than the BLM, or the surface owner, as to the terms and conditions required to achieve the purpose of these regulations.

§ 3041.0–5 Definitions.

As used in this subpart, the following terms shall have the following meanings:

(a) "Acid and toxic producing deposits" means natural or reworked earth materials having chemical and physical characteristics that under mining or post-mining conditions of drainage, exposure, or other processes may produce effluents that contain chemical constituents, such as acids, bases, or metallic compounds, in sufficient concentrations to adversely affect the environment.

(b) "Affected lands" means any lands affected or to be affected by exploration, development, and mining operations, and by the construction of facilities necessary and related to such operations.

(c) "Approximate original contour" means the surface configuration achieved by backfilling and grading of the mined area so that it closely resembles the surface configuration of the land prior to mining (although not necessarily the original elevation) and blends into and complements the drainage pattern and topography of the surrounding terrain.

(d) "Area of operations" means that area of the leased, permitted, or licensed lands which is required for exploration, development, producing and processing operations, including all related surface structures and facilities, which is delineated on a map or plat which is made a part of the approved plan.

(e) "Authorized officer" means that officer designated by any Federal surface managing agency to exercise its authority in matters relating to coal leases, licenses, and permits and these regulations.

(f) "Coal" means coal of all ranks, from lignite to anthracite.

(g) "Exploration plan" means a detailed plan submitted to the Mining Supervisor for approval before exploration operations commence, showing the location and type of exploration work to be conducted, environmental protection procedures, roads, and reclamation procedures to be followed upon completion of such operations.

(h) "Lease lands, leased premises, or leased tract" means lands embraced within a Federal coal lease and subject to the regulations in this Subpart.

(i) "Lessee" means any person or persons, partnership, association, corporation, or municipality to whom a coal lease is issued subject to the regulations in this Subpart, or an assignee of such lease under an approved assignment.

(j) "Licensee" means any individual, association of individuals, or municipality to whom a coal license is issued subject to the regulations in this Subpart.

(k) "Maximum extent practicable" means, with respect to a performance standard or level of control, that degree of compliance which can be achieved with commercially available technology, taking into account the costs of such compliance and all tangible and intangible environmental and other benefits which would be derived therefrom.

(l) "Method of Operation" means the method and manner by which any activities are performed by the operator, as described in the Preliminary plan.

(m) "Mine" means an underground or surface excavation, and the surface or underground support facilities that contribute directly or indirectly to coal mining, preparation, and handling.

(n) "Mining plan" means a detailed plan submitted to the Mining Supervisor for approval before mining operations commence showing the location, method and extent of mining and all related activities necessary and incident to such operations, including the steps to be taken to protect the environment during operations, reclamation, and abandonment.

(o) "Mining Supervisor" mean the Area Mining Supervisor, Conservation Division, Geological Survey, or District Mining Supervisor, or other subordinate acting under his direction.

(p) "Operator" means a lessee, permittee, or licensee, or one conducting operations on lands under the authority of the lessee, permittee, or licensee.

(q) "Overburden" means all the earth and other materials which lie above a natural deposit of minerals.

(r) "Permanent impoundment" means an artificially built, dammed or excavated place for retention of water or sediment that is intended to remain after abandonment of the operation.

(s) "Permit lands" means lands embraced within a coal prospecting permit and subject to the regulations in this Subpart.

(t) "Permittee" means any person or persons, partnership, association, corporation, or municipality to whom a coal prospecting permit subject to the regulations in this Subpart is issued, or an assignee of such permit under an approved assignment.

(u) "Preliminary plan" means a plan submitted by an applicant to the authorized officer, with an application for a lease, permit, or license, which describes the applicant's proposal in the detail necessary to assist the authorized officer in conducting a pre-lease, permit, or license technical evaluation and environmental analyses, as described in 3041.1–1.

(v) "Reclamation" means the process of returning affected lands to a stable condition and form consistent with their pre-mining productivity and use.

(w) "Secretary" means the Secretary of the Interior.

(x) "Significant valley floor vegetation" means farm crops, including hay, that are integral parts of agricultural or ranching operations, and forests or meadows with significant recreational, watershed, or wildlife habitat value.

(y) "Topsoil" means natural earth materials at or adjacent to the land surface with physical and chemical characteristics necessary to support vegetation.

(z) "Valley floors" means the channelways, floodplains, and adjacent low terraces of perennial, intermittent, or ephemeral streams that are flooded during periods of high flow and that are underlain by unconsolidated stream-laid deposits. Excluded are higher terraces and slopes underlain by colluvial and other surficial deposits normally occurring along valley margins.

§ 3041.0–6 Coal leasing, permitting, and licensing planning procedures.

(a) When an area is initially considered for coal development the authorized officer shall make an environmental impact assessment of the potential effect of such development upon the resources of the area and its environment.

(b) Prior to the selection of tracts for coal leases, permits, or licenses the authorized officer of the BLM or, if other than the BLM, the authorized officer of the agency having the administration of the surface, shall evaluate the potential effects of all phases of such coal development on the environment, including fish and other aquatic resources, wildlife habitats and populations, aesthetics, recreation, cultural, and other resources in the affected area. This evaluation shall take into account alternative uses of the land and its other natural resources, the need for the proposed coal development, and the socioeconomic considerations relevant to multiple-use management principles. To aid him in this evaluation and selection of coal lease, permit, or license tracts the authorized officer shall request and consider the views and recommendations of the Geological Survey and other appropriate Federal agencies, may hold public hearings after appropriate notice, and shall, as appropriate, consult with applicants, State and applicable local agencies, organizations, industries, and, where only the mineral estate is in Federal ownership, surface owners.

(c) If the Director determines that a decision made pursuant to paragraphs (a) or (b) of this section would be a major Federal action significantly affecting the quality of the human environment, and that an environmental impact statement as required by the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) has not been prepared with respect thereto, such a statement will be prepared.

(d) If National Register or eligible National Register cultural resources might be affected by the issuance of coal leases, permits, or licenses, none will be authorized until compliance with Section 106 of the Historic Preservation Act and section 2(b) of E.O. 11593 has been accomplished.

(e) If a decision is made to offer tracts for coal leases, permits, or licenses, the authorized officer may, following the procedures in § 3041.2–1 of this Chapter, develop and include in such offer such special terms and conditions as may be required by specific local conditions to protect the environment, to permit use of the land for other purposes, to allow new postmining land uses, and to protect other resources.

§ 3041.0–7 Performance standards.

(a) Any operator who accepts a coal lease, permit, or license shall comply with and be bound by the following general terms and any additional specific terms, conditions, and stipulations attached to and made a part thereof.

(b) The following general performance standards shall be applicable to all coal exploration, development, mining, drilling, preparation, processing and declamation operations on the surface of the land subject to these regulations:

(1) The operator shall conduct surface coal mining operations so as to maximize the extraction of the coal resource so that future disturbance through the resumption of mining will be minimized.

(2) The operator shall reclaim the land affected, as contemporaneously as practicable with operations, to a condition at least fully capable of supporting all actual or practicable uses which it was capable of supporting prior to any exploration or mining, or equal or better uses that can reasonably be attained.

(3) The operator shall replace overburden and waste materials in the mined area by backfilling (compacting where advisable, to insure stability or to prevent leaching of toxic materials), grading or other means so as, to the maximum extent practicable, to restore the approximate original contour and to eliminate high walls and spoil piles. Where the thickness of the coal deposits relative to the volume of overburden is large or where the overburden and other spoil waste materials are either insufficient or more than sufficient to restore the approximate original contour, the operator shall backfill, grade, and compact (where advisable) available overburden or spoil material to obtain the lowest practicable grade, but not more than the angle of repose, in order to provide adequate drainage and to cover all acidforming or other toxic materials. Excess overburden or other spoil material, after restoring the approximate original contour, shall be, graded, compacted (where advisable), stabilized, and shaped in a way to protect against slides, erosion, subsidence and water pollution in accordance with the requirements of this Subpart. Restoration to approximate original contour may not be required if the Director of the Geological Survey, with the concurrence of the Director of the Bureau of Land Management or the appropriate officer of the Federal surface management agency, determines: (i) That an equal or better proposed postmining land use is practicable and attainable and that a modification of this requirement is the best method of achieving the postmining use, or (ii) that unusual conditions, such as steeply dipping coal beds or multiple seam mining, exist which make backfilling pursuant to this paragraph impractical.

(4) The operator shall stabilize and protect all surface areas, including spoil piles, affected by the coal mining and reclamation operation, to effectively control slides, erosion, subsidence and attendant air and water pollution.

(5) The operator shall remove the topsoil separately, replace it on the backfill area or, if not utilized immediately, segregate it in a separate pile from other spoil. When the topsoil is not replaced on a backfill area within a time short enough to avoid deterioration of the topsoil, establish and maintain a cover by quick-growing plants or other means thereafter so that the topsoil is preserved from wind and water erosion and is in a condition for sustaining vegetation when used during reclamation. If topsoil is of insufficient quantity or of poor quality for sustaining vegetation, and if other strata can be shown to be more suitable for vegetation requirements, then the operator shall remove, segregate, and preserve in a like manner such other strata which are best able to support vegetation.

(6) Where permanent impoundments of water on mining sites are to be created, the operator shall insure that:

(i) The impoundment is adequate for its intended purposes.

(ii) The impoundment will be designed and built in accordance with sound engineering standards and practices and applicable Federal and State laws and regulations.

(iii) The quality of impounded water will be suitable for its intended use and discharges from the impoundment will not unreasonably degrade the water quality in the receiving stream.

(iv) Final grading will provide adequate safety and access for proposed water users.

(v) Such water impoundments will not adversely affect the water resources utilized by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses.

(7) The operator shall cover or plug all auger mine holes with noncombustible material in order to minimize or prevent harmful drainage.

(8) The operator shall minimize disturbances to the prevailing quality and quantity of water in surface and ground water systems, and of the prevailing erosion and deposition conditions at the mine site and in adjacent offsite areas, both during and after coal mining operations and during reclamation by:

(i) Controlling acid or other toxic mine drainage and the adverse consequences thereof by such measures as, but not limited to, restricting the flow of water through acid or other toxic-producing materials; treating drainage to reduce acid or other toxic content which adversely affects downstream water upon being released to water courses; and casing, sealing, or otherwise treating drill holes, shafts and wells to keep acid or other toxic drainage from entering ground and surface waters.

(ii) Conducting surface mining operations so as to prevent, to the maximum extent practicable,

(A) Contributions of suspended solids to streamflow or runoff outside the mining site above natural levels under seasonal flow conditions as measured for a period and at sites determined by the Mining Supervisor, in consultation with the authorized officer of the Federal surface management agency, and

(B) Deepening or enlargement of stream channels where operations require the discharge of water from mines.

(iii) Removing or modifying siltation structures after disturbed areas are revegetated and stabilized, unless otherwise directed by the Mining Supervisor after consultation with the authorized officer of the surface management agency.

(iv) Protecting to the maximum extent practicable throughout the mining and reclamation process, the quality and quantity of both upstream and downstream surface and ground water resources of those valley floors which provide water sources for significant valley floor vegetation, or supply water for other purposes by such measures as, but not limited to, relocating and maintaining the gradient of streams.

(9) The operator shall with respect to disposal of mine wastes, coal processing wastes and other wastes in areas other than the mine workings or other excavations, place all waste piles in area designated in the approved mining plan and stabilize them through construction in compacted layers, including, if necessary the use of incombustible and impervious materials; shape the waste pile to be compatible with natural surroundings and terrain; cover with topsoil, or other suitable material in accordance with paragraph (b)(4) of this section and revegetate in accordance with paragraph (b)(16) of this section.

(10) The operator shall refrain from surface coal mining within 200 feet of active and abandoned underground mines except as authorized in an approved mining plan.

(11) The operator shall incorporate sound engineering standards and practices for the design, construction, and use of impoundments for the disposal of coal mine wastes, coal processing wastes, or other liquid or solid wastes to insure that structures and impoundments will have necessary stability with an adequate margin of safety. No mine or processing waste shall be used in the construction of water impoundments, water retention facilities, dams, or settling ponds unless authorized in an approved mining plan.

(12) The operator shall:

(i) Treat or dispose of all rubbish and noxious substances in a manner designed to prevent air and water pollution and fire hazards.

(ii) Dispose of all solid waste resulting from the mining and preparation of coal in a manner designed to prevent to the maximum extent practicable air and water pollution and spontaneous ignition.

(13) The operator shall use explosives only in accordance with existing Federal and State laws and the conditions specified by the Mining Supervisor, who may require the operator to:

(i) Provide adequate advance written notice by publication and/or posting of the planned blasting schedule to local governments and to residents who might be affected by the use of such explosives, and maintain a log of the magnitudes and times of blasts for a period of at least two years.

(ii) Limit the size, timing, and frequency of blasts as determined by the physical conditions of the site, to prevent personal injury or damage to public and private property.

(14) The operator shall construct, maintain, and, when they are no longer necessary, remove roads, pipelines, powerlines, and similar utility access facilities into and across the area of operations in a manner that will prevent to the maximum extent practicable erosion and siltation, pollution of water, damage to fish or wildlife or their habitats, or public or private property, except that the Mining Supervisor with the concurrence of the authorized officer of the surface management agency, may approve the retention, after mining of specific roads where consistent with the proposed postmining use of the affected lands.

(15) The operator shall refrain from constructing roads or other access ways in or near stream beds or drainage channels that would seriously alter the normal flow of water therein.

(16) The operator shall, except where other reclamation is expressly provided for in an approved mining plan, establish on the regraded areas and all other affected lands a diverse vegetative cover, native to the area if capable of self-regeneration, at least equal in density and permanence to the natural vegetation. The Mining Supervisor, with the concurrence of the authorized officer of the surface management agency, may allow the use of introduced species as an interim measure where desirable to achieve quick cover.

(17) The operator shall assume responsibility for successful revegetation, as herein provided. The operator's responsibility and liability for revegetation of each planting area shall extend until such time as the authorized officer of the surface management agency, in consultation with the Mining Supervisor, determines that successful revegetation in compliance with paragraph (b)(16) of this section has occurred; provided that, this period shall extend for a minimum of five full years after the first year of planting and for a total period of liability not to exceed ten years from the original planting, and further provided that, where the authorized officer of the surface management agency determines that natural conditions, such as annual precipitation, soil characteristics and native vegetation, are stable and favor rapid revegetation, and that revegetation pursuant to paragraph (b)(16) of this section is likely to occur before the expiration of such minimum period, he may specify in the lease, permit, or license that such minimum period will not apply with respect to some or all of the lands included in the lease, permit, or license.

(18) The operator shall allow access to and upon the affected Federal land subject to lease, permit, or license for all lawful and proper purposes except where such access would unduly interfere with the authorized use or would constitute a hazard to public health and safety.

(19) The operator shall in all areas of active operations including lands undergoing reclamation, regulate the animals, vehicular traffic, and wildlife or livestock grazing to protect the public, wildlife, and livestock from hazards associated with the operations and to protect the revegetated areas from unplanned and uncontrolled grazing. For this purpose the operator shall provide warnings, fencing, flag men, barricades, and other safety and protective measures as appropriate.

(20) In areas in which there are no current operations, the operator shall substantially backfill, fence, protect, or otherwise effectively close all surface openings, augur holes, subsidence holes, surface excavations or workings which are a hazard to people or animals. Openings at all underground mines which are temporarily closed shall be adequately sealed or equipped with a substantial incombustible gate or door which shall remain locked when not in use. Conspicuous signs shall be posted prohibiting entrance of unauthorized persons. All such protective measures shall be maintained in a secure condition during the term of the lease, permit, or license. Before permanent abandonment of operations, the operator shall:

(i) Close or backfill all openings and excavations, including water discharge points, or otherwise permanently deal therewith in accordance with sound engineering practices and according to the approved mining plan.

(ii) Promptly complete final reclamation and clean-up of surface areas around and near permanently abandoned operations including, except where otherwise expressly provided in the approved mining plan, removal of equipment and structures following cessation of mining operations.

(c) Prior to the issuance of a permit, lease, or license, the authorized officer may, in consultation with the Mining Supervisor, and the authorized officer of the surface management agency if other than the BLM, establish additional and more stringent requirements to meet exceptional and special circumstances, such as the degree of slope, soil conditions, and other site characteristics, and, if he does so, such additional and more stringent requirements shall be included in the permit, lease, or license.

(d) If the authorized officer of the surface management agency determines, after the issuance of the lease, permit, or license, that an approved exploration or mining plan should be required to be revised or supplemented to adjust to changed conditions or to correct oversights, he may propose such revision or supplement to the Mining Supervisor. Upon approval of the Mining Supervisor, such plan may be revised or supplemented pursuant to § 211.10(d) of 30 CFR Part 211.

(e) The following special provisions shall be applicable to the surface effects of underground mining.

(1) Each operator of an underground coal mine shall adopt measures consistent with feasible known technology in order to prevent or control subsidence, maximize mine stability, and maintain the value and use of surface lands, except in those instances where the mining method used requires planned subsidence in a predictable and controlled manner.

(2) Where pillars or panels are not removed and controlled subsidence is not part of the mining plan, pillars or panels of adequate dimensions shall be left to assure surface stability giving due consideration of the thickness and strength characteristics of the coal beds and of the strata above and immediately below the coal bed.

(3) The Mining Supervisor may require the operator to install a subsidence monitoring system consisting of elevation stations and tiltmeters in a number sufficient to define the extent of area that may be affected. All records of such surveys shall be accessible for review by the Mining Supervisor.

(f) Visual resources. The operator shall take visual resources into account in the planning, design, and construction of facilities on the affected lands in accordance with lease terms and the approved plan.

(g) Fish and wildlife. The operator shall employ such measures as are deemed necessary to protect fish and wildlife and their habitat in accordance with lease terms and the approved plan.

(h) Cultural and scientific resources. The operator shall conduct operations that might have an effect on known or suspected archeological, paleontological, historical, or other cultural and scientific values in accordance with lease terms and the approved plan.

§ 3041.0–8 Use of surface.

(a) The operator shall be entitled to use only so much of the surface of the lands within the affected lands as is deemed necessary and has been designated in an approved plan. Any use of the Federal lands for a power generation plant or a commercial or industrial facility will be authorized only under a separate permit issued by the appropriate agency for that specific use and subject to such terms and conditions which it may include in that permit. The uses of the lands within the area of operation are subject to the supervision of the Mining Supervisor, and the uses of the remaining lands are subject to the supervision of the appropriate surface management agency. The operator shall not be entitled to use any mineral materials subject to the Materials Act except as provided by Part 3600 of this Chapter.

(b) Operations under other authorized uses on the same lands shall not unreasonably interfere with or endanger operations under uses authorized under the regulations in this chapter nor shall operations under the regulations in this Chapter unreasonably interfere with or endanger operations under any lease, license, permit, or other authorized use pursuant to the provisions of any other Act.

§ 3041.1 Applications.

(a) Any person desiring a lease, permit, or license for coal development shall file an application in the proper BLM office, in accordance with the regulations in this Chapter.

(b) The application shall contain a preliminary plan of operation as described in § 3041.1–1 of this Subpart.

§ 3041.1–1 Preliminary plan.

(a) The preliminary plan required by these regulations shall include the following information:

(1) A map, or maps, available from State or Federal sources, showing the topography of the land applied for, on which the applicant shall show physical features, drainage patterns, present road and trail locations, present utility systems, proposed road and trail location, proposed location of surface and subsurface exploration sites, such as pits, seismic lines, drill holes, trenches, surface or underground mine workings; the proposed location of development or extraction facilities; and the proposed location and aerial extent of the areas to be used for pits, overburden, and tailings; and the location of water sources or other resources which may be used in the proposed operation or facilities incidental thereto.

(2) A narrative statement setting forth his proposed plan, methods, and schedule for diligent operations.

(b) The narrative statement shall also describe the measures proposed to be taken to prevent or control fire, soil erosion, pollution of surface and ground water, damage to fish and wildlife or other natural resources, air and noise pollution and hazards to public health and safety during lease activities, including measures for monitoring the effects of operations on air and water. Such measures shall also include the actions to be taken and the methods to be utilized to meet the performance standards set forth in § 3041.0–7 of these regulations. The applicant shall not enter upon the land for any operational purpose, except for casual use, until he has received a lease, permit, or license and submitted to the Mining Supervisor an exploration or mining plan and received approval thereof. Casual use, as used in this section means activities which do not cause significant surface disturbance, or damage lands, resources and improvements, such as activities which do not include use of heavy equipment, or explosives or vehicular movement off established roads and trails which cause such disturbance.

§ 3041.2 Technical examination/environmental analysis.

In connection with an application for a coal lease, permit or license, or on BLM motion, the authorized officer, with the assistance of the Mining Supervisor, shall make a technical examination and environmental analysis (TEEA).

(a) The technical examination shall include:

(1) An examination of the technical feasibility of the preliminary plan and;

(2) An evaluation of the effect of the preliminary plan on other land uses, resources, or programs on or adjacent to the area.

(b) The environmental analysis shall include: An analysis of the impact of the preliminary plan and alternatives on the living and non-living components of the environment.

§ 3041.2–1 Technical examination/environmental analysis report.

(a) The TEEA report shall contain a summary which, using information from the TEEA, sets forth recommended bonding requirements and stipulations formulated to: (1) Require conformance with the performance standards found in § 3041.0–7 of this Chapter, (2) identify specific reclamation requirements, (3) identify tracts requiring special environmental consideration, and (4) minimize adverse impacts on the environment and other resources, land uses or programs.

(b) If it is recommended that a specific area within the applied for lands should be excluded from a lease, permit, or license, or modification thereof, or if it is recommended that an environmental impact statement is required, the TEEA report shall substantiate these findings.

§ 3041.3 Basis for denial of lease, permit, or license based upon past forfeiture.

(a) An application for a lease, permit, or license to conduct coal exploratory or extractive operations may be denied any applicant or offeror who has forfeited a bond because of failure to comply with an approved exploration or mining plan. However, a lease, permit, or license may not be denied an applicant or offeror because of the forfeiture of a bond if the affected lands under his previous lease, permit, or license have subsequently been reclaimed without cost to the Federal Government.

§ 3041.4 Compliance or performance bond.

(a) The provisions of the regulations in Subpart 3504 of this Chapter are hereby made applicable to these regulations. In addition each compliance bond will be conditioned upon faithful compliance with the regulations in this Subpart and any additional terms and conditions of the lease, permit, or license. In determining the amount of the compliance bond to be required, the authorized officer of the surface management agency and the Mining Supervisor shall consider the cost of complying with the performance and reclamation standards in § 3041.0–7, and with the terms and conditions of the lease, permit, or license.

(b) The authorized officer shall set the amount of a bond and take the necessary action for an increase or for a complete or partial release of a bond. He shall take such actions only after consultation with the Mining Supervisor.

§ 3041.5 Public notice and inspection of records.

Any application for a lease, permit, or license, together with proposed terms, conditions, and special stipulations shall be made available in the proper BLM office. A notice that such material is available shall be posted in the proper BLM office, sent to the County Clerk for the County in which the affected lands are located for posting, and mailed to the surface owner of record if other than the United States. Except as otherwise provided in Part 3520 of this Chapter, the applicant shall, at no expense to the Federal Government, have published a copy of such notice in a newspaper of general circulation in the county in which the lands are situated once a week for four consecutive weeks, or for such other period as may be deemed advisable. Interested parties shall have a period of 30 days after publication of notice that such material is available for public inspection and comment thereon.

§ 3041.6 Reports.

(a) *Operations.* An operator, under a coal lease, permit or licence, shall file with the Mining Supervisor, within 30 days after the end of each calendar year or within 30 days after the cessation of operations, a report, in duplicate, containing the following:

(1) Serial number of the lease, permit or license and a description of the lands affected by operations.

(2) The number of acres disturbed and the number of acres reclaimed, including revegetation.

(3) A description of the reclamation work remaining to be done.

(b) *Grading and backfilling.* Upon completion of backfilling and grading required by the operating plan, the operator shall submit a report thereon, in duplicate, to the Mining Supervisor and request inspection for approval. Whenever it is determined by such inspection that the backfilling and grading, which may proceed in appropriate stages, has met the requirements of the approved plan, the Mining Supervisor shall recommend to the authorized officer of the Bureau of Land Management, and/or other Federal surface management agency the release of an appropriate amount of the bond for the area satisfactorily backfilled and graded.

(c) *Revegetation.* (1) The operator shall file a report, in duplicate, with the Mining Supervisor within 30 days after each planting is completed. The report shall:

(i) Identify the lease, permit, or license.

(ii) Show the type of planting or seeding, including mixtures and amounts.

(iii) Show the date of planting or seeding.

(iv) Identify or describe the planted or seeded lands.

(v) Describe fertilization and irrigation procedures, if any, and contain such other information as may be considered relevant.

(2) The Mining Supervisor and the authorized officer of the surface management agency shall, as soon as possible after each full growing season, inspect and evaluate the revegetated areas to determine whether satisfactory vegetative growth has been established, or whether additional revegetation efforts may be required.

(d) *Cessation or abandonment of operations.* (1) Not less than 30 days prior to cessation or abandonment of operations, the operator shall submit to the Mining Supervisor, in duplicate, a report of his intention to cease or abandon operations, together with a statement of the exact number of acres affected by his operations, the extent and kind of reclamation accomplished, and a statement as to the structures and other facilities that are to be removed from or remain on the leased, permitted, or licensed lands.

(2) Upon receipt of such report, the Mining Supervisor and the authorized officer of the surface management agency shall make a joint inspection to determine whether operations have been completed in accordance with the approved operating plan. When the operator has complied with all requirements of the lease, permit or license and the regulations of this Subpart, the Mining Supervisor shall recommend to the authorized officer of the Bureau of Land Management and/or the other Federal surface management agency that the period of bonded liability be terminated.

(3) When the surface of lands in a lease, permit or license is not owned by the United States, the Mining Supervisor shall consult the surface owner and obtain his recommendation as to whether the operation has been completed in accordance with the approved operating plan before recommending to the appropriate authorized officer that the period of liability of the bond be terminated.

§ 3041.7 Notice of noncompliance; Revocation.

(a) The authorized officer and the Mining Supervisor shall have the right to enter upon the lands under lease, permit, or license, at any reasonable time.

(b) If the authorized officer of the Federal surface management agency determines that an operator is conducting activities which are not in compliance with the requirements of a lease, permit, or license, applicable regulations, or the approved plan and such activities threaten immediate, serious, or irreparable damage to the environment, resources, health and safety of the employees and the public, the authorized officer may order the immediate cessation of such activities and shall promptly notify the Mining Supervisor. Upon such notification, the Mining Supervisor shall orally order immediate remedial action and issue a written notice of noncompliance, where appropriate.

(c) If the authorized officer determines that an operator is in noncompliance with the requirements of a lease, permit, or license, applicable regulations,

or the approved plan and such noncompliance does not threaten immediate, serious, or irreparable damage to the environment, resources, health and safety of the employees and the public, the authorized officer shall refer the matter to the Mining Supervisor for remedial action.

(d) Failure of the operator to take action in accordance with a written notice of noncompliance issued by the Mining Supervisor in accordance with the provisions of 30 CFR 211.72 shall be grounds for suspension of the operation and for possible cancellation of the lease, permit, or license in accordance with the regulations in 43 CFR 3500 of this Chapter.

§ 3041.3 Application of State laws, regulations, practices, and procedures as Federal law by Federal officers.

(a) Upon request of the Governor of any State, the Secretary shall promptly review the laws, regulations, administrative practices and procedures in effect or due to come into effect with respect to reclamation of lands disturbed by surface mining of coal subject to the jurisdiction of that State, to determine whether such controls may appropriately be applied as Federal law to operations relating to coal owned by or subject to the jurisdiction of the United States. In such review the Secretary may hold such public hearings within the State as he may deem necessary and appropriate, and may receive evidence of mining or enforcement practices submitted in writing under oath by any person. He will take into account all relevant constructions and applications of such controls by competent State and local judicial and regulatory authorities, the desirability and practicability of uniformity between Federal and State controls, and the public policy of the State regarding the development of coal resources located therein.

(b) After such review, the Secretary may, by order, direct that all or part of such State laws, regulations, practices and procedures shall be applied as Federal law by the authorized officers of the Department with respect to coal within that State owned by or subject to the jurisdiction of the United States, if he determines that such application would

(1) effectuate the purposes of this Subpart;

(2) result in protection of environmental values which is at least as stringent as would otherwise occur under exclusive application of Federal controls; and

(3) would be consistent with the interest of the United States in the timely and orderly development of its coal resources.

(c) Pending issuance of an order under paragraph (b) of this section, nothing in this section shall be deemed or construed to stay or suspend any otherwise applicable Federal law, regulation, practice or procedure. Any such order under paragraph (b) of this section shall specifically set forth the controls to be applied by Federal officers, and may include specific findings of fact or interpretations thereof which shall be binding upon such officers. Any such order shall remain in effect until rescinded or modified by subsequent order of the Secretary, upon his own motion or at the request of a Governor.

As proposed Part 211 of Title 30 of the Code of Federal Regulations is revised to read as follows:

PART 211—COAL MINING OPERATING REGULATIONS

§ 211.1 Scope and purpose.

(a) The regulations in this Part shall govern operations for the discovery, testing, development, mining, preparation, and handling of coal under coal leases, licenses, and permits issued for federally-owned coal, regardless of surface ownership, pursuant to the regulations in 43 CFR Group 3500 and the Alaska Coal Leasing Act of October 20, 1914 (38 Stat. 741), and for the reclamation of lands disturbed by such operations. These regulations shall also apply to operations for the discovery, testing, development, mining, preparation, and handling of coal in tribal and allotted Indian lands under leases and permits, regardless of ownership of the surface, issued under the regulations in 25 CFR Parts 171, 172, and 174, and for the reclamation of lands disturbed by such operations.

(b) The purpose of the regulations in this Part is to assure orderly and efficient prospecting, exploration, testing, development, mining, preparation and handling operations, and production practices, without avoidable waste or loss of coal or other mineral resources or damage to coal-bearing or other mineral-bearing formations; to encourage maximum recovery and use of coal resources; to ensure operating practices which will avoid, minimize, or correct resulting damage to the environment—land, water, and air—and to public health and safety; to require effective reclamation of lands; and to require a proper record and accounting of all coal produced.

(c) When the regulations in this Part relate to matters included in the regulations in 25 CFR Part 177—Surface Exploration, Mining, and Reclamation of Lands—pertaining to Indian lands, the regulations in that Part shall govern to the extent of any inconsistencies. In any event, the operating and reclamation standards of § 211.40 of this Part shall apply.

(d) The responsibility for enforcement of the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 U.S.C. 801) and the coal mine health and safety regulations contained in Chapter I of this Title is vested in the Mining Enforcement and Safety Administration, Department of the Interior.

§ 211.2 Definitions.

As used in this Part, the following terms shall have the following meanings:

(a) *Acid and toxic producing deposits* means natural or reworked earth materials having chemical and physical characteristics that, under mining or postmining conditions of drainage, exposure, or other processes, may produce effluents that contain chemical constituents, such as acids, bases, or metallic compounds, in sufficient concentrations to adversely affect the environment.

(b) *Affected lands* means any lands affected or to be affected by exploration, development, and mining operations and the construction of facilities necessary and related to such operations.

(c) *Approximate original contour* means the surface configuration achieved by backfilling and grading of the mined area so that it closely resembles the surface configuration of the land prior to mining (although not necessarily the original elevation) and blends into and complements the drainage pattern and topography of the surrounding terrain.

(d) "Area of operations" means that area of the leased, permitted or licensed lands which is required for exploration, development, producing, and processing operations, including all related surface structures and facilities, and which is delineated on a map or plat that is made a part of the approved plan.

(e) "Authorized officer" means that officer designated by any Federal surface managing agency to exercise its authority in matters relating to coal leases, licenses, and permits and these regulations.

(f) "Coal" means coal of all ranks, from lignite to anthracite.

(g) "Conservation Manager" means a Conservation Manager, Conservation Division, Geological Survey.

(h) "Director" means the Director of the Geological Survey, U.S. Department of the Interior.

(i) "Division Chief" means the Chief of the Conservation Division, Geological Survey.

(j) "Exploration plan" means a detailed plan submitted to the Mining Supervisor for approval before exploration operations commence showing the location and type of exploration work to be conducted, environmental protection procedures, roads, and reclamation procedures to be followed upon completion of such operations.

(k) "General Coal Mining Order" means a formal numbered order issued by the Mining Supervisor, with the prior approval of the Division Chief, which implements the regulations in this Part and applies to operations in a specified geographic area.

(l) "Lease" lands, leased premises, or leased tract" means lands embraced within a coal lease and subject to the regulations in this Part.

(m) "Lessee" means any person or persons, partnership, association, corporation, or municipality to whom a coal lease is issued, subject to the regulations in this Part, or an assignee of such lease under an approved assignment.

(n) "Licensee" means any individual, association of individuals, or municipality to whom a coal license is issued, subject to the regulations in this Part.

(o) "Logical mining unit" means an area of coal land that can be developed and mined in an efficient, economical, and orderly manner, with due regard to conservation of coal reserves and other resources. A unit may consist of one or more Federal leaseholds and may include intervening or adjacent non-Federal lands, insofar as all lands are under the effective control of a single operator.

(p) "Maximum extent practicable" means, with respect to a performance standard or a level of control, that degree of compliance which can be achieved with commercially available technology, taking into account the costs of such compliance and all tangible and intangible environmental and other benefits which would be derived therefrom.

(q) "Method of Operation" means the method and manner by which any activities are performed by the operator, as described in a preliminary plan or an exploration or mining plan.

(r) "Mine" means an underground or surface excavation and the surface or underground support facilities that contribute directly or indirectly to coal mining, preparation, and handling.

(s) "Mining plan" means a detailed plan submitted to the Mining Supervisor for approval before mining operations commence showing the location, method and extent of mining and all related activities necessary and incident to such operations, including the steps to be taken to protect the environment during operations, reclamation, and abandonment.

(t) "Mining Supervisor" means the Area Mining Supervisor, Conservation Division, Geological Survey, or District Mining Supervisor or other subordinate acting under his direction.

(u) "Operator" means a lessee, permittee, or licensee, or one conducting operations on lands under the authority of the lessee, permittee, or licensee.

(v) "Permanent impoundment" means an artificially built, dammed, or excavated place for retention of water or sediment that is intended to remain after abandonment of the operation.

(w) "Permit lands" means lands embraced within a coal prospecting permit and subject to the regulations in this Part.

(x) "Permittee" means any person or persons, partnership, association, corporation, or municipality to whom a coal prospecting permit subject to the regulations in this Part is issued, or an assignee of such permit under an approved assignment.

(y) "Preparation" means the crushing, sizing, cleaning, drying, mixing, and other processing of coal to prepare it for market.

(z) "Reclamation" means the process of returning affected lands to a stable condition and form consistent with their premining productivity and use.

(aa) "Secretary" means the Secretary of the Interior.

(bb) "Significant valley floor vegetation" means farm crops, including hay, that are integral parts of agricultural or ranching operations and forests or meadows with significant recreational, watershed, or wildlife habitat value.

(cc) "Topsoil" means natural earth materials at or adjacent to the land surface with physical and chemical characteristics necessary to support vegetation.

(dd) "Valley floors" means the channelways, floodplains, and adjacent low terraces of perennial, intermittent, or ephemeral streams that are flooded during periods of high flow and that are underlain by unconsolidated stream-laid deposits. Excluded are higher terraces and slopes underlain by colluvial and other surficial deposits normally occurring along valley margins.

§ 211.3 Responsibilities.

(a) Subject to the supervisory authority of the Secretary, the regulations in this Part shall be administered by the Director, through the Division Chief, the Conservation Manager, and the Mining Supervisor.

(b) The Mining Supervisor is empowered to approve, disapprove, or require modification of exploration and mining plans pursuant to this Part.

(c) The Mining Supervisor is empowered to oversee prospecting, exploration, testing, development, mining, preparation, handling, reclamation, and abandonment operations under the regulations in this Part. The Mining Supervisor, in the performance of his duties shall:

(1) *Inspection of operations.* Examine, as frequently as necessary but at least quarterly, the lease, permit, or license lands where operations for the discovery, testing, development, mining, preparation, and handling of coal and reclamation of affected lands are conducted, or are to be conducted; inspect such operations, for the purpose of determining whether waste or degradation of mineral substances or damage to formations and deposits or non-mineral resources affected by the operations is being minimized, and whether all provisions of applicable laws, regulations and orders, all terms and conditions of leases, permits, or licenses, and all requirements of approved exploration or mining plans are being complied with.

(2) *Compliance.* Require operators to conduct operations subject to this Part in compliance with all provisions of applicable laws, regulations, and orders, all terms and conditions of leases, permits, or licenses, and all requirements of approved exploration or mining plans.

(3) *Reports and recommendations.* Make reports to the Division Chief, through the Conservation Manager, as to the general conditions of lands under permit, lease, or license, and the manner in which operations are being conducted and orders or instructions are being complied with; and submit information and recommendations for protecting the coal, the coal-bearing formations, other mineral resources, and the non-mineral resources.

(4) *Manner and form of records, reports, and notices.* Prescribe, subject to the approval of the Division Chief, the manner and form in which records of operations, reports, and notices shall be made.

(5) *Records of production; rentals and royalties.* Obtain and check coal production and sales records; determine rental and royalty liability of lessees and permittees; collect and deposit rental and royalty payments; maintain rental and royalty accounts.

(6) *Waiver, suspension, or reduction of rental or minimum royalty.* Act on applications for waiver, suspension, or reduction of rental or minimum royalty filed pursuant to 43 CFR 3503.3–2(d); and transmit to the Bureau of Indian Affairs for appropriate action, applications for waiver, suspension, or reduction of rental or minimum royalty under leases on Indian lands.

(7) *Suspension of operations and production.* Act on applications for suspension of operations or production, or both, filed pursuant to 43 CFR 3503.3–2(e), and terminate, when appropriate, suspensions which have been granted; and transmit to the Bureau of Indian Affairs for appropriate action, applications for suspension of operations or production, or both, under leases on Indian lands.

(8) *Cessation and abandonment of operations.* Upon receipt of notice of proposed cessation or abandonment of operations, or relinquishment of a lease, permit, or license, inspect and determine whether the operator has complied with the terms and conditions of the permit, lease, or license, and the approved exploration or mining plans; whether all rentals and royalties due the lessor have been paid; and determine and report to the Federal agency having administrative jurisdiction over the lands when the lands have been properly conditioned for abandonment. Before approving any such proposed action, the Mining Supervisor will consult with, or obtain the concurrence of, the authorized officer of the Federal agency having administrative jurisdiction over the lands with respect to compliance by the operator with the surface protection and reclamation requirements of the lease, permit, or license, and the exploration or mining plan.

(9) *Wells or prospect holes.* Prescribe or approve the methods for protecting coal-bearing formations from damage or contamination that might be incurred as a result of any wells or prospect holes drilled to, or through, the coal-bearing formations, for any purpose, on lands embraced within a coal lease, permit, or license.

(10) *Trespass.* Report to the Federal agency having administrative jurisdiction over the lands any trespass that involves exploration activities or removal of coal.

(11) *Water and air quality.* Inspect operations to determine compliance with water management and pollution control measures for the protection and control of the quality of surface and ground water resources and compliance with emission control measures for the protection and control of air quality, as required by the approved plans.

(12) *Implementation of regulations.* Issue General Coal Mining Orders and other orders and instructions, and grant consents and approvals, when necessary, to implement or assure compliance with the regulations in this Part. Oral orders, instructions, approvals, and consents shall be confirmed in writing.

(13) *Reclamation bonds.* Determine whether the amounts of bonds or other equally appropriate financial arrangements are at all times adequate to satisfy the estimated costs of completion of remaining reclamation requirements of the approved exploration or mining plan.

(14) *Consultation.* Consult with the authorized officer of the Federal surface managing agency before taking any final action to approve an exploration or mining plan or modification thereof and to determine the amount of a bond for reclamation purposes.

§ 211.4 General obligations of lessees, permittees, and licensees (including designated operators or agents).

(a) Operations involving the discovery, testing, development, mining, preparation, and handling of coal, and reclamation and abandonment of lands shall conform to the provisions of applicable laws and regulations, including applicable effluent and emission limitations; the terms and conditions of the lease, permit, or license; the requirements of an approved exploration or mining plan; and the orders and instructions issued by the Mining Supervisor.

(b) The operator shall take all actions necessary to minimize waste and damage to coal-bearing formations or other mineral resources.

(c) The operator shall take such action as may be needed to minimize, control, and to the maximum extent practicable, avoid (1) soil erosion; (2) pollution of air; (3) pollution of surface or ground water; (4) serious diminution of the normal flow of water; (5) permanent damage to productive growth, crops, or timber; (6) injury or destruction of fish and wildlife and their habitat; (7) creation of unsafe or hazardous conditions; (8) damage to improvements, whether owned by the United States, its permittees, licensees, or lessees, or by others; and (9) damage to recreational, scenic, historical, and archaeological values of the land. The surface of leased or permit lands shall be maintained as contemporaneously as practicable with the mining operations and in accordance with the terms and conditions prescribed in the lease, permit, or license and the provisions of the approved mining or exploration plan. Good housekeeping practices shall be observed at all times. Where any question arises as to the necessity for, or the adequacy of, an action to meet the requirements of this paragraph, the determination of the Mining Supervisor shall be final, subject to the right of appeal as provided in Part 290 of this Chapter.

(d) The operator shall, when and as required by the Mining Supervisor, monitor water quality to establish data necessary to determine procedures which may be required to minimize, control, or avoid water pollution pursuant to the regulations in this Part.

(e) Accidents threatening damage to the mine, the lands or other resources, or accidents which could cause air or water pollution, along with corrective actions initiated, shall be reported promptly to the Mining Supervisor by telephone. Within 30 days after an accident the operator shall submit to the Mining Supervisor a detailed report of damages caused by the accident and the corrective actions taken.

(f) In areas where surface mining is anticipated, the operator shall drill an adequate number of holes in the overburden overlying the coal, and the stratum immediately below the coal to be mined. The operator shall sample and log each stratum penetrated and analyze each stratum for at least the following: nitrogen, phosphorus, potassium, and pH, and conduct any other tests which the Mining Supervisor may specify. The analyses will be used to determine which materials must be buried during the stripping operations and to determine suitable material that will be placed near the surface for favorable propagation of vegetation. The number of holes and analyses will be specified by the Mining Supervisor.

(g) The operator shall submit the reports required by 25 CFR Part 177, Part 200 of this Chapter, this Part, and any other reports required by the Mining Supervisor.

§ 211.5 Public inspection of records.

(a) Geological and geophysical information and data, including maps, concerning wells and trade secrets, and commercial or financial information obtained from a person under this Part and identified as privileged or confidential shall not be available for public inspection without the consent of the permittee or lessee, so long as the permittee or lessee furnishing such data, or his successors or assignes, continues to hold a permit or lease of the lands involved.

(b) Mining plans submitted under § 211.10 of this Part will be made available for public inspection in the office of the appropriate Mining Supervisor. For new mine plans, for major modifications in existing surface mine plans, or for surface related changes in existing underground plans submitted for approval, interested parties will have a 30-day period after publication of notice to inspect such plans in the office of the District or Area Mining Supervisor and to comment thereon before any action with respect to such approval shall be taken by the Mining Supervisor. A notice of the availability of the plan shall be prepared by the Mining Supervisor, posted at the appropriate office on the day the plan is received, and mailed to the surface owner of record, if other than the United States, and to the appropriate county clerk for posting or publication. A copy of such notice shall be published by the operator in a local newspaper of general circulation in the locality of the proposed operation at least once a week for four consecutive weeks.

MAPS AND PLANS

§ 211.10 Exploration and mining plans.

(a) *General.* Before conducting any operation other than casual use, the operator shall submit to the Mining Supervisor, and obtain his approval of, an exploration or mining plan. Casual use, as used in this section, means activities which do not cause significant surface disturbance or damage to lands, resources and improvements, such as activities which do not include heavy equipment, explosives, or vehicular movement off established roads and trails which causes such disturbance. All such plans shall be submitted in quintuplicate, and shall show in detail the proposed prospecting, exploration, testing, development, mining, preparation, reclamation, and abandonment operations to be conducted. Exploration and mining plans shall be consistent with and responsive to the requirements of the lease, permit, or license for maximizing recovery of the resources, for the protection of non-mineral resources, and for the reclamation of the surface of

the lands affected by the operations. The exploration and mining plans shall show that reclamation is an integral part of the plan and will progress as contemporaneously as practicable with the operations, and shall provide sufficient information to substantiate the effectiveness of the proposed reclamation method. Except as provided in paragraph (e) of this section as to partial plans, where a logical mining unit has been approved by the Mining Supervisor, the mining plan shall cover all operations in the unit. The Mining Supervisor, after considering all comments received pursuant to § 211.5(b), shall, in writing, promptly approve or disapprove the plan or indicate what modifications are necessary to conform to the provisions of the applicable laws and regulations and the terms and conditions of the permit or lease.

(b) *Exploration plans.* The Mining Supervisor shall require that an exploration plan include all of the following:

(1) A brief description of geologic, water, vegetation, fish, wildlife, and other physical factors that may be affected by the proposed operation within the area where exploration is to be conducted.

(2) A description of the present land use within and adjacent to the area.

(3) A narrative description including:

(i) Method of exploration and types of equipment to be used.

(ii) Measures to be taken to prevent or control fire, soil erosion, pollution of surface and ground water, pollution of air, damage to fish and wildlife or their habitat and other natural resources, and hazards to public health and safety.

(iii) Method for plugging drill holes.

(iv) Measures to be taken for surface reclamation which shall take into account the impact of the proposed operation on adjacent land uses and shall include, as appropriate:

(A) A reclamation schedule.

(B) Method of grading, backfilling, and contouring.

(C) Method of soil preparation and fertilizer application.

(D) Type and mixture of shrubs, trees, grasses, or legumes to be planted.

(E) Method of planting, including quantity and spacing.

(4) Estimated timetable for each phase of the work and for final completion of the program.

(5) Suitable maps or aerial photographs showing existing topographic, cultural, and drainage features, the proposed location of drill holes, trenches, access roads, and other items, as required by the Mining Supervisor.

(c) *Mining plans.* The Mining Supervisor shall require that a mining plan include all of the following:

(1) A description of the environment within the area where mining is to be conducted. Such description shall include, as a minimum, geologic conditions, including potential geologic hazards; types, depths, and distribution of soils; types, density, and distribution of vegetation; a monthly range of temperature, precipitation and average direction and velocity of prevailing winds; and the dominant fish and wildlife species.

(2) The conditions of the land covered by the mining plan prior to any mining, including:

(i) The uses existing at the time the mining plan is submitted for approval.

(ii) The capability of the land prior to any mining to support alternative uses, giving consideration to soil characteristics, topography, annual precipitation, and vegetative cover.

(3) The use which is proposed to be made of the land following reclamation, including any consideration which has been given to making the surface mining and reclamation operations consistent with applicable State and local land use plans and programs.

(4) A description of how the proposed postmining land use is to be achieved, including any necessary support activities and facilities.

(5) A narrative description, including:

(i) Nature and extent of the coal deposit, including estimated recoverable reserves.

(ii) Method of mining, including mining sequence and proposed production rate.

(iii) The engineering techniques proposed to be used in mining and reclamation and a description of the major equipment; the plan for the control of water drainage and accumulation; the plan, where appropriate, for backfilling, soil stabilization, and compacting, grading, and revegetation; and an estimate of the cost per acre of the reclamation, including a statement as to how the operator plans to comply with the requirements set out in Section 211.40(a) of this Part and any special terms and conditions of the lease, permit or license.

(iv) The anticipated starting and termination dates of each phase of the mining operation and number of acres of land to be affected.

(v) The steps to be taken to comply with applicable air and water quality laws and regulations.

(vi) Proposed measures for insuring the maximum practicable recovery of the mineral resource.

(vii) An estimated timetable for the accomplishment of each major step of reclamation.

(viii) The method of abandoning mine openings.

(ix) The logs and analyses of overburden samples and the method of depositing the spoils based on these samples.

(x) The hydrology of the area, including quantity and quality of water in surface and ground water systems, water levels and water table measurements, data regarding dissolved and suspended solids under seasonal flow conditions, and an assessment of the probable impacts of the anticipated mining operation upon the hydrology of the area.

(6) Suitable maps or aerial photographs showing:

(i) Topographic, cultural, archaeological, and natural drainage features, roads, and vehicular trails.

(ii) The name of the watershed and location of the surface stream or tributary into which mine waters will be discharged, if applicable.

(iii) Cross sections and plan views of the land to be affected, including the actual area to be mined, showing elevation and location of drill holes and depicting the following information: the nature and depth of the various strata of overburden; the information on subsurface water, if encountered, and its quality; the nature and thickness of any coal or rider seam above the coal seam to be mined; the nature of the stratum immediately beneath the coal seam to be mined; all mineral crop lines and the strike and dip of the coal to be mined within the area of land to be affected; existing surface mining limits, if any; the location and extent of known workings of any underground mines, including mine openings; the location of aquifers; the estimated elevation of the water table; the location of spoil, waste, or refuse areas and topsoil preservation area; the location of all impoundments or other water treatment facilities; constructed or natural drainways and the location of any discharges to any surface body of water on the area of land to be affected or adjacent thereto; and cross sections of the anticipated final surface configuration that will be achieved pursuant to the operator's proposed reclamation activities.

(iv) Locations of surface structures and facilities.

(v) For an underground mine, the planned mine layout, including location and dimensions of shafts, slopes, drifts, crosscuts, rooms, haulageways, aircourses, entries, and barrier pillars.

(d) *Changes in plans.* Exploration and mining plans may be required to be reasonably revised or supplemented at any time by the Mining Supervisor, after consultation with the authorized officer of the Federal surface managing agency, to adjust to changed conditions or to correct oversights. If the operator seeks to change an approved plan, he shall submit a written statement of the proposed revision and the justification therefore to the Mining Supervisor. If any such revision or supplement would constitute a major modification of an approved mining plan, the Mining Supervisor shall follow the procedures provided in § 211.5 (b) of this Part. The Mining Supervisor, after considering any comments received, shall, in writing, approve any such revision or specify the modifications thereto under which the proposed revision would be acceptable.

(e) *Partial plan.* If the circumstances warrant, or if development of an exploration or mining plan for the entire operation is dependent upon unknown factors which cannot, or will not, be determined except during the progress of the operations, a partial plan may be approved and supplemented from time to time. A partial plan shall include all information required by paragraph (c) of this section to the extent that such information is available.

§ 211.11 Approaching oil, gas, or water wells.

When mining operations approach wells or bore holes that may liberate oil,

gas, water, or other fluid substances, the lessee shall present his plans for mining the coal, protecting the wells or bore holes, and for obtaining maximum recovery, so far as practicable, in the vicinity of such holes, and must obtain the approval of the Mining Supervisor before proceeding with mining.

§ 211.12 Mine maps.

(a) *General requirements.* The operator shall maintain an accurate and up-to-date map of the mine, drawn to a scale acceptable to the Mining Supervisor. All maps shall be appropriately marked with reference to government landmarks or lines and elevations with reference to sea level. Before any mine, or section of a mine, is abandoned, closed, or made inaccessible, a survey of such mine or section shall be made and recorded on the maps. All excavations in each separate bed shall be shown in such a manner that the production of coal for any royalty period can be accurately ascertained. Additionally, the map shall show the name of the mine; the name of the lessee; the lease, permit, or license serial number, or Bureau of Indian Affairs lease or permit contract number, tribal name of tribal land, allotment number, if allotted land, and name of the Indian reservation; the lease boundary lines; surface buildings; dip of the bed; true north; map scale and explanatory legend; and such other information as the Mining Supervisor shall request. Copies of such maps shall be properly posted to date and furnished, in duplicate, to the Mining Supervisor annually, or at such other times as he deems necessary.

(b) *Underground mine maps.* Underground mine maps shall, in addition to the general requirements of paragraph (a) of this section, show all mine workings; the date of extension of the mine workings and a coal section at each entry face; the location of all surface mine fans; the position of all fire walls, dams, main pumps, fire pipelines, permanent ventilation stoppings, doors, overcasts, undercasts, permanent seals, and regulators; the direction of the ventilating current in the various parts of the mine at the time of making the latest surveys; sealed areas, known bodies of standing water, either in or above the workings of the mine; areas affected by squeezes; the elevations of surface and underground levels of all shafts, slopes or drifts; and the elevation of the floor, or bottom of the mine workings, at regular intervals in main entries, panels or sections, and sump areas.

(c) *Surface mine maps.* Surface mine maps shall, in addition to the general requirements of paragraph (a) of this section, include date of extension of the mine workings and a coal section at not less than 100-foot intervals along the highwall; all worked out areas; the uncovered, but unmined, coal beds; and the elevation of the top of the coal beds.

(d) *Vertical projections and cross sections of mine workings.* When required by the Mining Supervisor, vertical projections and cross sections shall accompany plan views.

(e) *Other maps.* The operator shall prepare such other maps of the leased lands as, in the judgment of the Mining Supervisor, are necessary to show the surface boundaries; location, surface elevation, depth and thickness of the coal, and total depth of each bore hole; improvements; reclamation completed; topography, including subsidence resulting from mining; and the geological and hydrologic conditions as determined from outcrops, drill holes, exploration or mining; and water monitoring stations.

(f) *Accuracy of maps.* The accuracy of maps furnished shall be certified by a professional engineer, professional land surveyor, or other professionally qualified person.

§ 211.13 Failure of lessee to furnish maps.

(a) *Liability of lessee for expense of survey.* If the operator fails to furnish a required map, the Mining Supervisor shall employ a qualified mine surveyor to make a survey and a map of the mine, the cost of which shall be charged to, and promptly paid by, the operator.

(b) *Incorrect maps.* If any map submitted by an operator is believed to be incorrect, the Mining Supervisor may cause a survey to be made. If the survey shows the maps submitted by the lessee to be substantially incorrect, in whole or in part, the cost of making the survey and preparing the maps shall be charged to, and promptly paid by, the operator.

PROSPECTING AND EXPLORATION OPERATIONS

§ 211.20 Information required to be submitted.

The operator shall submit promptly to the Mining Supervisor, upon request, upon completion or suspension of prospecting or exploration operations, or as provided in the leases, permits, and licenses, duplicate signed copies of records and geologic interpretations of all prospecting and exploration operations performed on his lease or permit lands, including recoverable reserve calculations, along with vertical cross sections through the land and a map showing the exact location of coal outcrops, all drill holes, trenches and other prospecting activities. The records shall include a log of all strata penetrated and conditions encountered, such as water, quicksand, gas, or any unusual conditions; copies of all other in-hole surveys, such as electric logs, gamma ray-neutron logs, sonic logs, or any other logs produced; and copies of coal analyses and results of other tests conducted on the land. All drill holes, trenches, and excavations will be logged under the supervision of a qualified geologist or engineer. Unless otherwise authorized by the Mining Supervisor, representative samples of all drill cores or cuttings shall be retained by the operator for one year and shall be available for inspection or analysis at the convenience of the Mining Supervisor.

§ 211.21 Core and test holes.

(a) *Surveillance wells.* With the approval of the Mining Supervisor, drill holes may be utilized as surveillance wells for the purpose of monitoring the effect of subsequent operations upon the quantity, quality, or pressure of ground water or mine gases.

(b) *Blowout control devices.* When drilling on lands valuable or potentially valuable for oil and gas or geothermal resources, the operator shall, when required by the Mining Supervisor, set and cement casing in the hole and install suitable blowout prevention equipment.

(c) *Use of wells by others.* Upon receipt of a written request from the surface owner or Federal surface administering agency, the Mining Supervisor may approve the transfer of an exploratory well for further use as a water well. Approval of such well transfer will be accompanied by a corresponding transfer of responsibility for any liability for damage and eventual plugging.

MINING METHODS AND MINE ABANDONMENT

§ 211.30 Maximum recovery—underground mines.

Mining operations shall be conducted in a manner to yield the maximum recovery of the coal deposits consistent with the protection and use of other natural resources, sound economic practice, and the protection of the environment—land, water, and air. No entry, level, or panel workings in which the pillars have not been completely extracted within safe limits shall be permanently abandoned and rendered inaccessible, except with the written approval of the Mining Supervisor.

§ 211.31 Subsidence.

(a) Each operator of an underground coal mine shall adopt measures consistent with feasible known technology in order to prevent or control subsidence, maximize mine stability, and maintain the value and use of surface lands, except in those instances where the mining method used requires planned subsidence in a predictable and controlled manner.

(b) Where pillars or panels are not removed and controlled subsidence is not part of the mining plan, pillars or panels of adequate dimensions shall be left to assure surface stability, giving due consideration to the thickness and strength characteristics of the coal beds and of the strata above and immediately below the coal bed.

(c) The Mining Supervisor may require the operator to install a subsidence monitoring system consisting of elevation stations and tiltmeters in a number sufficient to determine the extent of area that may be affected. All records of such surveys shall be accessible for review by the Mining Supervisor.

§ 211.32 Multiple seam mining; underground mining.

(a) *Sequence of mining.* In general, the available coal in the upper beds shall be worked out before the coal in the lower beds is mined, and simultaneous workings in an upper coal bed shall be kept in advance of the workings in each lower bed. The Mining Supervisor may authorize mining of any lower beds be-

fore mining the available coal in each known upper bed.

(b) *Protective barrier pillars in multiple seam mining.* In areas subject to multiple seam extraction, the protective barrier pillars for all main and secondary slope entries, main haulageways, primary aircourses, bleeder entries, and mainways in each seam shall be superimposed, regardless of vertical separation or rock competency; however, modifications, exceptions, or variations of this requirement may be approved in advance by the Mining Supervisor.

§ 211.33 Advance workings: underground mines.

Where the room and pillar or other system of mining requires advance workings in solid coal, including entries, rooms or crosscuts, the lessee shall leave sufficient pillars to ensure the maximum practicable recovery of the coal deposits.

§ 211.35 Pillars left for support.

(a) *Barrier pillars.* The operator shall not, without the prior consent of the Mining Supervisor, mine any coal, drive any underground workings, or drill any lateral bore holes within 50 feet of any of the outside boundary lines of the leased lands, or within such greater distance of said boundary lines as the Mining Supervisor may prescribe. Payment up to and including the full value of the coal mined may be required for coal mined within such designated distances of the boundary without the written consent of the Mining Supervisor.

(b) *Lessee may be required to mine barrier pillars on adjacent lands.* If the coal beyond any barrier pillar has been worked out and the water level beyond the pillar is below the lessee's adjacent operations, the lessee shall, on the written order of the Mining Supervisor, mine out and remove all available Federal coal in such barrier, both in the lands covered by the lease and in the adjoining premises, if it can be mined without hardship to the lessee.

(c) *Privately or tribally owned coal on adjoining premises.* If the coal mining rights in adjoining premises are privately or tribally owned and this coal has been worked out, an agreement may be made with the coal owner for the extraction of the coal remaining in the boundary pillars which otherwise may be lost.

§ 211.36 Development of leased tract through adjoining mines.

An operator may, with the approval of the Mining Supervisor, mine leased land from an adjoining underground mine on land privately owned or controlled or from adjacent leased lands, subject to the right of free access to the Federal premises by the Mining Supervisor.

RECLAMATION AND PERFORMANCE STANDARDS

§ 211.40 Operating and reclamation standards.

(a) *Performance standards.* The following performance standards shall be applicable to all coal exploration, development, mining, drilling, preparation, processing, and reclamation operations on the surface of the land subject to these regulations:

(1) The operator shall conduct surface coal mining operations so as to maximize the extraction of the coal resource so that future investment through the resumption of mining will be minimized.

(2) The operator shall reclaim the land affected pursuant to his approved plan, as contemporaneously as practicable with operations, to a condition at least fully capable of supporting all practicable uses which it was capable of supporting prior to any exploration or mining, or equal or better uses that can reasonably be attained.

(3) The operator shall replace overburden and waste materials in the mined area by backfilling (compacting, where advisable, to insure stability or to prevent leaching of toxic materials), grading, or other means so as, to the maximum extent practicable, to eliminate highwalls and spoil piles and to restore the original contour. Where the thickness of the coal deposits relative to the volume of overburden is large or where the overburden and other spoil and waste materials are either insufficient or more than sufficient to restore the approximate original contour, the operator shall backfill, grade, and compact, using all available overburden or spoil material, to obtain the lowest practicable grade, but not more than the angle of repose, in order to provide adequate drainage and to cover all acid-forming or other toxic materials. Excess overburden or other spoil material, after restoring the approximate original contour, shall be graded, compacted (where advisable), stabilized, and shaped in a way to protect against slides, subsidence, erosion, and water pollution, in accordance with the requirements of this Part. Restoration to approximate original contour may be required if the Director of the Geological Survey, with the concurrence of the Director of the Bureau of Land Management or the appropriate officer of the Federal surface management agency, determines: (i) That an equal or better proposed postmining land use is practicable and attainable and that a modification of this requirement is the best method of achieving that postmining use, or (ii) that unusual conditions such as steeply dipping coal beds or multiple seam mining, exist which make backfilling pursuant to this paragraph impractical.

(4) The operator shall stabilize and protect all surface areas, including spoil piles, affected by the coal mining and reclamation operation, to effectively control slides, erosion, subsidence and attendant air and water pollution.

(5) The operator shall remove the topsoil separately, replace it on the backfill area or, if not utilized immediately, segregate it in a separate pile from other spoil. When the topsoil is not replaced on a backfill area within a time short enough to avoid deterioration of the topsoil, the operator shall establish and maintain a cover by quickgrowing plants or other means thereafter so that the topsoil is preserved from wind and water erosion and is in a condition for sustaining vegetation when used during reclamation. If topsoil is of insufficient quantity or of poor quality for sustaining vegetation, and if other strata can be shown to be more suitable for vegetation requirements, then the operator shall remove, segregate, and preserve in a like manner such other strata which are best able to support vegetation.

(6) The operator shall, where permanent impoundments of water on mining sites are to be created, insure that:

(i) The impoundment is adequate for its intended purposes.

(ii) The impoundment will be designed and built in accordance with sound engineering standards and practices and applicable Federal and State laws and regulations.

(iii) The quality of impounded water will be suitable for its intended use and discharges from the impoundment will not unreasonably degrade the water quality in the receiving stream.

(iv) Final grading will provide adequate safety and access for proposed water users.

(v) Such water impoundments will not adversely affect the water resources utilized by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses.

(7) The operator shall cover or plug all auger mine holes with noncombustible material in order to minimize or prevent harmful drainage.

(8) The operator shall minimize disturbances to the prevailing quality and quantity of water in surface and ground water systems, and of the prevailing erosion and deposition conditions at the mine site and in adjacent offsite areas, both during and after coal mining operations and during reclamation by:

(i) Controlling acid or other toxic drainage and the adverse consequences thereof by such measures as, but not limited to, restricting the flow of water through acid or other toxic-producing materials, treating drainage to reduce acid or other toxic content which adversely affects downstream water upon being released to water courses; and casing, sealing, or otherwise treating drill holes, shafts and wells to keep acid or other toxic drainage from entering ground and surface waters.

(ii) Conducting surface mining operations so as, to the maximum extent practicable, to prevent (A) contributions of suspended solids to streamflow or runoff outside the mining site above natural levels under seasonal flow conditions as measured for a period and at sites determined by the Mining Supervisor, in consultation with the authorized officer of the Federal surface managing agency, and (B) deepening or enlargement of stream channels where operations require the discharge of water from mines.

(iii) Removing or modifying siltation structures after disturbed areas are revegetated and stabilized unless otherwise directed by the Mining Supervisor after consultation with the authorized officer of the Federal surface managing agency.

(iv) Protecting, to the maximum extent practicable throughout the mining

and reclamation process, the quality and quantity of both upstream and downstream surface and ground water resources of those valley floors which provide water sources that support significant valley floor vegetation or supply water for other purposes, by such measures as, but not limited to, relocating and maintaining the gradients of streams.

(9) The operator shall, with respect to surface disposal of mine wastes, coal processing wastes, and other wastes in areas other than the mine workings or other excavations, place all waste piles in areas designated in the approved mining plan and stabilize them through construction in compacted layers, including, if necessary, the use of incombustible and impervious materials; shape waste piles to be compatible with the natural surroundings and terrain; cover with topsoil or other suitable material in accordance with paragraph (a) (8) of this section; and revegetate in accordance with paragraph (a) (16) of this section.

(10) The operator shall refrain from surface coal mining within 200 feet of active and abandoned underground mines, except as may be authorized in the approved mining plan.

(11) The operator shall incorporate sound engineering standards and practices for the design, construction, and use of impoundments for the disposal of coal mine wastes, coal processing wastes, or other liquid or solid wastes to insure that structures and impoundments will have necessary stability with an adequate margin of safety. No mine or processing waste shall be used in the construction of water impoundments, water retention facilities, dams, or settling ponds unless authorized in the approved mining plan.

(12) The operator shall:

(i) Treat or dispose of all rubbish and noxious substances in a manner designed to prevent air and water pollution and fire hazards;

(ii) Dispose of all solid waste resulting from the mining and preparation of coal in a manner designed to prevent, to the maximum extent practicable, air and water pollution and spontaneous ignition.

(13) The operator shall use explosives only in accordance with existing Federal and State laws and the conditions specified by the Mining Supervisor, who may require the operator to:

(i) Provide adequate advance written notice by publication and/or posting of the planned blasting schedule to local governments and to residents who might be affected by the use of such explosives, and maintain a log of the magnitudes and times of blasts for a period of at least two years.

(ii) Limit the size, timing, and frequency of blasts, as determined by the physical conditions of the site, to prevent personal injury or damage to public and private property.

(14) The operator shall construct, maintain and, when they are no longer necessary, remove roads, pipelines, powerlines and similar utility access facilities into and across the site of operations in a manner that will control or prevent erosion and siltation, pollution of water, damage to fish or wildlife or their habitat, or public or private property, except that the Mining Supervisor, with the concurrence of the authorized officer of the Federal surface managing agency, may approve the retention, after mining, of specific roads where consistent with the proposed postmining use of the affected lands.

(15) The operator shall refrain from constructing roads or other access ways in or near stream beds or drainage channels that would seriously alter the normal flow of water therein.

(16) The operator shall, except where other reclamation is expressly provided for in an approved mining plan, establish on the regraded areas and all other affected lands a diverse vegetative cover, native to the area and capable of self-regeneration, at least equal in density and permanence to the natural vegetation. The Mining Supervisor, with the concurrence of the authorized officer of the Federal surface managing agency, may allow the use of introduced species as an interim measure, where desirable, to achieve quick cover.

(17) The operator shall assume responsibility for successful revegetation, as herein provided. The operator's responsibility and liability for revegetation of each planting area shall extend until such time as the authorized officer of the Federal surface managing agency, in consultation with the Mining Supervisor, determines that successful revegetation, in compliance with paragraph (a) (16) of this section, has occurred; provided that, this period shall extend for a minimum of five full years after the first year of planting and a total period of liability not to exceed 10 years from the original planting; and further provided that, where the authorized officer of the Federal surface managing agency determines that success conditions, such as annual precipitation, soil characteristics and native vegetation, are stable and favor rapid revegetation, and that revegetation pursuant to paragraph (a) (16) of this section is likely to occur before the expiration of such minimum period, he may specify in the lease, permit, or license that such minimum period will not apply with respect to some or all of the lands included in such lease, permit, or license.

(18) The operator shall allow access to and upon the affected Federal lands subject to lease, permit, or license for all lawful and proper purposes, except where such access would unduly interfere with the authorized use or would constitute a hazard to public health and safety.

(19) The operator shall, in all areas of active operations, including lands undergoing reclamation, regulate public access, vehicular traffic, and wildlife or livestock grazing to protect the public, wildlife, and livestock from hazards associated with the coal mining and exploration operations and to protect the revegetated areas from unplanned and uncontrolled grazing. For this purpose, the operator shall provide warning signs, fencing, flagmen, barricades, and other safety and protective measures as appropriate.

(b) *Fire prevention.* Accumulations of slack coal or combustible waste shall be stored in a loction and manner so as not to be a fire hazard. If a coal seam exposed by surface mining or an accumulation of slack coal or combustible waste becomes ignited during the term of a lease, the operator will immediately extinguish the fire.

(c) *Coal face to be covered in strip pits.* Upon completion or indefinite suspension of mining operations in all or any part of a strip pit, the face of the coal shall be covered with non-combustible material that will effectively protect the coal bed from becoming ignited.

(d) *Underground workings from any strip pit.* The driving of any underground openings by auger or other methods from any strip pit shall not be undertaken without prior written approval of the Mining Supervisor.

§ 211.41 Abandonment; surface openings.

(a) *Prospecting and development.* Drill holes, trenches, and other excavations for development or prospecting shall be abandoned in a manner to protect the surface and not to endanger any present or future underground operations or any deposit of oil, gas, other mineral resources, or ground water. Methods of abandonment shall be approved in advance by the Mining Supervisor and may include backfilling, cementing, capped casing, or combinations of these, or other methods.

(b) *Temporary abandonment.* In areas in which there are no current operations, the operator shall substantially backfill, fence, protect, or otherwise effectively close all surface openings, auger holes, subsidence holes, surface excavations or workings which are a hazard to people or animals. Openings at all underground mines which are temporarily closed shall be adequately fenced or equipped with a substantial incombustible gate or door which shall remain locked when not in use. Conspicuous signs shall be posted prohibiting entrance of unauthorized persons. All such protective measures shall be maintained in a secure condition during the term of the lease, permit, or license.

(c) *Mining—permanent abandonment.* Before permanent abandonment of operations, all openings and excavations, including water discharge points, shall be closed or backfilled, or otherwise permanently dealt with in accordance with sound engineering practices and according to the approved mining plan.

(d) *Reclamation and clean-up.* Reclamation and clean-up of surface areas around and near permanently abandoned underground and strip mines, including, except where otherwise expressly provided in the approved mining plan, removal of equipment and structures related to the mining operation, shall commence without delay following cessation of mining operations.

§ 211.42 Disposal of mine waste or rejects.

(a) All waste or rejects containing practically no coal shall be deposited separately and apart from sized coal for which no immediate market exists. Waste piles shall be shaped to blend into the surrounding area, covered with topsoil or other suitable material in accordance with § 211.40(a) (5) and revegetated in accordance with § 211.40(a) (16).

(b) Waste containing coal in such quantity that it may be later separated from the waste by washing or other means shall also be stored separately.

MISCELLANEOUS PROVISIONS

§ 211.60 Production records, royalty, and audits; maintenance of and access to records.

(a) Lessee shall maintain current and accurate records showing: (1) The type, quality or grade, and weight of all coal mined, sold, used on the premises, or otherwise disposed of, and all coal in storage (remaining in inventory); (2) the prices received for all coal sold and to whom sold, by type and by quality or grade.

(b) All records maintained in accordance with paragraph (a) of this section, and all other records which are pertinent to or related to lessee's operation, shall be available for examination, upon request, by the Mining Supervisor or other authorized officer of the Secretary of the Interior.

(c) Licensees must maintain a correct record of all coal mined and removed.

§ 211.61 Basis for royalty computation.

(a) *Value Basis.* The value of production for the purpose of computing royalty shall be the product of (1) the sale or contract price of the coal prepared for shipment f.o.b. the mine and (2) the weight of coal delivered at the usual and customary place of shipment. However, if there is no sale or contract price, as in the case of coal used or stored by the operator, or if the Mining Supervisor determines that the sale or contract price has not been arrived at in an arms-length transaction, the Mining Supervisor shall determine the estimated reasonable value of the product, giving due consideration to the price of coal being sold in any current arms-length transactions in the same area, and such other relevant factors as may be appropriate to establish the comparability of such transactions.

(b) *Bone or other impurities.* All bone coal, rock, and other impurities may be removed from the raw coal prior to determination of coal weights for royalty purposes.

(c) *Discretion of Mining Supervisor.* (1) The right is reserved to the Mining Supervisor to determine and declare the value, either before or after receipt of royalty payments, if it is deemed necessary by him to do so for protection of the interests of the lessor.

(2) If royalties become due and payable prior to removal of bone coal, rock, and other impurities of final weighing of coal, the Mining Supervisor may determine, by estimate, the weight of the coal for royalty purposes. In addition, the Mining Supervisor may, after the removal of bone coal, rock, and other impurities and final weighing of the coal, require the payment of such additional royalties, or allow such credits or refunds as may be necessary, to adjust the royalty payments to reflect the true weight of the coal.

§ 211.62 Reports.

(a) *Operations.* An operator under a coal lease, permit, or license shall file with the Mining Supervisor, within 30 days after the end of each calendar year or within 30 days after the cessation of operations, a report, in duplicate, containing the following:

(1) Serial number of the lease, permit, or license and a description of the lands affected by operations.

(2) The number of acres disturbed and the number of acres reclaimed, including revegetation.

(3) A description of the reclamation work remaining to be done.

(b) *Grading and backfilling; bond.* Upon completion of backfilling and grading required by the operating plan, the operator shall submit a report thereon, in duplicate, to the Mining Supervisor and request inspection for approval. Whenever it is determined by such inspection that the backfilling and grading, which may proceed in appropriate stages, has met the requirements of the operating plan, the Mining Supervisor shall recommend to the authorized officer of the Bureau of Land Management and/or other Federal surface managing agency release of an appropriate amount of the compliance bond for the area satisfactorily backfilled and graded.

(c) *Revegetation.* (1) The operator shall file a report, in duplicate, with the Mining Supervisor within 30 days after each planting is completed. The report shall:

(i) Identify the lease, permit, or license.

(ii) Show the type of planting or seeding, including mixtures and amounts.

(iii) Show the date of planting or seeding.

(iv) Identify or describe the planted or seeded lands.

(v) Describe fertilization and irrigation procedures, if any, and contain such other information as may be considered relevant.

(2) The Mining Supervisor and the authorized officer of the Federal surface managing agency shall, as soon as possible after each full growing season, inspect and evaluate the revegetated areas to determine whether satisfactory vegetative growth has been established, or whether additional revegetation efforts may be required.

(d) *Cessation or abandonment of operations.* (1) Not less than 30 days prior to cessation or abandonment of operations, the operator shall submit to the Mining Supervisor, in duplicate, a report of his intention to cease or abandon operations, together with a statement of the exact number of acres affected by his operations, the extent and kind of reclamation accomplished, and a statement as to the structures and other facilities that are to be removed from or remain on the leased, permitted, or licensed lands.

(2) Upon receipt of such report, the Mining Supervisor and the authorized officer of the Federal surface managing agency shall make a joint inspection to determine whether operations have been completed in accordance with the approved operating plan. Where the operator has complied with all requirements of the lease, permit, or license and the regulations of this Part, the Mining Supervisor shall recommend to the authorized officer of the Bureau of Land Management and/or the Federal surface managing agency that the period of bonded liability be terminated.

(3) When the surface of lands in a lease, permit, or license is not owned by the United States, the Mining Supervisor shall consult the surface owner and obtain his recommendation as to whether the operation has been completed in accordance with the approved operating plan before recommending to the appropriate authorized officer that the period of liability of the bond be terminated.

(e) *Production and payments.*—(1) *Lessees.* Lessees shall report, on the report form provided, within 30 days after expiration of the period covered by the report, all coal mined during each calendar quarter and the value basis on which royalty has been paid or will be paid. Except as provided by leases and permits issued under the regulations in 25 CFR Parts 171, 172, 173, and 174, the royalty for coal mined shall be paid prior to the end of the third month succeeding the extraction of the coal from the mine.

(2) *Licensees.* Licensees shall report all coal mined on a semi-annual basis on the report form provided.

(3) *Penalty.* If a lessee or permittee records or reports less than the true weight or value of coal mined, the Secretary may impose a penalty equal to double the amount of royalty due on the shortage, or the full value of the shortage, if, after warning, a lessee or permittee maintains false records or files false reports, a suit to cancel the lease may be instituted in addition to the imposition of penalties.

§ 211.63 Audits.

An audit of the lessee's accounts and books may be required annually, or at other such times as may be directed by the Mining Supervisor, by a qualified independent certified public accountant and at the expense of the lessee. The lessee shall furnish, free of cost, duplicate copies of such annual or other audits to the Mining Supervisor within 30 days after the completion of each auditing. Where such audits are required, the Mining Supervisor will specify the purpose and scope of the audit and the information which is to be verified or obtained.

INSPECTION, ISSUANCE OF ORDERS, ENFORCEMENT OF ORDERS AND APPEALS

§ 211.70 Inspection of underground and surface conditions.

The operator shall provide access and means at all reasonable times for the Mining Supervisor to inspect or investigate the operation to determine whether it is in compliance with applicable laws, regulations, and orders; the terms and conditions of the lease, permit, or license; and the requirements of the exploration or mining plan.

§ 211.71 Notices, instructions, and orders.

(a) *Address of responsible party.* Before beginning operations, the operator shall inform the Mining Supervisor, in writing, of the operator's temporary and permanent post office address and the name and post office address of the superintendent, or designated agent, who will be in charge of the operations and who will act as the local representative of the operator. Thereafter, the Mining Supervisor shall be informed of each change of address.

(b) *Receipt of notices, instructions, and orders.* The operator shall be construed to have received all notices, instructions, and orders that are mailed to or posted at the mine or mine office, or mailed or handed to the superintendent, the mine foreman, the mine clerk, or higher officials connected with the mine or exploration site for transmittal to the operator or his local representative.

§ 211.72 Enforcement of orders.

(a) If the Mining Supervisor determines that an operator has failed to comply with the regulations in this Part, other applicable Departmental regulations, the terms and conditions of the lease, permit, or license, the requirements of an approved exploration or mining plan, or with the Mining Supervisor's orders or instructions, and such noncompliance does not threaten immediate, serious, and irreparable damage to the environment, the mine or the deposit being mined, or other valuable mineral deposits or other resources, the Mining Supervisor shall serve a notice of noncompliance upon the operator by delivery in person to him or his agent or by certified or registered mail addressed to the operator at his last known address. Failure of the operator to take action in accordance with the notice of noncompliance or to appeal to the Director pursuant to Part 290 of this Chapter shall be grounds for suspension of operations by the Mining Supervisor or his recommendation for the initiation of action for cancellation of the lease, permit, or license and forfeiture of the required bonds.

(b) The notice shall specify in what respect the operator has failed to comply with the provisions of applicable regulations, the terms and conditions of the lease, permit, or license, the requirements of an approved exploration or mining plan, or the orders and instructions of the Mining Supervisor, and shall specify the action which must be taken to correct the non-compliance and the time limits within which such action must be taken. A written report shall be submitted by the operator when a non-compliance has been corrected.

(c) If, in the judgment of the Mining Supervisor, an operator is conducting activities which fail to comply with the regulations, the terms and conditions of the lease, permit, or license, the requirements of approved exploration or mining plans or the Mining Supervisor's orders or instructions and which threaten immediate, serious, or irreparable damage to the environment, the mine or the deposit being mined, or other valuable ore-bearing mineral deposits or other resources, the Mining Supervisor shall order the immediate cessation of such activities, without prior notice of noncompliance, either in writing or orally with written confirmation. Such order may be appealed as provided in Part 290 of this Chapter. Compliance with such order shall not be suspended by reason of an appeal having been taken unless such suspension is authorized in writing by the Director or the Interior Board of Land Appeals (depending upon the official before whom the appeal is pending), and then only upon a determination that such suspension will not be detrimental to the lessor or adversely affect the public interest, or upon submission of a bond deemed adequate to indemnify the lessor from loss or damage.

§ 211.73 Appeals.

Orders or decisions issued under the regulations in this Part may be appealed as provided in Part 290 of this Chapter.

§ 211.74 Application of State laws, regulations, practices, and procedures as Federal law by Federal officers.

(a) Upon request of the Governor of any State, the Secretary shall promptly review the laws, regulations, administrative practices and procedures in effect, or due to come into effect, with respect to reclamation of lands disturbed by surface mining of coal, subject to the jurisdiction of that State, to determine whether such controls may appropriately be applied as Federal law to operations relating to coal owned by or subject to the jurisdiction of the United States. He shall take into account all relevant constructions and applications of such controls by competent State and local judicial and regulatory authorities, the desirability and practicability of uniformity between Federal and State controls, and the public policy of the State regarding the development of coal resources located therein.

(b) After such review, the Secretary may, by order, direct that all or part of such State laws, regulations, practices, and procedures shall be applied as Federal law by the authorized officers of the Department with respect to coal within that State owned by or subject to the jurisdiction of the United States, if he determines that such application would (1) effectuate the purposes of this Part; (2) result in protection of environmental values which is at least as stringent as would otherwise occur under exclusive application of Federal controls; and (3) would be consistent with the interest of the United States in the timely and orderly development of its coal resources.

(c) Pending issuance of an order under subsection (b) hereof, nothing in this Section shall be deemed or construed to stay or suspend any otherwise applicable Federal law, regulation, practice, or procedure. Any such order under subparagraph (b) shall specifically set forth the controls to be applied by Federal officers and may include specific finds of fact, or interpretations thereof, which shall be binding upon such officers. Any such order shall remain in effect until rescinded or modified by subsequent order of the Secretary, upon his own motion or at the request of a Governor.

PART 216—OPERATING REGULATIONS GOVERNING THE MINING OF COAL IN ALASKA

Part 216 of Chapter II of this Title 30 of the Code of Federal Regulations is revoked.

PART 23—SURFACE EXPLORATION, MINING AND RECLAMATION OF LANDS

§ 23.2 [Amended].

Section 23.2(b) of Part 23 of Title 43 of the Code of Federal Regulations is amended by the deletion of the period and the addition at the end thereof of the following language: "; nor minerals or operations subject to the provisions of 43 CFR Subpart 3041."

Dated: August 29, 1975.

KENT FRIZZELL,
Acting Secretary.

[FR Doc.75-23486 Filed 9-4-75;8:45 am]

Geological Survey

[30 CFR Parts 211, 216]

COAL MINING OPERATING REGULATIONS

Notice of Proposed Rulemaking

CROSS REFERENCE: For a document issued by the Bureau of Land Management and Geological Survey, Department of the Interior, see FR Doc. 75-23486 appearing elsewhere in this issue.

National Park Service

[36 CFR Part 7]

BLUE RIDGE PARKWAY, NORTH CAROLINA-VIRGINIA

Parking and Crossing Permits for Hunters

Notice is hereby given that pursuant to the authority contained in Section 3 of the Act of August 25, 1916 (39 Stat. 535; 16 U.S.C. 3); the Act of June 30, 1936 (49 Stat. 2041; 16 U.S.C. 460a-2 as amended); 245 DM 1 (37 F.R. 8395); National Park Service Order No. 66 (36 F.R. 21218), as amended; and Regional Director, Southeast Region Order No. 5 (37 F.R. 7721), it is proposed to amend § 7.34 of Title 36 of the Code of Federal Regulations as is set forth below.

The purpose of the amendment is to conform hunter parking and crossing permits issued by the Superintendent, Blue Ridge Parkway, with the applica-

APPENDIX 1-D

RECOMMENDATIONS TO THE SECRETARY OF THE INTERIOR REGARDING FINAL RULEMAKING ON SURFACE MANAGEMENT OF FEDERAL COAL RESOURCES (43 CFR 3041) AND COAL OPERATING REGULATIONS (30 CFR 211)

Subpart - Surface Management

Federal Coal Resources

Subpart 3041 - Surface Management - Federal Coal Resources

§ 3041.0-1 Purpose

(a) The purpose of these regulations is to establish rules to be followed in the management of the federally owned coal estate consistent with the policies, goals, and objectives established by the Acts cited in § 3041.0-3 of this Subpart, regardless of surface ownership.

(b) It is the policy of the Department to encourage the development of federally owned coal, where such development is authorized, through a program that will provide for the protection, orderly development and conservation of Federal mineral and nonmineral resources in a manner that will avoid, minimize or correct adverse impacts on society and the environment resulting from coal development, without undue duplication or administrative delay by Federal officers. It is also the policy of the Department to authorize leases, permits, and licenses for coal only where reclamation of the affected lands to the standards set forth herein is attainable and assured and a reclamation program will be undertaken as contemporaneously as practicable with operations. Departmental policy regarding privately owned surface where the mineral estate is federally owned is that any mineral activity on the private surface should be conducted to result in protection of environmental values which is at least as stringent as would apply to federally owned surface.

§ 3041.0-3 Authorities

These regulations are issued pursuant to: The Mineral Leasing Act of February 25, 1920, as amended (30 U.S.C. 181-287), and the Mineral Leasing Act for Acquired Lands (30 U.S.C. 351-359). Additional regulations governing the issuance of Federal coal leases, permits, and licenses are found in 43 CFR 3500 of this Chapter, including the specific requirement in § 3501.2-6 that the consent of the Department of Agriculture or other administering agency be obtained with respect to leases, permits, and licenses covering acquired lands subject to the jurisdiction of such other Federal surface management agency. Regulations governing lease or permit operations are found in 30 CFR 211. Regulations setting forth the general and basic policies for disposal and management of the public lands are found in 43 CFR 1725 of this Chapter.

§ 3041.0-4 Responsibilities

(a) Subject to the supervisory authority of the Secretary, the regulations in this Subpart shall be administered by the Director, through the State Director and the District Manager. The Bureau of Land Management (BLM) exercises at the Bureau level the Secretary's discretionary authority to determine whether or not leases, permits, and licenses are to be issued. The Bureau of Land Management is responsible for issuing coal leases, permits, and licenses, and is the office of record in mineral leasing matters.

(b) The Geological Survey (GS) exercises the Secretary's authority regarding operations conducted within the area of operation by permittees, lessees, and licensees and determines the action to be taken by them from the standpoint of the development, conservation, and management of mineral resources under the jurisdiction of the Department. The Geological Survey is responsible for all geologic, engineering, and economic value determinations for the Department's mineral leasing program. These determinations include: the mineral characteristics of lease and permit areas; parceling; amounts of bonds; royalties; unit values; rentals; mineral resource evaluations; reserves; investments, diligent development, and minimum production requirements; and all other terms and conditions relating to mineral operations under leases and permits.

(c) The Bureau of Land Management or other Federal surface management agency, in consultation with the Geological Survey and the surface owner, if other than the United States, formulates the requirements to be incorporated in leases, permits, and licenses for the protection of the surface and nonmineral resources and for reclamation, using the surface operating and reclamation performance standards contained in Section 3041.2-2 of these regulations and in 30 CFR Part 211.40.

(d) The Geological Survey reviews and approves exploration and mining plans, and authorizes the abandonment of operations in consultation with the Bureau of Land Management or other appropriate Federal surface management agency, and the surface owner, if other than the United States, on the adequacy of the surface use, environmental protection, and reclamation aspects of such plans and will not grant approval if inconsistent with the BLM's or other Federal surface management agency's recommendations without further discussions.

(e) As to the lands outside of the area of operations, the authorized officer of the BLM or other appropriate Federal surface management agency is responsible for conducting compliance examinations and for assuring compliance by the lessee, permittee, or licensee with the requirements of this Subpart, and the terms and conditions of a lease, permit, or license and for reporting noncompliance to the GS for appropriate action.

As to the lands inside the area of operations the GS examines operations to ensure compliance with environmental protection and rehabilitation requirements as set forth in the provisions of any lease, permit or license or any approved mining or exploration. GS refers to BLM any instance of noncompliance with lease terms which may require cancellation action, and BLM may initiate such action. With respect to approval of access roads, pipelines, utility routes and other surface uses outside the operating areas, the Bureau of Land Management, or other Federal surface management agency, has the primary responsibility but obtains the recommendations of the Geological Survey before taking final actions. Except as may be expressly provided for in Section 3041.7 of this Subpart and 30 CFR Part 211.70, orders to operators for any remedial action are the exclusive responsibility of the Geological Survey.

(f) Subject to the Supervisory authority of the Secretary, the regulations in this Subpart shall be administered by the Director, Bureau of Land Management through the authorized officer having jurisdiction over the lands subject to these regulations and authorized to perform the duties described. Prior to issuance of any coal lease, permit, or license, the authorized officer shall consult with and accept and consider recommendations from the Mining Supervisor, the Federal surface management agency when other than the BLM, or the surface owner, as to the terms and conditions required to achieve the purpose of these regulations. Any

disagreements that cannot be resolved between the Geological Survey and the Bureau of Land Management arising in connection with any such issuance of a lease, permit or license will be referred for resolution to the appropriate Assistant Secretaries or to the Under Secretary of the Department of the Interior.

Any such disagreements between the authorized officer of the BLM and the appropriate authorized officer of any Federal surface management agency not in the Department of the Interior will be referred for resolution to comparable higher authorities in each agency, and, if necessary, to the respective departments, for final resolution.

§ 3041.0-5 Applicability

(a) This Subpart sets forth regulations governing leasing, permitting, and licensing procedures, reclamation standards, use of surface, bond requirements, and reports relating to leases, permits, and licenses issued by the Bureau of Land Management with respect to Federal coal deposits located on public domain and acquired lands of the United States and reserved Federal coal deposits underlying lands the surface of which is privately owned. These regulations do not govern the leasing or development of coal deposits owned by Indians and subject to the Trust protection of the United States, which are controlled by regulations found in 25 CFR Parts 171, 177 and 172.

(b) The provisions of this Subpart shall become effective upon publication in the Federal Register as final rulemaking, except as hereinafter provided.

(1) Existing operations.

(i) On and after 180 days from the effective date of these regulations, the provisions of Section 3041.2-2(f) shall apply to all existing operations with respect to lands from which the overburden has not been removed.

(ii) On or before 18 months from the effective date of these regulations, the operator of each existing operation shall have submitted and have obtained the approval of a plan or modification thereof which shall comply with all of the provisions of this Subpart, provided, however, that if the Director of the Geological Survey determines that a proposed new plan or modification of a existing plan was prepared and submitted in timely fashion, taking into account the complexity of the operation of the plan or modification involved, but that administrative delay thereafter has prevented approval within the time specified, such time period may be extended for an amount of time equal to the duration of such delay.

(iii) For the purpose of this paragraph, the term "existing operation" shall mean:

(A) All operations for which a plan has been approved on the effective date of these regulations, and

(B) All operations with respect to which a proposed plan has been submitted to the Department on or before the effective date of these regulations, and with respect to which proposed plan the Department has on that date either completed its environmental impact analysis and determined that no environmental impact statement under Section 102(2)(C) of the National Environmental Policy Act is necessary, or has determined that such a statement is

necessary and has commenced, and expended substantial resources of the Department in the preparation or completion of such a statement.

(iv) On or before 90 days from the effective date of these regulations, the Director of the Geological Survey shall review all proposed plans which have been submitted to the Department on or before the effective date of these regulations, and after consultation with appropriate Federal surface management agencies, publish in the Federal Register a list which shall identify each such proposed plan and whether it will be considered to cover an existing operation.

(2) All operations or proposed operations not included in the definition of "existing operations" in the preceding paragraph shall be considered to be new operations, and shall be subject to the provisions of this Subpart upon the effective date hereof.

(3) The provisions of 30 CFR Part 211.72(c) shall apply immediately upon promulgation of these regulations with respect to any activities being conducted in noncompliance with any lease, permit or license or any previously approved plans.

(c) To the maximum extent possible, any environmental impact statement and any approval of plans covering existing operations which is pending before the Department on the effective date of these regulations shall take into account and shall reflect and implement the provisions and purposes hereof; provided, however, that nothing in this subparagraph shall be construed to relieve any operator of the obligation imposed by subparagraph (b)(1)(i) above.

(d) Nothing in this Subpart shall be deemed or construed as increasing or diminishing any rights held by any surface owner or entryman arising under the laws of any State and relating to the giving or withholding of consent to, or consultation in connection with, entry to any land for the purpose of conducting operations subject to this Subpart.

§ 3041.0-6 Definitions

As used in this Subpart, the following terms shall have the following meanings:

(a) "Acid or toxic producing materials" means natural or disturbed earth materials having chemical and physical characteristics that, under mining or postmining conditions of drainage, exposure, or other processes, may produce effluents that contain chemical constituents, such as acids, bases, or metallic compounds, in sufficient concentrations to individually or in combination adversely affect the environment.

(b) "Affected lands" means any lands affected or to be affected by exploration, development, and mining operations and the construction of facilities necessary and related to such operations.

(c) "Approximate original contour" means the surface configuration achieved by backfilling and grading of the mined area so that it closely resembles the surface configuration of the land prior to mining (although not necessarily the original elevation) and blends into and complements the drainage pattern and topography of the surrounding terrain.

(d) "Area of operations" means that area of the leased, permitted, or licensed lands which is required for exploration, development, producing, and processing operations, including all related surface structures and facilities, and which is delineated on a map or plat that is made a part of the approved exploration or mining plan.

(e) "Authorized officer" means that officer designated by any Federal surface managing agency to exercise its authority in matters relating to coal leases, licenses, and permits and these regulations.

(f) "Coal" means coal of all ranks from lignite to anthracite.

(g) "Compaction" means the reduction of porous spaces among the particles of soil and rock generally caused by running heavy equipment over the earth materials, as in the process of leveling the overburden material on strip mine banks, for the purpose of increasing the bearing capacity and stability of the earth materials.

(h) "Contemporaneously as practicable" means with respect to reclamation of mined or otherwise disturbed areas, the commencement, conduct and completion of reclamation activity as soon after disturbance as possible, without undue direct or indirect interference with ongoing operations and consistent with the objectives of environmental protection set forth in this Subpart.

(i) "Daylighting" is a term used to define the surface mining procedure for exposing an underground mined area to remove the remaining coal underlying the surface.

(j) "Director" means the Director of the Bureau of Land Management, U. S. Department of the Interior.

(k) "Exploration" means the detailed investigation and acquisition of data pertaining to a mineral deposit, including

activities for identifying regions or specific areas in which deposits are most likely to occur, and activities used to establish the nature of a coal deposit preparatory to mining.

(l) "Exploration plan" means a detailed plan submitted to the Mining Supervisor for approval before exploration operations commence showing the location and type of exploration work to be conducted, environmental protection procedures, roads, and reclamation procedures to be followed upon completion of such operations.

(m) "Impoundment" means an artificially built, dammed, or excavated place for the retention of water or sediments. A permanent impoundment is one that is intended to remain after final abandonment of the operation, and is identified as such in an approved plan.

(n) "General Coal Mining Order" means a formal numbered order issued in a rulemaking procedure by the Mining Supervisor, with the prior approval of the Division Chief, which implements the regulations in this Subpart and applies to coal mining and related operations in a specified geographic area.

(o) "Leased lands, leased premises, or leased tract" means lands embraced within a coal lease and subject to the regulations in this Subpart.

(p) "Lessee" means any person or persons, partnership, association, corporation, or municipality to whom a coal lease is issued, subject to the regulations in this Subpart, or an assignee of such lease under an approved assignment.

(q) "Licensee" means any individual, association of individuals, or municipality to whom a coal license is issued pursuant to the provisions of Section 20 of Title 30 of the United States Code.

(r) "Logical mining unit" means an area of land designated as such by the Geological Survey.

(s) "Maximum extent practicable," as used in this Subpart, is that degree of compliance with a stated absolute control or reclamation objective which provides the highest level of protection of environmental quality and social well-being that is reasonably commensurate with the cost of achieving such protection, without regard to the economic circumstances of the operator involved.

(t) "Method of operation" means the method and manner by which any activities are performed by the operator, as described in a preliminary plan or an exploration or mining plan.

(u) "Mine" means an underground or surface excavation and the surface or underground support facilities that contribute directly or indirectly to coal mining, preparation, and handling.

(v) "Mining plan" means a detailed plan for development of the coal resource submitted to the Mining Supervisor for approval prior to commencement of any mining operation, showing the proposed location, method, and extent of mining and all related activities necessary and incidental to such operation, including steps to be taken to grade, reclaim, and revegetate disturbed areas, to mitigate adverse impacts, and to otherwise meet the performance standards of this Subpart.

(w) "Mining Supervisor" means the Area Mining Supervisor, Conservation Division, Geological Survey, or District Mining Supervisor or other subordinate acting under his direction.

(x) "Notice of Availability" means a formal notification, by the appropriate Federal officer, to appropriate Federal, state and local agencies and interested individuals or groups of individuals, of the availability for inspection of information, data, proposed plans or modifications thereof, pending decisions and other documents subject to such inspection. Any such notice shall include the nature of the information, data, plan or modification, decision or other document involved; the name and mailing address of any applicant; the nature, location (county, township, range and section), duration and a brief description of any proposed operations; the date upon which any document involved was received and the date upon or after which any proposed action might be taken; and, when appropriate, a specific time limit for public review, comment or request for any departmental action, including public hearing. For the purpose of insuring actual receipt of such notices, there shall be maintained at each office of a Mining Supervisor or authorized officer of the Department of the Interior a mailing list which shall consist of the names and mailing addresses of all appropriate Federal, State or local agencies and any individuals or groups of individuals who have requested in writing to be included on such lists. All notices of availability shall be mailed to such agencies, individuals or groups at the addresses indicated on such lists.

(y) "Notice of noncompliance" means a written notice of operator noncompliance issued pursuant to Section 3041.7 of this Subpart.

(z) "Operator" means a lessee, permittee, or licensee, or one conducting operations on lands under the authority of the lessee, permittee, or licensee.

(aa) "Overburden" means the earth, soil, rock, and other natural materials which lie above the coal being mined.

(bb) "Permit lands" means lands embraced within a coal prospecting or other permit and subject to the regulations in this Subpart.

(cc) "Permittee" means any person or persons, partnership, association, corporation, or municipality to whom a coal prospecting or other permit subject to the regulations in this Subpart is issued, or an approved assignee of such permit.

(dd) "Pollution" means man-made or man-induced adverse alteration of the chemical, physical, biological, and radiological integrity of land, water or air, which reduces, or has the potential of reducing the beneficial uses of these resources.

(ee) "Post mining land use" means the use of the affected lands that will be made after mining and reclamation is completed and which is specified in a plan of operation approved pursuant to 30 CFR 211.

(ff) "Preliminary Plan" means a plan, consisting of maps and text, submitted by an applicant for a lease, permit, or license to the authorized officer of the BLM, which describes the applicant's proposal in the detail necessary to allow the authorized officer to conduct a technical examination and environmental analysis as described in § 3041.2.

(gg) "Preparation" means any crushing, sizing, cleaning, drying, mixing or other processing of coal to prepare it for market which is conducted on lands subject to this Subpart.

(hh) "Reclamation" means the process of returning affected lands to a stable condition and form consistent with their premining productivity and use, or other approved post mining land use.

(ii) "Road" means any open way for passage or travel upon which to transport people, equipment, materials, or coal, which is constructed, improved or maintained by the operator and which is used to service the pit, bench, underground mine workings, loading facilities or exploration activities.

(jj) "Secretary" means the Secretary of the Interior.

(kk) "Significant vegetation" means farm crops, including grasses and forbs, that are integral parts of agriculture or ranching operations and the natural vegetation of forests or meadows with significant recreational, watershed, agricultural, or wildlife habitat value.

(ll) "Spoil" means soil, rock, and other earth materials that are broken, moved, dumped, or otherwise significantly disturbed during surface coal mining operations subject to this Subpart.

(mm) "Subsidence" means a lowering of surface elevations over an underground mine caused by loss of support and subsequent caving of strata lying above the mine.

(nn) "Surface owner" means an entryman, or a person or persons who hold legal title to the land surface.

(oo) "Topsoil" means natural earth materials at or vertically adjacent to the land surface with physical and chemical characteristics suitable for support of vegetation.

(pp) "Valley floors" means the channelways, floodplains, and adjacent low terraces of streams that are flooded during periods of high flow and that are underlain by unconsolidated stream-laid deposits. Excluded are higher terraces and slopes underlain by colluvial and other surficial deposits normally occurring along valley margins.

(qq) "Waste" means solid or liquid refuse, rubbish, or other valueless material which is produced by or in connection with coal mining operations, including exploration, production, development, preparation and other related activities, and which has no useful purpose in connection with any remaining operations.

§ 3041.0-7 Use of surface

(a) The operator shall be entitled to use only so much of the surface of the lands within the affected lands as is deemed necessary and has been designated in an approved plan. This Subpart shall not be construed to authorize any use of the Federal lands for a power generation plant or a commercial or industrial facility. Separate permits for such uses must be obtained from the appropriate agency. The operator shall not be entitled to use any mineral materials subject to the Materials Act except as provided by Part 3600 of this Chapter.

(b) Operations under other authorized uses on the same lands shall not unreasonably interfere with or endanger operations under uses authorized under the regulations in this Chapter nor shall operations under the regulations in this Chapter unreasonably interfere with or endanger operations under any lease, permit, license, or other authorized use pursuant to the provisions of any other Act.

§ 3041.1 Coal leasing, permitting, and licensing planning procedures.

(a) When an area is initially considered for coal development the authorized officer shall make an environmental analysis of the potential effect of such development upon the resources of the area and its environment.

(b) Prior to the selection of tracts for coal leases, permits, or licenses the authorized officer shall evaluate the potential effects of all phases of such coal development on the environment, including fish and other aquatic resources, wildlife habitats and populations, visual resources, recreation, cultural, and other resources in the affected area. This evaluation shall take into account alternative uses of the land and its other natural resources, the need for the proposed coal development and the socioeconomic considerations relevant to multiple-use management principles. To aid him in this evaluation and in the selection of coal lease, permit, or license tracts, the authorized officer shall request and consider the views and recommendations of the Geological Survey and other appropriate Federal agencies, may hold public hearings after appropriate notice, and shall consult with applicants, nominators, State and applicable local agencies, organizations, industries, and surface owners if other than the United States.

(c) If the Director determines that a decision made pursuant to paragraphs (a) or (b) of this Section would be a major Federal action significantly affecting the quality of the human environment, and that an environmental impact statement as required by the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq) has not been prepared with respect thereto, such a statement will be prepared.

(d) If National Register or eligible National Register cultural resources might be affected by the issuance of coal leases, permits, or licenses, none will be authorized until compliance with Section 106 of the Historic Preservation Act (80 Stat. 917; 16 U.S.C. § 470F) and section 2(b) of E.O. 11593 of May 13, 1971 (36 F.R. 8921; 16 U.S.C. § 470 fn.) has been accomplished.

(e) If a decision is made to offer tracts for coal leases, permits, or licenses, the authorized officer may, following the procedures in § 3041.2 of this Chapter, develop and include in such offer such special terms and conditions as may be required by specific local conditions to protect the environment, to permit use of the land for other purposes, to allow post mining land uses, and to protect other resources.

(f) Geological and geophysical data and information, including maps, that may be used to calculate coal reserves in place, trade secrets, and commercial or financial information obtained from any person under this Subpart and identified as confidential and privileged by such person shall not be available for public inspection without his consent. Upon request of any person for disclosure of data or information submitted and identified as confidential or privileged, the appropriate authorized officer shall review such data and consult with the owner of such data who is claiming confidentiality and privilege, to determine whether it may be disclosed pursuant to this section. In such review, the appropriate authorized officer shall take into account the nature of such data, the possible effect of disclosure upon the owner, and the relevance of such data to effective public participation in the implementation of this Subpart. If the appropriate authorized officer determines that disclosure of such data is of overriding importance to effective implementation of this Subpart, or may take place without unreasonable adverse impact upon the owner thereof, he shall so inform the owner and all interested parties, and shall afford an opportunity of not less than ten days within which any interested party may appeal such determination pursuant to 43 CFR Part 2, provided, however, that this section shall be construed and applied in accordance with the provisions of section 552 (b) of Title V of the United States Code.

§ 3041.1-1 Applications.

(a) Any person who desires a lease, permit or license for coal development to be issued on his own motion shall file an application in the proper BLM office, in accordance with the regulations in this Chapter.

§ 3041.1-2 Preliminary plan.

(a) Any application for coal lease, permit, or license filed pursuant to the regulations in this Chapter shall contain a preliminary plan of operations to assist the authorized officer in making a technical evaluation and environmental analysis as described in § 3041.2.

(b) Such a preliminary plan shall include:

(1) Such map, or maps as may be available from State or Federal sources, on which shall be shown the topography of the land applied for, on which the applicant shall show physical features and natural drainage patterns and existing roads, vehicular trails, and utility systems; the location of any proposed exploration operations, including seismic lines, drill holes, trenches, access roads or trails, and support facilities; the location of any proposed mining operations and facilities incidental thereto, including the approximate location and aerial extent of the areas to be used for pits, overburden, and tailings; and the location of water sources or other resources which may be used in the proposed operations or facilities incidental thereto.

(2) A narrative statement, including:

(i) The anticipated scope, method, and schedule of exploration operations, including the types of exploration equipment to be used.

(ii) The method of mining anticipated, including the best available estimate of the mining sequence and production rate to be followed.

(iii) The relationship, if any, between the mining operations anticipated on the lands applied for and existing or planned mining operations, or facilities incidental thereto, on adjacent Federal or non-Federal lands.

(iv) A brief description, including suitable maps or aerial photographs as appropriate, of the existing land use within and adjacent to the lands applied for, and of known geologic, visual, cultural, or archaeological features, and the known habitat of fish and wildlife, particularly threatened and endangered species, that may be affected by the proposed or reasonably anticipated exploration or mining operations.

(v) A brief description of the proposed measures to be taken to prevent or control fire, soil erosion, pollution of surface and ground water, damage to fish and wildlife or other natural resources, air and noise pollution, and hazards to public health and safety; to reclaim the surface; and to otherwise meet applicable laws and regulations which the applicant wishes to have considered by the authorized officer.

(c) The applicant shall not enter upon the land for any operational purpose, except for casual use, without prior authorization. Casual use, as used in this section, means activities which do not cause significant surface disturbance or damage to lands, resources, and improvements, such as activities which do not include (1) the use of heavy equipment or explosives, or (2) vehicular movement off established roads and trails which causes such disturbance.

(d) The authorized officer, after reviewing the preliminary plan contained in an application, and at any time during a technical examination and environmental analysis, may request additional information from the applicant.

§ 3041.2 Technical examination/environmental analysis.

In connection with an application for a coal lease, permit or license, or on BLM motion, the authorized officer, with the assistance of the Mining Supervisor, shall make a technical examination and environmental analysis.

(a) The technical examination shall include:

(1) An examination of the technical aspects of the proposed operations set forth in any preliminary plan; and

(2) An evaluation of the impacts of such operations or if on BLM motion, the effect of coal leasing and development, on other land uses, resources, or land management programs on or adjacent to the area.

(b) The environmental analysis shall include: An analysis of the impact of the proposed operations set forth in any preliminary plan and alternatives thereto, or, if on BLM motion, the impacts of coal leasing and development on the living and non-living components of the environment.

§ 3041.2-1 Technical examination/environmental analysis report.

(a) Following completion of the technical examination and environmental analysis described in the preceding Section, the authorized officer shall prepare a report which sets forth recommendations as to (1) land which should be excluded from any lease, permit, or license in order to avoid mining where reclamation is not attainable or assured, or in recognition of other exclusive land use management priorities; (2) measures required to comply with the reclamation and performance standards set forth in this Subpart; (3) necessary conditions and amounts of bonds to cover estimated reclamation costs for areas that will be disturbed during the initial 5 year period of the lease, permit, or license; (4) any additional, more stringent requirements needed in the lease, permit, or license pursuant to Section 3041.2-2 (a) of this Subpart.

(b) If it is recommended that a specific area within the applied for lands be excluded from a lease, permit, or license, or modification thereof, the report shall set forth with reasonable specificity the facts upon which such recommendation is based.

§ 3041.2-2 Reclamation obligations and standards of performance

(a) Any operator who accepts a coal lease, permit, or license shall comply with, and be bound by, the general obligations and standards of performance set forth in this section and such additional and more stringent specific requirements as the authorized officer, in consultation with the Mining Supervisor, the appropriate authorized officer of any Federal surface management agency other than the BLM, and the surface owner if other than the United States, may include in the permit, lease, or license as necessary to meet exceptional and special circumstances, such as degree of slope, soil conditions, and other site characteristics.

(b) If the authorized officer of the BLM determines that an approved exploration or mining plan should be required to be revised or supplemented to adjust to changed conditions or to correct oversights, he may propose such revision or supplement to the Mining Supervisor. Upon approval of the Mining Supervisor, such plan may be revised or supplemented pursuant to § 211.10(d)(2)(i) of 30 CFR Part 211.

(c) Surface coal mining operations shall be conducted so as to assure the extraction of the coal resource to the maximum extent possible, taking into account existing technology, commercially available equipment, the cost of production, and the quality and quantity of the coal resource, so that future environmental disturbance through the resumption of mining will be minimized.

(d) The operator shall, in accordance with the terms and conditions of the lease, permit, or license (1) take visual resources identified by the Federal surface management agency into account in the planning, design, location, and construction of facilities on the affected lands; and (2) take such action as may be needed to minimize, control and, to the maximum extent practicable, avoid damage to the recreational, cultural, scientific, historical and known or suspected archeological and paleontological values of the land.

(e) The following performance standards shall be applicable to the surface effects of underground mining.

(1) Each operator of an underground coal mine shall adopt measures consistent with feasible known technology in order to prevent or control subsidence, maximize mine stability, and maintain the value and use of surface lands, except in those instances where the mining method used requires planned subsidence in a predictable and controlled manner.

(2) Where pillars or panels are not removed and controlled subsidence is not part of the mining plan, pillars or panels of adequate dimensions shall be left to assure stability giving due consideration of the thickness and strength characteristics of the coal beds and of the strata above and immediately below the coal bed.

(f) The following performance standards shall be applicable to all coal exploration, development, mining, preparation, handling, and reclamation operations on the surface of lands subject to these regulations:

(1) The operator shall reclaim affected lands pursuant to his approved plan, as contemporaneously as practicable with operations, to a condition capable of supporting all practicable uses which such lands were capable of supporting immediately prior to any exploration or mining, or equal or better uses that have been approved in accordance with subparagraph (2) of this Section.

(2) The operator shall replace overburden and waste materials in the mined area by backfilling (compacting, where necessary, to insure stability or to prevent leaching of toxic materials), grading or other means, so as to cover all acid-forming or other toxic materials and, to the maximum extent practicable, eliminate highwalls and spoil piles and restore the approximate original contour. Where the thickness of the coal deposits relative to the volume of overburden is large or where the overburden and other spoil and waste materials are either insufficient or more than sufficient to restore the approximate original contour, the operator shall, in order to provide adequate drainage, backfill, grade, and compact, where necessary, using all available overburden or spoil material, to obtain the lowest practicable grade, which shall, in any event, be less than the angle of repose. Excess overburden or other spoil material, after restoring the approximate original contour, shall be graded, compacted (where necessary), stabilized, and shaped in a way to protect against slides, subsidence, erosion, and water pollution, in accordance with the requirements of this Subpart. Variance from the requirements of paragraphs (1) and (2) of this Section may be allowed in the plan if the Director of the Geological Survey, with the concurrence of the Director of the Bureau of Land Management or the comparable appropriate authorized officer, determines: (i) that

an equal or better proposed postmining land use is practicable and attainable and that a modification of such requirement is the best method of achieving that postmining use, or (ii) that unusual physical conditions at the site, such as steeply dipping coal beds or multiple seam mining, exist, and such conditions make backfilling pursuant to such requirements impracticable as a result of the volume of material excavated or environmentally undesirable as a result of the duration of the operation.

(3) The operator shall stabilize and protect all surface areas, including spoil piles, affected by the coal mining and reclamation operation, to effectively control slides, erosion, subsidence, and attendant air and water pollution.

(4) The operator shall remove topsoil separately, for replacement on the backfill area, and if not so utilized immediately, segregate it in a separate pile from other spoil. When topsoil is not to be replaced on a backfill area within a time short enough to avoid deterioration, the operator shall establish and maintain an approved quick growing vegetative cover or employ other approved measures so that the topsoil is protected from wind and water erosion and establishment of noxious plan species, and is in a condition for sustaining vegetation. If topsoil is of insufficient quantity or of poor quality for sustaining vegetation, and if other excavated materials can be shown to be more suitable for revegetation, then the operator may be authorized in the approved plan to remove, segregate, protect, and utilize in a like manner such other material.

(5) The operator shall, where water impoundments, water retention facilities, dams, or settling ponds have been authorized in an approved plan insure that:

(i) Such facility is adequate for its intended purposes and the quality and quantity of impounded water will be suitable for its intended use.

(ii) Such facility is designed, located, built, used, and maintained in accordance with sound engineering standards and practices and applicable Federal and State laws and regulations, to insure that such facilities will have necessary stability with an adequate margin of safety.

(iii) Final grading will provide adequate safety and access for proposed or reasonably anticipated water users.

(iv) Such facilities will not have a significant adverse impact on the water resources utilized by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses, provided, however, that this paragraph shall not be construed to increase or diminish any property rights to any water held by any person.

(v) No mine or processing waste is used in the construction of such facilities unless authorized in the approved plan.

(6) The operator shall cover or plug all auger mine holes with noncombustible and, where necessary to minimize or prevent harmful drainage, impervious material.

(7) The operator shall minimize disturbances of the prevailing quality, quantity and flow of water in surface and ground water systems, and of the prevailing erosion and deposition conditions at the mine site and in affected offsite areas, both during and after coal mining operations and reclamation, by:

(i) Controlling acid or toxic drainage and the adverse consequences thereof by such measures as, but not limited to, diverting surface runoff water away from disturbed areas, excluding oxygen, restricting the flow of water through acid or toxic-producing minerals, treating drainage to reduce acid or toxic content which adversely affects downstream water upon being released to water courses; and casing, sealing, or otherwise treating drill holes, shafts, and wells to keep acid or toxic drainage from entering ground and surface waters.

(ii) Conducting surface mining operations so as, to the maximum extent practicable, to prevent (A) contributions of suspended solids to streamflow or runoff outside the mining site above natural levels under seasonal flow conditions as measured for a period and at sites determined by the Mining Supervisor, in consultation with the appropriate authorized officer, and (B) except where specificially authorized in an approved plan, deepening or enlarging of stream channels where operations include the discharge of water from mines.

(iii) Removing or modifying siltation structures after disturbed areas are revegetated and stabilized unless otherwise directed by the Mining Supervisor, with the concurrence of the appropriate authorized officer, provided, however, that any siltation structure retaining water shall, in any event, be subject, to the requirements of Section 3041.2-2 (f)(5) of this Subpart.

(iv) Protecting, to the maximum extent practicable throughout the mining and reclamation process, the quality, quantity and flow of both upstream and downstream surface and ground water resources of those valley floors which provide water sources that support significant vegetation or supply significant quantities of water for other purposes, by such measures as, but not limited to, relocating and maintaining the gradients of streams.

(8) The operator shall:

(i) Treat or dispose of all rubbish and noxious substances in a manner designed to prevent air and water pollution and the hazards of ignition and combustion.

(ii) Dispose of all waste resulting from the mining and preparation of coal in a manner designed to prevent, to the maximum extent practicable, air and water pollution and hazards of ignition and combustion. Where surface disposal of solid wastes in areas other than the mine workings or other excavations has been authorized in the approved plan, stabilize such waste including, where necessary, constructing waste piles in compacted layers with the use of incombustible and impervious materials; shape waste piles to be compatible with the natural surroundings and terrain; cover with topsoil or other suitable

material in accordance with subparagraph (f)(4) of this Section; and revegetate in accordance with subparagraph (f)(13) of this Section. All impoundments of liquid wastes shall comply with the requirements of subparagraph (f)(5) of this Section. Waste containing coal in such quantity that it may be later separated from the waste by washing or other means shall be stored separately.

(9) Except as provided herein, the operator shall not conduct excavation, drilling, or blasting operations within 200 feet of an active or abandoned underground mine. Where it can be established by certified maps or inspection of such an underground mine that such activities may be conducted without danger of interference with, or penetration of, an underground mine, they may be authorized in an approved plan to be conducted up to but not less than 25 feet from such underground mine provided that nothing in this paragraph shall preclude daylighting or similar surface coal mining activities intended to improve resource recovery, abate water pollution, or eliminate public hazards resulting from such underground mines.

(10) To prevent personal injury or damage to public and private property, the operator shall use explosives only in accordance with Federal and State laws and an approved plan and shall:

(i) Provide adequate advance written notice, by publication and/or posting of planned blasting schedules, to

local governments and to residents who might be affected by the use of such explosives, and maintain a log of the magnitudes and times of blasts for a period of at least two years.

(ii) Limit the size, timing, and frequency of blasts, as determined by the physical conditions of the site.

(11) The operator shall design to applicable standards, construct, maintain and, when no longer necessary and unless authorized otherwise in an approved plan, remove all roads, pipelines, powerlines, and similar utility access facilities into and across the site of operations, in a manner that will control or prevent erosion and siltation, fugitive dust, pollution of water, damage to fish or wildlife or their habitat and public or private property.

(12) The operator shall not construct roads or other access ways in, over or near stream beds or drainage channels so as to seriously alter the flow of water therein, provided, however, that nothing in this subparagraph shall be construed to prohibit relocation or alteration of such beds or channels pursuant to this Subpart and as set forth in an approved plan.

(13) (i) The operator shall, except where other reclamation based upon post-mining land use and not requiring revegetation pursuant to the requirements of this section is expressly provided for in an approved plan, establish on regraded areas and all other affected lands a diverse vegetative cover, native to the area and capable of regeneration and plant succession at least equal in density and permanence to the natural vegetation provided, however, that the Mining Supervisor, with the concurrence of the appropriate authorized officer may allow the use of approved mixtures of introduced or native species where preferable to achieve quick cover or assure successful revegetation. In approving such mixture, preference will be given to non-noxious species.

(ii) The operator's responsibility and liability under his performance bond for revegetation of each planting area shall extend until such time as the appropriate authorized officer, in consultation with the Mining Supervisor, and the surface owner, if other than the United States, determines that successful revegetation in compliance with subparagraph (i) of this subsection has occurred, provided, however, that this period shall extend for a minimum of five full years after the first year of planting, and for a total period of liability not to exceed 10 years from the original planting; and further provided that,

(A) where the appropriate authorized officer, in consultation with the Mining Supervisor, determines that natural conditions such as annual precipitation, soil characteristics and native vegetation are stable and favor rapid revegetation, and that revegetation pursuant to subparagraph (i) of this subsection is likely to occur before the expiration of such minimum period, he may specify in the lease, permit, or license that such minimum period will not apply with respect to some or all of the lands included in such lease, permit or license; and

(B) where during any such minimum period such authorized officer, in consultation with the Mining Supervisor, and the surface owner, if other than the United States, determines that natural conditions such as annual precipitation and soil characteristics are sufficiently unstable to favor only slow and uncertain revegetation, he may recommend to the Mining Supervisor that the liability of the operator be extended for a period of up to five years beyond the period initially established, if the financial liability that would be incurred

by the operator as a result is reasonably commensurate with the probability of successful revegetation.

(iii) During the relevant period of liability, the Mining Supervisor and the appropriate authorized officer shall, as soon as possible after each full growing season, jointly inspect and evaluate the revegetated areas to determine, in consultation with the surface owner, if other than the United States, whether satisfactory vegetative cover is being established, or whether additional revegetative efforts may be required.

(14) Except as provided in subparagraph (ii) hereof, the operator shall:

(i) Allow public access to and upon Federal lands subject to his lease, permit, or license for all lawful and proper purposes, except where such access would unduly interfere with his authorized use.

(ii) Regulate public access, vehicular traffic, and wildlife or livestock grazing in all areas of active operations, including lands undergoing reclamation, in order to protect the public, wildlife and livestock from hazards associated with such operations, and to protect revegetated areas from unplanned and uncontrolled grazing. For this purpose, the operator shall provide warning signs, fencing, flagmen, barricades, and other safety and protective measures as may be necessary.

(15) Coal storage areas shall be designed and maintained to eliminate fire hazards from spontaneous combustion and other accidental ignition. If a coal seam exposed by surface mining or an

accumulation of slack coal or combustible waste becomes ignited during the term of a lease, the operator will immediately take all necessary steps to extinguish the fire.

(16) Upon completion or indefinite suspension of mining operations in all or any part of a strip pit, the face of the coal shall be covered with noncombustible material that will effectively protect the coal bed from becoming ignited.

(17) The driving of any underground openings by auger or other methods from any strip pit shall not be undertaken except as specifically approved by the Mining Supervisor.

§ 3041.3 Compliance or performance bond.

(a) The provisions of the regulations in Subpart 3504 of this Chapter are hereby made applicable to these regulations. In addition each compliance bond will be conditioned upon faithful compliance with the regulations in this Subpart and any additional terms and conditions of the lease, permit, or license.

(b) Prior to issuing a lease, permit, or license, the authorized officer, after consultation with the Mining Supervisor, shall ensure that the amount of the compliance bond or bonds to be furnished is sufficient to insure reclamation in accordance with the performance and reclamation standards in § 3041.2-2, and with the terms and conditions of the lease, permit, or license.

(c) An application for a lease, permit, or license may be denied any applicant or offeror who has previously forfeited a bond because of failure to comply with an approved plan unless the affected lands covered by such plan have been reclaimed without cost to the Federal Government. Nothing in this subparagraph shall be deemed to modify or limit any discretionary authority of the authorized officer of the BLM otherwise to deny any application for a lease, permit or license.

(d) Once a lease, permit, or license has been issued the authorized officer, after consulting with and receiving the recommendation of the Mining Supervisor, shall take such action as may be necessary to increase or to release in whole or in part any compliance bond or bonds so that the amount of the compliance bond or bonds will at all times be sufficient to cover the estimated costs of completion

of the remaining reclamation requirements of the approved plan and of the terms and conditions of the lease, permit or license.

§ 3041.4 Procedures and public participation.

(a) Written findings. Except as may be otherwise expressly set forth in this Subpart, on and after the effective date of these regulations, decisions, and determinations of any appropriate authorized officer acting pursuant to this Subpart with respect to issuance of leases, approval of mining plans, and abandonment of operations shall be in writing, shall set forth with reasonable specificity the facts and the rationale upon which such decisions or determinations are based, and shall be available for public inspection during normal business hours at the offices of any such Federal officer.

(b) Availability of documents. Any application for a lease, permit, or license, together with the proposed terms, conditions, and special stipulations and any preliminary plans submitted under Section 3041.1-2 and reports made pursuant to Section 3041.2 of this Subpart shall be available for public inspection in the appropriate BLM office. To allow for such public inspection, a notice of the availability of any such documents shall be prepared by the appropriate officer of the BLM and promptly posted at his office and mailed to the surface owner, if other than the United States, appropriate Federal and State agencies, and to the clerk or other appropriate officer in the county in which the proposed operation is located for posting or publication in accordance with the procedures of that office. No action with respect to such documents shall be taken for a period of 30 days after such posting and mailing.

A copy of such notice shall be published by the applicant in a local newspaper of general circulation in the locality of the proposed operation at least once a week for four consecutive weeks.

(c) Public participation.

(1) Upon the timely written request to the appropriate authorized officer of any person having an interest which is or may be adversely affected, a public meeting may be conducted with respect to the following actions:

(i) Issuance or major modification of a lease, permit, or license subject to the provisions of these regulations or determination of any specific terms and conditions thereof.

(ii) Approval of final abandonment, including release of bonds, of any operation or portion thereof.

(2) Prior to the taking of any actions described in the paragraph (1) hereof, a notice of availability of such proposed decision shall be published in a newspaper of general circulation in the geographical area involved at least once in each of two consecutive weeks. In addition, not less than 20 days prior to the making of any such decision such notice shall be posted at the appropriate State or regional offices of the Bureau of Land Management and the Geological Survey,

mailed to the operator, all appropriate Federal and State agencies, including all agencies whose concurrence or consultation is sought or required, and the surface owner if other than the United States; and published in the Federal Register. Such notice shall set a reasonable time period, not less than 20 days from the date of publication in the Federal Register, within which any person having an interest which is or may be adversely affected may, in writing, request a public meeting.

(3) A complete transcript of any such public meeting, including any written comments submitted for the record, shall be kept and maintained available to the public during normal business hours at the appropriate Federal office under whose auspices such meeting is conducted, and shall be furnished at cost to any interested party. In making any decision or determination subject to such public meeting, the appropriate officer shall take into account all testimony for the record. All such decisions or determinations shall be subject to appeal pursuant to the provisions of Part 290 of this Title.

(4) The public meeting requirements of subparagraph (1) of this section shall be deemed to have been satisfied if a public hearing has been conducted upon an environmental statement pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969, as amended, in which all major issues and proposed terms and conditions have been considered, and with respect to which hearing all notice requirements of this section have been met.

§ 3041.5 Completion of Operations and Abandonment.

(a) Grading and backfilling. Upon completion of backfilling and grading required by the operating plan and prior to replacing topsoil and revegetation, the operator shall submit a report thereon, in duplicate, to the Mining Supervisor and request inspection for approval. Whenever it is determined by such inspection that the backfilling and grading has met the requirements of the approved plan, the Mining Supervisor shall recommend to the appropriate authorized officer release of an appropriate amount of the compliance bond for the area satisfactorily backfilled and graded.

(b) Temporary abandonment. In areas in which there are no current operations, but operations are to be resumed under an approved plan, the operator shall substantially backfill, fence, protect, or otherwise effectively close all surface openings, auger holes, areas prone to subsidence, and surface facilities or workings which are a hazard to people or animals. Conspicuous signs shall be posted prohibiting entrance of unauthorized persons. All such protective measures shall be maintained in a secure condition during the term of the lease, permit, or license.

(c) Permanent abandonment. Before permanent abandonment of operations, all openings and excavations, including water discharge points, shall be closed or backfilled, or otherwise permanently dealt with in accordance with sound engineering practices and according to the approved plan. Drill holes, trenches, and other excavations for development or prospecting shall be abandoned in a manner to protect the surface and not to endanger any present or future underground operations or any deposit of oil, gas, other mineral resources, or

ground water. Methods of abandonment shall be approved in advance by the Mining Supervisor and may include backfilling, cementing, and capped casing, or combinations of these, or other methods. Reclamation and clean-up of surface areas around and near permanently abandoned underground or surface mines, including, except where otherwise expressly provided in an approved plan, removal of equipment and structures related to the mining operation, shall commence without delay following cessation of mining operations.

(d) Completion report, release of bond.

(1) Not less than 30 days prior to cessation or abandonment of operations, the operator shall submit to the Mining Supervisor, in duplicate, a report of his intention to cease or abandon operations, together with a statement of the exact number of acres affected by his operations, the extent and kind of reclamation accomplished, and a statement as to the structures and other facilities that are to be removed from or remain on the leased, permitted, or licensed lands.

(2) Upon receipt of such report, the Mining Supervisor and the appropriate authorized officer shall promptly make a joint inspection to determine whether operations have been completed in accordance with the approved operating plan. Where the operator has complied with all requirements of the lease, permit, or license and the regulations of this Subpart, the Mining Supervisor shall recommend to the appropriate authorized officer that the appropriate period of bonded liability be termined.

(3) When the surfaces of lands in a lease, permit, or license is not owned by the United States, the Mining Supervisor

shall consult the surface owner and solicit and take into account his comments before recommending to the appropriate authorized officer that the period of liability of the bond be terminated.

§ 3041.6 Reports.

(a) Operations. An operator under a coal lease, permit, or license shall file with the Mining Supervisor, within 30 days after the end of each calendar year or within 30 days after the cessation of operations, a report, in duplicate, containing the following:

(1) Serial number of the lease, permit, or license and a description of the lands affected by operations.

(2) The number of acres disturbed and the number of acres reclaimed, including revegetation.

(3) A description of the reclamation work remaining to be done on lands disturbed.

(b) Revegetation.

(1) The operator shall file a report, in duplicate, with the Mining Supervisor within 30 days after each planting is completed. The report shall:

(i) Identify the lease, permit, or license.

(ii) Show the types of planting or seeding, including mixtures and amounts.

(iii) Show the date of planting or seeding.

(iv) Identify or describe the planted or seeded lands.

(v) Describe any surface manipulation, mulching, fertilization, and irrigation procedures, if any, and contain such other information as may be considered relevant.

(2) The Mining Supervisor and the authorized officer of the Federal surface managing agency shall, as soon as possible after each

full growing season, inspect and evaluate the revegetated areas to determine whether satisfactory vegetative growth has been established, or whether additional revegetation efforts may be required pursuant to Subparagraph 3041.2-2 (f)(13) of this Section.

§ 3041.7 Notice of noncompliance: Revocation

(a) The appropriate authorized officer and the Mining Supervisor shall have the right to enter upon the lands under lease, permit, or license, at any reasonable time.

(b) If an appropriate authorized officer discovers that an operator is conducting activities which are not in compliance with the requirements of a lease, permit, or license, applicable regulations, or an approved plan and such activities do not threaten immediate and serious damage to the environment, resources, or the health and safety of the public, such authorized officer shall refer the matter to the Mining Supervisor for remedial action persuant to 30 CFR 211.72(a).

(c) If an appropriate authorized officer discovers that an operator is conducting activities which are not in compliance with the requirements of a lease, permit, or license, applicable regulations, or an approved plan and such activities threaten immediate and serious damage to the environment, resources, or the health and safety of the public, the authorized officer may order the immediate cessation of such activities and shall promptly notify the Mining Supervisor. Upon such notification, the Mining Supervisor shall order immediate remedial action persuant to 30 CFR 211.72(c).

(d) Failure of the operator to take action in accordance with a written notice of noncompliance issued by the Mining Supervisor in accordance with the provisions of 30 CFR 211.72 shall be grounds for suspension of the operation and for possible cancellation of the lease, permit, or license in accordance with the regulations in 43 CFR 3500 of this Chapter.

§ 3041.8 Applicability of State Law

(a) (i) On the effective date of this Subpart the Secretary shall direct a prompt review of state laws and regulations in effect or adopted and due to come into effect, relating to reclamation of lands disturbed by surface mining of coal in each state in which Federal coal has been leased, licensed or permitted. If after such review the Secretary determines that such laws and regulations afford general protection of environmental quality and values at least as stringent as would occur under exclusive application of this Subpart, he shall by regulation direct that such state laws and regulations thereafter be applied.

(ii) From and after the effective date of any such determination by the Secretary that the requirements of any state laws or regulations are as stringent as or more stringent than the performance or reclamation obligations and requirements contained in this Subpart, the Mining Supervisor shall include such requirements as conditions upon the approval of any proposed plan, unless (a) the Secretary determines that application of such laws and regulations would unreasonably and substantially prevent the mining of Federal coal covered by such plan, and (b) the Secretary determines that it is in the overriding national interest that such coal be produced without inclusion of the requirements of such state laws or regulations in the proposed plan.

(iii) In any such determination of overriding national interest, the Secretary shall include as an element of such determination and shall impose as a condition of any approval any special conditions, or such portions of state laws or regulations, as may be applied consistent with that national interest, and will consult in advance of such determination with the Governor of the state involved.

(b) On the effective date of these regulations, the Secretary will direct representatives of the Department to consult with appropriate representatives of each state or a number of states for the purpose of formulating and entering into agreements to provide for a joint Federal-state program with respect to surface coal mine reclamation operations for administrative and enforcement purposes. Such agreements shall, wherever possible, provide for state administration and enforcement of such programs, provided that Federal interests are protected. Any such agreement shall be entered into by rulemaking, and shall have as its principal purpose the avoiding of duality of administration and enforcement of reclamation laws governing surface coal mine reclamation operations, as outlined in (a) (ii) above.

PART 211 - COAL MINING OPERATING REGULATIONS

INDEX

Sec. 211.1 Scope and purpose.

(a) The regulations in this Part shall govern operations for the discovery, testing, development, mining, preparation, and handling of coal under coal leases, licenses, and permits issued for federally-owned coal, regardless of surface ownership, pursuant to the regulations in 43 CFR Group 3500 and the Alaska Coal Leasing Act of October 20, 1914, as amended (38 Stat. 741; 48 U.S.C.432-445), and for the reclamation of lands disturbed by such operations. These regulations shall also apply to operations for the discovery, testing, development, mining, preparation, and handling of coal in tribal and allotted Indian lands under leases and permits, regardless of ownership of the surface, issued under the regulations in 25 CFR Parts 171,172, and 174, and for the reclamation of lands disturbed by such operations.

(b) The purpose of the regulations in this Part is to assure orderly and efficient prospecting, exploration, testing, development, mining, preparation and handling operations, and production practices, without avoidable waste or loss of coal or other mineral resources or damage to coal-bearing or other mineral-bearing formations, and without undue duplication or administrative delay by Federal officers and agents in review, approval or other actions provided for by this Part; to encourage maximum recovery and use of coal resources; to ensure operating practices which will avoid, minimize, or correct resulting damage to the environment--land, water, and air--and to public health and safty, to require effective

reclamation of affected lands as contemporaneously as practicable with coal development; to assure that all such operations which involve significant surface disturbance take place only pursuant to plans approved in advance thereof and that such plans are approved only where reclamation of the affected lands to the standards set forth herein is attainable and assured; and to require a proper record and accounting of all coal produced.

(c) When the regulations in this Part relate to matters included in the regulations in 25 CFR Part 177--Surface Exploration, Mining, and Reclamation of Lands--pertaining to Indian lands, the regulations in that Part shall govern to the extent of any inconcistencies, except that the operating and reclamation standards of Section 211.40 of this Part shall, in any event, apply.

(d) The responsibility for enforcement of the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 U.S.C. 801) and the coal mine health and safety regulations contained in Chapter I of this Title is vested in the Mining Enforcement and Safety Administration, Department of the Interior.

(e) The provisions of this Part shall become effective upon publication in the Federal Register as final rulemaking, except as hereinafter provided:

(1) Existing operations.

(i) On and after 180 days from the effective date of these regulations, the provisions of Section 211.40(a)

shall apply to all existing operations with respect to lands from which the overburden has not been removed, provided, however, that this subparagraph shall not be deemed to apply the requirements of subparagraphs 211.40 (a)(1) and (2) to any operation for which a plan has been approved on such date of publication, and for which a variance pursuant to the provisions of subparagraph 211.40 (a)(2) would be required.

(ii) Except as may be required to comply with the provisions of subparagraph (i), all existing operations shall be conducted pursuant to their approved plan. On or before 18 months from the effective date of this Part, the operator of each existing operation shall have obtained the approval of a plan or modification thereof which shall comply with all of the provisions of this Part, provided, however, that if the Director of the Geological Survey determines that a proposed new plan or modification of a existing plan was prepared and submitted in timely fashion, taking into account the complexity of the operation of the plan or modification involved, but that administrative delay thereafter has prevented approval within the time specified, such time period may be extended for an amount of time equal to the duration of such delay.

(iii) For the purpose of this paragraph, the term "existing operation" shall mean:

(A) All operations for which a plan has been approved on the effective date of these regulations, and

(B) All operations with respect to which a proposed plan has been submitted to the Department on or before the effective date of these regulations, and with respect to which proposed plan the Department has on that date either completed its environmental impact analysis and determined that no environmental impact statement under Section 102(2)(C) of the National Environmental Policy Act is necessary, or has determined that such a statement is necessary and has commenced, and expended substantial resources of the Department in the preparation or completion of such a statement.

(iv) On or before 90 days from the effective date of these regulations, the Director of the Geological Survey shall review all proposed plans which have been submitted to the Department on or before the effective date of these regulations, and after consultation with appropriate Federal surface management agencies, publish in the Federal Register a list which shall identify each such proposed plan and whether it will be considered to cover a new or existing operation.

(2) All operations or proposed operations not included in the definition of "existing operations" in the preceding paragraph shall be considered to be new operations, and shall be subject to the provisions of this Part upon the effective date hereof.

(3) The provisions of Section 211.72(c) shall apply immediately upon promulgation of these regulations with respect to any activities being conducted in noncompliance with any lease, permit or license or any previously approved plans.

(f) To the maximum extent possible, any environmental impact statement and any approval of plans covering existing

operations which is pending before the Department on the effective date of these regulations shall take into account and shall reflect and implement the provisions and purposes hereof, provided, however, that nothing in this subparagraph shall be construed to relieve any operator of the obligation imposed by subparagraph (e)(1)(i) above.

(g) Nothing in this Part shall be deemed or construed to increase or diminish any rights held by any person, including any surface owner or entryman, arising under the laws of any State and relating to the giving or withholding of consent to, or consultation in connection with, entry to any land for the purpose of conducting operations subject to this Part.

Section 211.2 Definitions.

As used in this Part, the following terms shall have the following meanings:

(a) Acid or toxic producing materials means natural or disturbed earth materials having chemical and physical characteristics that, under mining or postmining conditions of drainage, exposure, or other processes, may produce effluents that contain chemical constitutents, such as acids, bases, or metallic compounds, in sufficient concentrations to individually or in combination adversely affect the environment.

(b) Affected lands means any lands affected or to be affected by exploration, development, and mining operations and the construction of facilities necessary and related to such operations.

(c) Approximate original contour means the surface configuration achieved by backfilling and grading of the mined area so that it closely resembles the surface configuration of the land prior to mining (although not necessarily the original elevation) and blends into and complements the drainage pattern and topography of the surrounding terrain.

(d) Area of operations means that area of the leased, permitted, or licensed lands which is required for exploration, development, producing, and processing operations, including all related surface structures and facilities, and which is delineated on a map or plat that is made a part of the approved exploration or mining plan.

(e) Authorized officer means that officer designated by any Federal agency having administrative jurisdiction over lands or minerals to exercise its authority in matters relating to these regulations.

(f) Coal includes coal of all ranks from lignite to anthracite.

(g) Compaction means the reduction of porous spaces among the particles of soil and rock generally caused by running heavy equipment over the earth materials, as in the process of leveling the overburden material on strip mine banks, for the purpose of increasing the bearing capacity and stability of the earth materials.

(h) Conservation Manager means a Conservation Manager, Conservation Division, Geological Survey.

(i) Contemporaneously as practicable means, with respect to reclamation of mined or otherwise disturbed areas, the commencement, conduct and completion of reclamation activity as soon after disturbance as possible, without undue direct or indirect interference with ongoing operations and consistent with the objectives of environmental protection set forth in this Part.

(j) Daylighting is a term used to define the surface mining procedure for exposing an underground mined area to remove the remaining coal underlying the surface.

(k) Director means the Director of the Geological Survey, U. S. Department of the Interior.

(l) Division Chief means the Chief of the Conservation Division, Geological Survey.

(m) Exploration means the detailed investigation and acquisition of data pertaining to a mineral deposit, including activities for identifying regions or specific areas in which deposits are most likely to occur, and activities used to establish the nature of a coal deposit preparatory to mining.

(n) Exploration plan means a detailed plan submitted to the Mining Supervisor for approval before exploration operations commence showing the location and type of exploration work to be conducted, environmental protection procedures, roads, and reclamation procedures to be followed upon completion of such operations.

(o) General Coal Mining Order means a formal numbered order issued in a rulemaking procedure by the Mining Supervisor, with the prior approval of the Division Chief, which implements

the regulations in this Part and applies to coal mining and related operations in a specified geographic area.

(p) Impoundment means an artificially built, dammed, or excavated place for the retention of water or sediments. A permanent impoundment is one that is intended to remain after final abandonment of the operation, and is identified as such in an approved plan.

(q) Leased lands, leased premises, or leased tract means lands embraced within a coal lease and subject to the regulations in this Part.

(r) Lessee means any person or persons, partnership, association, corporation, or municipality to whom a coal lease is issued, subject to the regulations in this Part, or an assignee of such lease under an approved assignment.

(s) Licensee means any individual, association of individuals, or municipality to whom a coal license is issued pursuant to the provisions of section 208 of Title 30 of the United States Code.

(t) Logical mining unit means an area of land designated as such by the Geological Survey.

(u) Maximum extent practicable, as used in this Part, is that degree of compliance with a stated absolute control or reclamation objective which provides the highest level of protection of environmental quality and social well-being that is reasonably commensurate with the cost of achieving such protection, without regard to the economic circumstances of the operator involved.

(v) Method of operation means the method and manner by which any activities are performed by the operator, as described in a preliminary plan or an exploration or mining plan.

(w) Mine means an underground or surface excavation and the surface or underground support facilities that contribute directly or indirectly to coal mining, preparation, and handling.

(x) Mining plan means a detailed plan for development of the coal resource submitted to the Mining Supervisor for approval prior to commencement of any mining operation, showing the proposed location, method, and extent of mining and all related activities necessary and incidental to such operation, including steps to be taken to grade, reclaim, and revegetate disturbed areas, to mitigate adverse impacts, and to otherwise meet the performance standards of this Part.

(y) Mining Supervisor means the Area Mining Supervisor, Conservation Division, Geological Survey, or District Mining Supervisor or other subordinate acting under his direction.

(z) Notice of Availability means a formal notification, by the appropriate Federal officer, to appropriate Federal, State and local agencies and interested individuals or groups of individuals, of the availability for inspection of information, data, proposed plans or modifications thereof, pending decisions and other documents subject to such inspection. Any such notice shall include the nature of the information, data, plan or modification, decision or other document involved; the name and mailing address of any applicant, the nature, location (county, township, range and section), duration and a brief

description of any proposed operations; the date upon which any document involved was received and the date upon or after which any proposed action might be taken; and, when appropriate, a specific time limit for public review, comment or request for any departmental action, including public hearing. For the purpose of insuring actual receipt of such notices, there shall be maintained at each office of a Mining Supervisor or authorized officer of the Department of the Interior a mailing list which shall consist of the names and mailing addresses of all appropriate Federal, State or local agencies and any individuals or groups of individuals who have requested in writing to be included on such lists. All notices of availability shall be mailed to such agencies, individuals or groups at the addresses indicated on such lists.

(aa) Notice of noncompliance means a written notice of operator noncompliance issued pursuant to Section 211.72 of this Part.

(bb) Operator means a lessee, permittee, or licensee, or one conducting operations on lands under the authority of the lessee, permittee, or licensee.

(cc) Overburden means the earth, soil, rock, and other natural materials which lie above the coal being mined.

(dd) Permanent abandonment means the cessation of operations at a coal mine or portion thereof where coal is no longer being produced and it is the intent of the operator not to continue operations at the mine or portion thereof.

(ee) Permit lands means lands embraced within a coal prospecting or other permit and subject to the regulations in this Part.

(ff) Permittee means any person or persons, partnership, association, corporation, or municipality to whom a coal prospecting or other permit subject to the regulations in this Part is issued, or an approved assignee of such permit.

(gg) Pollution means man-made or man-induced adverse alteration of the chemical, physical, biological, and radiological integrity of land, water, or air, which reduces, or has the potential of reducing, the beneficial uses of these resources.

(hh) Post mining land use means the use of the affected lands that will be made after mining and reclamation is completed and which is specified in a plan of operations approved pursuant to this Part.

(ii) Preparation means any crushing, sizing, cleaning, drying, mixing or other processing of coal to prepare it for market which is conducted on lands subject to this Part.

(jj) Reclamation means the process of returning affected lands to a stable condition and form consistent with their premining productivity and use, or other approved post-mining land use.

(kk) Road means any open way for passage or travel upon which to transport people, equipment, materials, or coal, which is constructed, improved or maintained by the operator and

which is used to service the pit, bench, underground mine workings, loading facilities or exploration activities.

(ll) Secretary means the Secretary of the Interior.

(mm) Significant vegetation means farm crops, including grasses and forbs, that are integral parts of agriculture or ranching operations and the natural vegetation of forests or meadows with significant recreational, watershed, agricultural or wildlife habitat value.

(nn) Spoil means soil, rock, and other earth materials that are broken, moved, dumped or otherwise significantly disturbed during surface coal mining operations subject to this Part.

(oo) Subsidence means a lowering of surface elevations over an underground mine caused by loss of support and subsequent caving of strata lying above the mine.

(pp) Surface owner means an entryman, or a person or persons who hold legal title to the land surface.

(qq) Topsoil means natural earth materials at or vertically adjacent to the land surface with physical and chemical characteristics suitable for support of vegetation.

(rr) Valley floors means the channelways, floodplains, and adjacent low terraces of streams that are flooded during periods of high flow and that are underlain by unconsolidated stream-laid deposits. Excluded are higher terraces and slopes underlain by colluvial and other surficial deposits normally

occurring along valley margins.

(ss) Waste means solid or liquid refuse, rubbish, or other valueless material which is produced by or in connection with coal mining operations, including exploration, production, development, preparation and other related activities, and which has no useful purpose in connection with any remaining operations.

Section 211.3 Responsibilities.

(a) Subject to the supervisory authority of the Secretary, the regulations in this Part shall be administered by the Director, through the Division Chief, the Conservation Manager, and the Mining Supervisor.

(b) The Mining Supervisor is empowered to approve, disapprove, approve upon condition, or require modification of exploration and mining plans pursuant to this Part.

(c) The Mining Supervisor is empowered to oversee prospecting, exploration, testing, development, mining, preparation, handling, reclamation, and abandonment operations under the regulations in this Part. The Mining Supervisor, in the performance of his duties, is authorized to consult with and solicit the views of other appropriate Federal, State and local agencies and other interested parties, and shall:

(1) Inspection of operations. Examine, as frequently as necessary but at least quarterly, the lease, permit, or license lands where operations for the discovery, testing, development, mining, preparation, handling of coal,

and reclamation of affected lands, are conducted, or are to be conducted; inspect such operations, for the purpose of determining whether waste or degradation of mineral substances or damage to formations and deposits or non-mineral resources affected by the operations is being minimized, and whether all provisions of applicable laws, regulations and orders, all terms and conditions of leases, permits, or licenses, and all requirements of approved exploration or mining plans are being complied with.

(2) Compliance. Require operators to conduct operations subject to this Part in compliance with all provisions of applicable laws, regulations, and orders, all terms and conditions of leases, permits, or licenses, and all requirements of approved exploration or mining plans.

(3) Reports and recommendations. Make reports to the Division Chief, through the Conservation Manager, as to the general conditions of lands under lease, permit or license, and the manner in which operations are being conducted and orders are being complied with; and submit information and recommendations for protecting the coal, the coal-bearing formations, other mineral resources, and the non-mineral resources. A copy of all such reports shall be furnished to the operator upon request, and shall be made available to the public.

(4) Manner and form of records, reports and notices. Prescribe, subject to the approval of the Division Chief, the manner and form in which records of operations, reports, and notices shall be made.

(5) Records of production; rentals and royalties. Obtain and check coal production and sales records; determine rental and royalty liability of lessees and permittees; collect and deposit rental and royalty payments; maintain rental and royalty accounts.

(6) Waiver, suspension, or reduction of rental or minimum royalty. Act on applications for waiver, suspension, or reduction of rental or minimum royalty filed pursuant to 43 CFR 3503.3-2(d); and transmit to the Bureau of Indian Affairs for appropriate action applications for waiver, suspension, or reduction of rental or minimum royalty under leases on Indian lands.

(7) Suspension of operations and production. Act on applications for suspension of operations or production, or both, filed pursuant to 43 CFR 3503.3-2(e), and terminate, when appropriate, suspensions which have been granted; and transmit to the Bureau of Indian Affairs for appropriate action applications for suspension of operations or production, or both, under leases on Indian lands.

(8) Cessation and abandonment of operations. Upon receipt of notice of proposed cessation or abandonment of operations, or relinquishment of a lease, permit, or license,

inspect and determine whether the operator has completed his operations in accordance with the terms and conditions of the lease, permit or license and the approved exploration or mining plan and whether all rentals and royalties due the lessor have been paid, determine and report to the appropriate authorized officer that the lands have been properly conditioned for abandonment, and recommend that the period of liability under the appropriate bond or bonds be terminated. Before taking any such action, the Mining Supervisor shall consult with and, where required, obtain the concurrence of, the appropriate authorized officer. When the surface of lands in a lease, permit or license is not owned by the United States, the Mining Supervisor shall, in addition, notify the surface owner, and shall solicit and take into account his comments and recommendations.

(9) Wells or prospect holes. Prescribe or approve the methods for protecting coal-bearing formations from damage or contamination that might be incurred as a result of any wells or prospect holes drilled to, or through, the coal-bearing formations for any purpose, on lands embraced within a coal lease, permit, or license.

(10) Trespass. Report to the appropriate authorized officer any trespass that involves exploration activities or removal of coal.

(11) Water and air quality. Inspect operations to determine compliance with air and surface and ground water

management and pollution control measures required by the approved plans, and promptly notify appropriate representatives of other Federal and State agencies in the event of any noncompliance.

(12) Implementation of regulations. Issue General Coal Mining Orders and other orders, make determinations, and grant consents and approvals as necessary to implement or assure compliance with the regulations in this Part. Any oral orders, approvals, or consents shall be promptly confirmed in writing.

(13) Compliance or performance bonds. Determine whether the total amount of any bond or bonds furnished with respect to operations subject to this Part is at all times adequate to satisfy the estimated costs of completion of remaining reclamation requirements of the approved exploration or mining plan and the terms and conditions of the lease, permit, or license, and notify the appropriate authorized officer in the event of any inadequacies.

(14) Consultation. Consult with all appropriate authorized officers before taking any final action to approve an exploration or mining plan or modification thereof or to determine the appropriate amount of a compliance or performance bond or bonds. Any disagreements that cannot be resolved between the Geological Survey and the Bureau of Land Management arising in connection with any such final action or determination will be referred for resolution to the appropriate Assistant Secretaries or to the Under Secretary of the Department of the

Interior. Any such disagreements between the Mining Supervisor and the appropriate authorized officer of any Federal surface management agency not in the Department of the Interior will be referred for resolution to comparable higher authorities in each agency, and, if necessary, to the respective Departments, for final resolution.

Sec. 211.4 General obligations.

(a) All operations involving the discovery, testing, development, mining, preparation and handling of coal, and the reclamation and abandonment of affected lands, shall be conducted pursuant to the obligations and standards of performance set forth in this Part, and shall conform to the provisions of all other applicable laws and regulations, including effluent and emission limitations; the terms and conditions of any applicable lease, permit, or license; the requirements of any applicable approved exploration or mining plan; and any orders issued by the Mining Supervisor.

(b) Coal mining operations shall be conducted so as to assure the extraction of the coal resource to the maximum extent possible, taking into account existing technology, commercially available equipment, the cost of production, and the quality and quantity of coal resource, so that future environmental disturbance through the resumption of mining will be minimized.

(c) The operator shall take all actions necessary to minimize waste and damage to any remaining coal-bearing formations and other mineral resources.

(d) The operator shall take such action as may be needed to minimize, control, and to the maximum extent practicable, avoid (1) soil erosion; (2) pollution of air; (3) pollution of surface or ground water; (4) serious diminution of the normal flow of water; (5) adverse impact upon fish and wildlife,

especially threatened or endangered species, and their habitat; (6) creation of unsafe or hazardous conditions; (7) damage to impoundments, whether owned by the United States, its permittees, licensees, or lessees, or by others; (8) damage to the recreational, cultural, scientific, historical, and known or suspected archeological and paleontological values of the land; and (9) adverse impacts upon adjacent land uses. Good housekeeping practices shall be observed at all times. Where any question arises as to the necessity for, or the adequacy of, an action to meet the requirements of this paragraph, the determination of the Mining Supervisor shall be final, subject to the right of appeal as provided in Part 290 of this Title.

(e) The operator shall, when and as required by the Mining Supervisor, monitor water quality to establish data necessary to determine procedures which may be required to minimize, control, or avoid water pollution pursuant to the regulations in this Part.

(f) The operator shall promptly report to the Mining Supervisor by telephone accidents threatening damage to the mine, the lands or other resources, or accidents which could cause air or water pollution, along with corrective actions initiated. Within 30 days after any such accident the operator shall submit to the Mining Supervisor a detailed report of any damage caused by such accident and any corrective actions taken. The obligation set forth in this

paragraph shall be in addition to any obligations which may arise pursuant to the Coal Mine Health and Safety Act of 1969 and any regulations promulgated thereunder.

(g) The operator shall submit the reports required by 25 CFR Part 177, Part 200 of this Chapter, this Part, and any other reports required by the Mining Supervisor.

Sec. 211.5 Procedures and public participation

(a) Written findings. Except as may be otherwise expressly set forth in this Part, on an after the effective date of these regulations all major decisions and determinations of any Mining Supervisor acting pursuant to this Part shall be in writing, shall set forth with reasonable specificity the facts and the rationale upon which such decisions or determinations are based, and shall be available for public inspection during normal business hours at the offices of any such Federal officer.

(b) Availability of proposed plans and major modifications of plans. All proposed mining plans and major modifications thereof submitted under Section 211.10 of this Part shall be available for public inspection in the office of the appropriate Mining Supervisor. To allow for such public inspection, a notice of the availability of any such plan or modification shall be prepared by the Mining Supervisor and promptly posted at his office and mailed to the surface owner, if other than the United States, appropriate Federal and State agencies, and to the clerk or other appropriate officer in the county in which the proposed operatons is located for posting or publication in accordance with the procedures of that office. No action with respect to approval of any such plan or modification shall be taken by the Mining Supervisor for a period of 30 days after such posting and mailing.

A copy of such notice shall be published by the operator in a local newspaper of general circulation in the locality of the proposed operation at least once a week for four consecutive weeks.

(c) Public participation.

(1) Upon the timely written request to the appropriate Mining Supervisor of any person having an interest which is or may be adversely affected, a public hearing shall be conducted with respect to any of the following actions:

(i) Approval of a new or major modification of a previously approved exploration or mining plan.

(ii) Release of any substantial portion of a bond issued pursuant to this Part covering obligations of performance or reclamation, including revegetation.

(iii) Approval of final abandonment of any operation or portion thereof.

(2) Prior to the taking any of the actions described in paragraph (1) hereof, a notice of availability of such proposed decision shall be published in a newspaper of general circulation in the geographical area involved at lease once in each of two consecutive weeks. In addition, not less than 20 days prior to the making of any such decision such notice shall be posted at the appropriate State or regional offices of the Bureau of Land Management and the Geological Survey;

mailed to the operator, all appropriate Federal and State agencies, including all agencies whose concurrence or consultation is sought or required, and the surface owner if other than the United States; and published in the Federal Register. Such notice shall set a reasonable time period, not less than 20 days from the date of publication in the Federal Register, within which any person having an interest which is or may be adversely affected may, in writing, request a public hearing.

(3) A complete transcript of any such public hearing, including any written comments submitted for the record, shall be kept and maintained available to the public during normal business hours at the appropriate Federal office under whose auspices such hearing is conducted, and shall be furnished at cost to any interested party. In making any decision or determination subject to such public hearing, the Mining Supervisor shall take into account all testimony submitted at such hearing, including any written comments submitted for the record. All such decisions or determinations shall be subject to appeal pursuant to the provisions of Part 290 of this Title.

(4) The mandatory public hearing requirements of subparagraph (1) of this section shall be deemed to have been satisfied if a public hearing has been conducted upon an environmental statement pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969, as amended, in which all major issues and proposed terms and conditions have been considered, and with respect to which hearing all notice requirements of this section have been met.

Sec. 211.6 Confidentiality.

Geological and geophysical data and information, including maps, that may be used to calculate coal reserves in place, trade secrets, and commercial or financial information obtained from any person under this Part and identified as confidential and privileged by such person shall not be available for public inspection without his consent. Upon request of any person for disclosure of data or information submitted and identified as confidential or privileged, the Mining Supervisor shall review such data and consult with the owner of such data who is claiming confidentiality and privilege to determine whether it may be disclosed pursuant to this section. In such review, the Mining Supervisor shall take into account the nature of such data, the possible effect of disclosure upon the owner, and the relevance of such data to effective public participation in the implementation of this Part. If the Mining Supervisor determines that disclosure of such data is of overriding importance to effective implementation of this Part, or may take place without unreasonable adverse impact upon the owner thereof, he shall so inform the owner and all interested parties, and shall afford an opportunity of not less than ten days within which any interested party may appeal such determination pursuant to 43 CFR Part 290, provided however, that this section shall be construed and applied in accordance with the provisions of section 552 (b) of Title 5 of the United States Code.

MAPS AND PLANS

Sec. 211.10 Exploration and mining plans.

(a) General.

(1) Before conducting any operation on leased, permitted or licensed lands other than casual use, the operator shall submit to the Mining Supervisor, and obtain his approval of, an exploration or mining plan, identified by the name, address, and permit or lease number(s) of coal permits or leases included in the plan. Casual use, as used in this section means activities which do not cause significant surface disturbance or damage to lands, resources and improvements, such as activities which do not include use of heavy equipment or explosives, or vehicular movement off established roads and trails which causes such disturbance. All such plans shall be submitted in quintuplicate, and shall show in detail the proposed prospecting, exploration, testing, development, mining, preparation, reclamation, and abandonment operations to be conducted. Exploration or mining plans shall be consistent with and responsive to the requirements of the lease, permit, or license for maximizing recovery of the resources, for the protection of non-mineral resources, and for the reclamation of the surface of the lands affected by the operations. The exploration or mining plans shall show that reclamation is an integral part of the plan and will progress as contemporaneously as practicable with the operations, and shall provide sufficient information to substantiate the effectiveness of the proposed reclamation method.

(2) The mining plan shall cover all operations to be conducted on a lease or in a logical mining unit, provided, however, that if the size of a lease or unit or the duration of a proposed operation make it impossible at the time of submission of a proposed plan to set forth in full and complete detail all of the specific information required to be submitted under paragraph (c) hereof with respect to future operations, a proposed plan may be approved which sets forth only such information as is available at the time of submission, and further provided, that: (i) the duration of the operations as to which full and complete information is set forth shall in no event be less than five years; (ii) the nature of the information as to which full and complete detail is not set forth, and the reasons therefor, shall be identified in the proposed plan and any notice of pending decision thereon; and (iii) complete and detailed information shall be promptly submitted and made a part of the plan pursuant to the change in plan provisions of subparagraph (d)(2) hereof as such information becomes available. Nothing in the preceding sentence shall be deemed to allow any operation other than casual use to be conducted in advance of approval of a plan or modification thereof which contains all such specific information with respect to such operation.

(b) Exploration plans. An exploration plan shall include all of the following:

(1) Names, addresses, and telephone number of persons responsible for operations under the plan and to whom notices and orders are to be delivered, and the names and addresses of surface owners, if other than the United States.

(2) A brief description with maps, where applicable, of geologic, water, vegetation, and other physical factors, and the distribution, abundance, and habitat of fish and wildlife, particularly threatened and endangered species, that may be affected by the proposed operation within the area where exploration is to be conducted, and the present land use within and adjacent to the area.

(3) A narrative description including:

(i) The method of exploration and types of equipment to be used.

(ii) The measures to be taken to prevent or control fire, soil erosion, pollution of surface and ground water, pollution of air, damage to fish and wildlife or their habitat and other natural resources, and hazards to public health and safety, including specific action necessary to meet all applicable laws and regulations.

(iii) The method for plugging drill holes.

(iv) The measures to be taken for surface reclamation, which shall include, as appropriate:

(A) A reclamation schedule.

(B) The method of grading, backfilling, soil stabilization, and compacting and contouring.

(C) The method of soil preparation and fertilizer application.

(D) The type and mixture of shrubs, trees, grasses, forbs, or other vegetation to be planted.

(E) The method of planting, including approximate quantity and spacing.

(F) The estimated timetable for each phase of the work and for final completion of the program.

(4) Suitable topographic maps or aerial photographs showing existing bodies of surface water, topographic, cultural, and drainage features, and the proposed location of drill holes, trenches and roads.

(5) Such other data as may be required by the Mining Supervisor

(c) Mining plans. A mining plan shall include all of the following:

(1) Names, addresses, and telephone numbers of persons responsible for operations under the plan to whom notices and orders are to be delivered, and the names and addresses of surface owners, if other than the United States.

(2) A description, with maps and tables where appropriate, of the environment within the area where mining is to be conducted. Such description shall include, as a minimum, geologic conditions, including potential geologic hazards; types, depths, and distribution of soils; types, density, and distribution of vegetation; climatological data, including a monthly range of temperatures, precipitation and average direction and velocity of prevailing winds; and distribution, abundance and habitat of fish and wildlife, particularly threatened and endangered species.

(3) The condition of the land covered by the mining plan, including:

(i) The uses existing at the time the mining plan is submitted for approval, and

(ii) The capability of the land immediately prior to any mining to support alternative uses, giving consideration to soil characteristics, topography, annual precipitation, and vegetative cover.

(4) The use which is proposed to be made of the land following reclamation, which shall take into account all applicable land use plans and programs.

(5) A description of how the proposed postmining land use is to be achieved, including any necessary support activities and facilities.

(6) A narrative description of the proposed operation, including:

(i) The nature and extent of the coal deposit in terms of BTU content, ash, water, sulphur, volatile matter and carbon content, and including estimated recoverable reserves.

(ii) The method of mining, including mining sequence and proposed production rate.

(iii) The nature and timing of measures to be taken for surface reclamation, including as appropriate:

(A) A reclamation schedule.

(B) The method of grading, backfilling, soil stabilization, and compacting and contouring.

(C) The method of soil preparation and fertilizer application.

(D) The type and mixture of shrubs, trees, grasses, forbs, or other vegetation to be planted.

(E) The method of planting, including approximate quantity and spacing.

(F) The estimated timetable for each phase of the work and for final completion of the program.

(iv) The engineering techniques proposed to be used in mining and reclamation, including the design and construction of roads, ditches, water retention facilities, dams, or settling ponds, and the control of water drainage and accumulation.

(v) A list of all major equipment.

(vi) An estimate of the cost per acre of reclamation including a separate breakdown for the cost of backfilling and grading, replacement of topsoil, seeding and/or planting, irrigation, fertilizing, and maintenance.

(vii) The method and measures by which the operator plans to comply with the obligations and requirements set forth in Sections 211.4 and 211.40 of this Part and any special terms and conditions of the lease, permit, or license.

(viii) The anticipated starting and termination dates of each phase of the mining operation and number of acres of land to be affected.

(ix) The steps to be taken to comply with all applicable air and water quality laws and regulations.

(x) The measures for insuring the maximum practicable recovery of the mineral resource.

(xi) The method of abandonment.

(xii) Logs and analyses of overburden samples of each stratum from a number of drill holes sufficient to obtain a representative sample of the overburden overlying the coal and the stratum immediately below the coal to be mined, but not less than one hole on each 40 acres. Such logs and analyses shall identify each stratum penetrated, and shall contain an analysis of each such stratum for at least the following: nitrogen, phosphorus, potassium, pH, specific conductance, exchangeable sodium percentage and sodium absorption ratio. Such analyses will be used to determine which materials shall be buried and which materials are suitable for placement near the surface for favorable propogation of vegetation.

(xiii) The hydrology of the area, including quantity and quality of water in surface and ground water systems, water levels and water table measurements, data regarding dissolved and suspended solids under seasonal flow conditions, and an assessment of the probable impacts of the anticipated mining operation upon the hydrology of the area.

(xiv) Plans for protecting oil, gas, and water wells as well as oil, gas, and underground water resources, when encountered.

(7) Suitable topographic maps or aerial photographs showing:

(i) Topographic, cultural, archaeological, and natural drainage features, roads, and vehicular trails.

(ii) The name of the watershed and location of the surface stream or tributary into which mine waters will be discharged, if applicable.

(iii) Cross sections and plan views of the land to be affected, including the actual area to be mined, showing elevation and location of drill holes and depicting the following information: the nature and depth of the various strata of overburden; the nature and thickness and extent of any coal, or of rider seams above the specific coal proposed to be mined; the nature of the strata beneath the coal to be mined for a vertical distance of at least 20 meters beneath the base of the coal seam; the location of the next known deeper coal seam below the deepest seam to be mined and representative characteristics thereof; the location of any other mineral values encountered; hydrologic data and other information relevant to the mining plan; all mineral crop lines and the strike and dip of the coal to be mined within the area

of land to be affected; location and extent of known surface and underground mine workings, oil or gas wells, and water wells within 1/4 mile of the affected lands; the location of aquifers; the estimated elevation of the water table, and potentiometric surface; the location of spoil, waste, or refuse areas, and sequence of placement and topsoil preservation area; the location of all impoundments or water treatment facilities; constructed or natural drainways and the location of any discharges to any surface body of water on the area of land to be affected or adjacent thereto; and cross sections of the anticipated final surface configuration that will be achieved pursuant to the operator's proposed reclamation activities.

(iv) Locations of surface structures and facilities, including loading facilities.

(v) For an underground mine, in addition, the planned mine layout, including location and dimensions of shafts, slopes, drifts, crosscuts, rooms, haulageways, aircourses, entries, and barrier pillars.

(vi) If auger mining is proposed, in addition, the location, diameter of auger holes, the depth to be drilled, and the estimated percentage of recovery.

(d) Action on plans.

(1) The Mining Supervisor, after reviewing and considering a proposed plan and all comments received pursuant to Section 211.5(b), and after consultation with the appropriate

authorized officer, shall in writing promptly approve or disapprove such plan. In approving such a plan, the Mining Supervisor may impose such conditions as may be necessary for the plan and operations to conform to the provisions of this Part and the terms and conditions of the lease, permit, or license. In disapproving such a plan, the Mining Supervisor shall indicate what modifications are necessary to achieve such conformity. No such plan may be approved unless a bond executed pursuant to the provisions of 43 CFR Subpart 3504, or 25 CFR Sections 171.6, 172.10 or 177.8, and conditioned upon compliance with all of the provisions of such plan, has been furnished to and approved by the appropriate authorized officer.

(2) Changes in plans.

(i) By Mining Supervisor. Approved plans may be required to be reasonably revised or supplemented at any time by the Mining Supervisor, after consultation with the operator and the appropriate authorized officer to adjust to changed conditions or to correct oversights.

(ii) By the operator. The operator may propose changes to an approved plan, and shall submit a written statement of any such proposed change and the justification therefor to the Mining Supervisor. The Mining Supervisor shall, after consultation with the appropriate authorized officer, in writing promptly approve or disapprove any such proposed change, or specify the modifications thereto under which it would be acceptable.

(iii) By petition. Any interested person may petition the Mining Supervisor to exercise the authority set forth in subparagraph (i) hereof. Any such petition shall be in writing, shall set forth the proposed revision, and shall state with reasonable particularity facts which demonstrate changed conditions or that

oversights occurred at the time of approval which make modification necessary to bring the operation and plan into conformity with the obligations and requirements of this Part. Upon receipt of any such petition, the Mining Supervisor shall promptly decide whether the facts set forth are sufficient to warrant exercise of his authority pursuant to subparagraph (i) above. A decision by the Mining Supervisor denying any such petition shall be considered a final decision of the Department.

(iv) Public Notice. If any proposed change under this section would constitute a major modification of an approved plan, the Mining Supervisor shall follow the procedures provided in Section 211.5(b) of this Part, and shall take any comments received into account in his decision.

(3) Determination of maximum extent practicable.

(i) Where a proposed plan contains a level of environmental control or reclamation which the operator alleges to be that degree of compliance with an absolute control or reclamation objective which is the "maximum extent practicable" such degree of compliance, such level of control or reclamation shall be specifically identified, and the operator shall set forth the factual basis for such allegation. Any level of compliance so identified shall be specifically referenced and described by the Mining Supervisor in any notice of availability issued pursuant to Section 211.5(c) hereof.

(ii) In determining whether to approve a plan containing a proposed degree of compliance which is alleged to be compliance to the maximum extent practicable, the Mining Supervisor shall take into account all commercially available technology, the nature and extent of the tangible and intangible environmental values which would be protected or achieved by the application of such technology, and the direct and indirect cost of applying such technology to the physical conditions that prevail with respect to the operation involved.

Sec. 211.11 Approaching oil, gas, or water wells.

When mining operations are conducted in areas of known wells or bore holes that may liberate oil, gas, water or other fluid substances, the lessee shall include in his proposed plan all measures determined necessary by the Mining Supervisor in consultation with the appropriate Oil and Gas Supervisor of the Geological Survey to protect wells or bore holes, and obtain maximum recovery of the coal resource. If operations reveal unsuspected wells or bore holes the operator shall promptly notify the Mining Supervisor and take no further actions which would disturb such wells or bore holes without his prior approval.

Sec. 211.12 Mine maps.

(a) General requirements. The operator shall maintain accurate and up-to-date maps of the mine, drawn to scales acceptable to the Mining Supervisor. All maps shall be appropriately marked with reference to government landmarks or lines and elevations with reference to sea level. Before a mine, or section of a mine, is abandoned, closed, or made inaccessible, a survey of such mine or section shall be made and recorded on the maps. All excavations in each separate bed shall be shown in such a manner that the production of coal for any royalty period can be accurately ascertained. Additionally, the maps shall show the name of the mine; the name of the lessee; the lease, permit, or license serial number, or Bureau of Indian Affairs lease or permit contract number, tribal name of tribal land, allotment number, if allotted land, and name of the Indian reservation; the lease boundary lines; surface buildings; dip of the bed; true north; map scale and explanatory legend; location, surface elevation, depth and thickness of the coal, and total depth of each borehole; auger holes; improvements; reclamation completed; topography, including subsidence resulting from mining, and the geologic and hydrologic conditions as determined from outcrops, drill holes, exploration or mining; water monitoring stations and such other information as the Mining Supervisor may request. Copies of such maps shall be properly posted to date

and furnished, in duplicate, to the Mining Supervisor annually, or at such other times as he deems necessary.

(b) Underground mine maps. Underground mine maps shall, in addition to the general requirements of paragraph (a) of this Section, show all mine workings; the date of extension of the mine workings and a coal section at each entry face; the location of all surface mine fans; the position of all fire walls, dams, main pumps, fire pipelines, permanent ventilation stoppings, doors, overcasts, undercasts, permanent seals, and regulators; the direction of the ventilating current in the various parts of the mine at the time of making the latest surveys; sealed areas; known bodies of standing water, either in or above the workings of the mine; areas affected by squeezes; the elevations of surface and underground levels of all shafts, slopes or drifts; and the elevation of the floor, or bottom of the mine workings, at regular intervals in main entries, panels or sections, and sump areas.

(c) Surface mine maps. Surface mine maps shall, in addition to the general requirements of paragraph (a) of this Section, include date of extension of the mine workings and a detailed stratigraphic section at intervals specified in the approved mining plan. Such sections shall include the highwall; all worked out and reclaimed areas; the uncovered, but unmined, coal beds; and the elevation of the top of the coal beds.

(d) Vertical projections and cross sections of mine workings. When required by the Mining Supervisor, vertical projections and cross sections shall accompany plan views.

(e) Accuracy of maps. The accuracy of maps furnished shall meet acceptable standards and shall be certified by a professional engineer, professional land surveyor, or other professionally qualified person.

Sec. 211.13 Failure of lessee to furnish maps.

(a) Liability of lessee for expense of survey. If the operator fails to furnish a required or requested map, the Mining Supervisor shall employ a professionally qualified person to make the required survey and map, the cost of which shall be charged to, and promptly paid by, the operator.

(b) Incorrect maps. If any map submitted by an operator is believed to be incorrect, the Mining Supervisor may employ a professionally qualified person to make a survey and any necessary maps. If the survey shows the maps submitted by the lessee to be substantially incorrect, in whole or in part, the cost of making the survey and preparing the maps shall be charged to, and promptly paid by, the operator.

PROSPECTING AND EXPLORATION OPERATIONS

Sec. 211.20 Information required to be submitted.

The operator shall submit promptly to the Mining Supervisor, upon request, upon completion or suspension of prospecting or exploration operations, or as provided in the leases, permits, and licenses, duplicate signed copies of records and geologic interpretations of all prospecting and exploration operations performed on the lease or permit lands, including recoverable reserve calculations, along with vertical cross sections through the land and a map showing the location of coal outcrops, all drill holes, trenches, and other prospecting activities. The records shall include a log of all strata penetrated and conditions encountered, such as water, quicksand, gas, or any unusual conditions; copies of all other in-hole surveys, such as electric logs, gamma ray-neutron logs, sonic logs, or any other logs produced; and copies of coal analyses and results of other tests conducted on the land. All drill holes, trenches, and excavations will be logged under the supervision of a qualified geologist or engineer. Unless otherwise authorized by the Mining Supervisor, representative samples of all drill cores or cuttings shall be retained by the operator for one year and shall be available for inspection or analysis at the convenience of the Mining Supervisor. Confidentiality of information will be accorded pursuant to the provisions of section 211.6 of this Part.

Sec. 211.21 Core and test holes.

(a) Surveillance wells. With the approval of the Mining Supervisor, drill holes may be utilized as surveillance wells for the purpose of monitoring the effect of subsequent operations upon the quantity, quality, or pressure of ground water or mine gases.

(b) Blowout control devices. When drilling on lands valuable or potentially valuable for oil and gas or geothermal resources, the operator shall, when required by the Mining Supervisor, set and cement casing in the hole and install suitable blowout prevention equipment.

(c) Use of wells by others. Upon receipt of a written request from the surface owner or Federal surface administering agency, the Mining Supervisor may approve the transfer of an exploratory well for further use as a water well. Approval of such well transfer will be accompanied by a corresponding transfer of responsibility for any liability for damage and eventual plugging. Nothing in this section shall be deemed to supercede of effect the applicability of any State law requirements with respect to such transfer.

UNDERGROUND MINING

Sec. 211.30 Maximum recovery.

Underground mining operations shall be conducted so as to yield the maximum recovery of the coal deposits consistent with the protection and use of other natural resources, sound economic practice, and the protection of the environment--land, water, and air. No entry, level, or panel workings in which the pillars have not been completely extracted within safe limits shall be permanently abandoned and rendered inaccessible, except with the written approval of the Mining Supervisor.

Sec. 211.31 Subsidence.

(a) Each operator of an underground coal mine shall adopt measures consistent with the best practicable mining technology in order to prevent or control subsidence, maximize mine stability, and maintain the value and use of surface lands, except in those instances where the mining method used **requires planned subsidence** in a predictable and controlled manner.

(b) Where pillars or panels are not removed, and controlled subsidence is not part of the mining plan, pillars or panels of adequate dimensions shall be left for surface stability, giving due consideration to the thickness and strength of the coal beds and of the strata above and immediately below the coal bed.

(c) The Mining Supervisor may require the operator to install a subsidence monitoring system consisting of elevation stations and tilumeters in a number sufficient to determine the extent of any area that may be affected. All records of such surveys shall be accessible for review by the Mining Supervisor.

Sec. 211.32 Multiple seam mining.

(a) Sequence of mining. In general, the available coal in the upper beds shall be worked out before the coal in the lower beds is mined, and simultaneous workings in an upper coal bed shall be kept in advance of the workings in each lower bed. The Mining Supervisor may authorize mining of any lower beds before mining the available coal in each known upper bed.

(b) Protective barrier pillars in multiple seam mining. In areas subject to multiple seam extraction, the protective barrier pillars for all main and secondary slope entries, main haulageways, primary aircourses, bleeder and manways in each seam shall be superimposed, regardless of vertical separation or rock competency; however, modifications, exceptions, or variations of this requirement may be approved in advance by the Mining Supervisor.

Sec. 211.33 Advance workings.

Where the room and pillar or other system of mining requires advance workings in solid coal, including entries, rooms or crosscuts, the lessee shall leave sufficient pillars to ensure the maximum practicable recovery of the coal deposits.

Sec. 211.35 Pillars left for support.

(a) Barrier pillars. The operator shall not, without the prior consent of the Mining Supervisor, mine any coal, drive any underground workings, or drill any lateral bore holes within 50 feet of any of the outside boundary lines of the leased lands, or within such greater distance of said boundary lines as the Mining Supervisor may prescribe. Payment up to and including the full value of the coal mined may be required for coal mined within such designated distances of the boundary without the written consent of the Mining Supervisor.

(b) Lessee may be required to mine barrier pillars on adjacent lands. If the coal beyond any barrier pillar has been worked out and the water level beyond the pillar is below the lessee's adjacent operations, the lessee shall, on the written order of the Mining Supervisor, mine out and remove all available Federal coal in such barrier, both in the lands covered by the lease and in the adjoining premises, if it can be mined without undue hardship to the lessee.

(c) Privately or Indian owned coal on adjoining premises. If the coal in adjoining premises is privately or Indian owned and this coal has been worked out, an agreement may be made with the coal owner for the extraction of the coal remaining in the boundary pillars which otherwise may be lost.

Sec. 211.36 Development of leased tract through adjoining mines.

An operator may, with the approval of the Mining Supervisor, mine leased land from an adjoining underground mine on land privately owned or controlled or from adjacent leased lands, subject to the right of free access to the Federal premises by the Mining Supervisor.

RECLAMATION AND PERFORMANCE STANDARDS

Sec. 211.40 Operating and reclamation standards.

(a) Performance standards. The following performance standards shall be applicable to all coal exploration, development, mining, preparation, handling, and reclamation operations on the surface of land subject to these regulations:

(1) The operator shall reclaim affected lands pursuant to his approved plan, as contemporaneously as practicable with operations, to a condition capable of supporting all practicable uses which such lands were capable of supporting immediately prior to any exploration or mining, or equal or better uses that have been approved in accordance with subparagraph (2) of this Section.

(2) The operator shall replace overburden and waste materials in the mined area by backfilling (compacting, where necessary, to insure stability or to prevent leaching of toxic materials), grading or other means, so as to cover all acid-forming or other toxic materials and, to the maximum extent practicable, eliminate highwalls and spoil piles and restore the approximate original contour. Where the thickness of the coal deposits relative to the volume of overburden is large or where the overburden and other spoil and waste materials are either insufficient or more than sufficient to restore the approximate original contour, the operator shall, in order to provide adequate drainage, backfill, grade and compact, where necessary, using all available overburden or spoil material, to

obtain the lowest practicable grade, which shall, in any event, be less than the angle of repose. Excess overburden or other spoil material, after restoring the approximate original contour, shall be graded, compacted (where necessary), stabilized and shaped in a way to protect against slides, subsidence, erosion, and water pollution, in accordance with the requirements of this Part. Variance from the requirements of paragraphs (1) and (2) of this Section may be allowed in the plan if the Director of the Geological Survey, with the concurrence of the Director of the Bureau of Land Management or the comparable appropriate authorized officer, determines: (i) that an equal or better proposed post-mining land use is practicable and attainable and that a modification of such requirement is the best method of achieving that post-mining use; or (ii) that unusual physical conditions at the site, such as steeply dipping coal beds or multiple seam mining, exist, and such conditions make backfilling pursuant to such requirements impracticable as a result of the volume of material excavated or environmentally undesirable as a result of the duration of the operation.

(3) The operator shall stabilize and protect all surface areas, including spoil piles, affected by the coal mining and reclamation operation, to effectively control slides, erosion, subsidence and attendant air and water pollution.

(4) The operator shall remove topsoil separately, for replacement on the backfill area, and if not so utilized immediately, segregate it in a separate pile from other spoil. When topsoil is not to be replaced on a backfill area within a time short enough to avoid deterioration, the operator shall establish and maintain an approved quick growing vegetative cover or employ other approved measures so that the topsoil is protected from wind and water

erosion and establishment of noxious plant species, and is in a condition for sustaining vegetation. If topsoil is of insufficient quantity or of poor quality for sustaining vegetation, and if other excavated materials can be shown to be more suitable for revegetation, then the operator may be authorized in the approved plan to remove, segregate, protect and utilize in a like manner such other material.

(5) The operator shall, where water impoundments, water retention facilities, dams, or settling ponds have been authorized in an approved plan, insure that:

(i) Such facility is adequate for its intended purposes and the quality and quantity of impounded water will be suitable for its intended use.

(ii) Such facility is designed, located, built, used, and maintained in accordance with sound engineering standards and practices and applicable Federal and State laws and regulations, to insure that such facilities will have necessary stability with an adequate margin of safety.

(iii) Final grading will provide adequate safety and access for proposed or reasonably anticipated water users.

(iv) Such facilities will not have a significant adverse impact on the water resources utilized by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses, provided, however, that this paragraph shall not be construed to increase or diminish any property rights to any water held by any person.

(v) No mine or processing waste is used in the construction of such facilities unless authorized in the approved plan.

(6) The operator shall cover or plug all auger mine holes with noncombustible and, where necessary to minimize or prevent harmful drainage, impervious material.

(7) The operator shall minimize disturbances of the prevailing quality, quantity and flow of water in surface and ground water systems, and of the prevailing erosion and deposition conditions at the mine site and in affected offsite areas, both during and after coal mining operations and reclamation, by:

(i) Controlling acid or toxic drainage and the adverse consequences thereof by such measures as, but not limited to, diverting surface runoff water away from disturbed areas, excluding oxygen, restricting the flow of water through acid or toxic-producing materials, treating drainage to reduce acid or toxic content which adversely affects downstream water

upon being released to water courses; and casing, sealing, or otherwise treating drill holes, shafts, and wells to keep acid or toxic drainage from entering ground and surface waters.

(ii) Conducting surface mining operations so as, to the maximum extent practicable, to prevent (A) contributions of suspended solids to streamflow or runoff outside the mining site above natural levels under seasonal flow conditions as measured for a period and at sites determined by the Mining Supervisor, in consultation with the appropriate authorized officer, and (B) except where specifically authorized in an approved plan, deepening or enlarging of stream channels where operations include the discharge of water from mines.

(iii) Removing or modifying siltation structures after disturbed areas are revegetated and stabilized unless otherwise directed by the Mining Supervisor, with the concurrence of the appropriate authorized officer, provided, however, that any siltation structure retaining water shall in any event be subject to the requirements of Subparagraph 211.40(a)(5) of this Section.

(iv) Protecting, to the maximum extent practicable throughout the mining and reclamation process, the quality, quantity, and flow of both upstream and downstream surface and ground water resources of those valley floors which provide water sources that support significant vegetation or supply significant quantities of water for other purposes, by such measures as, but not limited to, relocating and maintaining the gradients of streams.

(8) The operator shall:

(i) Treat or dispose of all rubbish and noxious substances in a manner designed to prevent air and water pollution and the hazards of ignition and combustion.

(ii) Dispose of all waste resulting from the mining and preparation of coal in a manner designed to prevent, to the maximum extent practicable, air and water pollution and hazards of ignition and combustion. Where surface disposal of solid wastes in areas other than the mine workings or other excavations has been authorized in the approved plan, stabilize such waste including, where necessary, constructing waste piles in compacted layers with the use of incombustible and impervious materials; shape waste piles to be compatible with the natural surroundings and terrain; cover with topsoil or other suitable material in accordance with subparagraph (a)(4) of this Section, and revegetate in accordance with subparagraph (a)(13) of this Section. All impoundments of liquid wastes shall comply with the requirements of subparagraph (a)(5) of this Section. Waste containing coal in such quantity that it may be later separated from the waste by washing or other means shall be stored separately.

(9) Except as provided herein, the operator shall not conduct excavation, drilling, or blasting operations within 200 feet of an active or abandoned underground mine. Where it can be established by certified maps or inspection of such an underground mine that such activities may be conducted without danger of interference with, or penetration of, an underground mine, they may be authorized in an approved plan to be conducted up to but not less than 25 feet from such underground mine, provided

that nothing in this paragraph shall preclude daylighting or similar surface coal mining activities intended to improve resource recovery, abate water pollution, or eliminate public hazards resulting from such underground mines.

(10) To prevent personal injury or damage to public and private property, the operator shall use explosives only in accordance with Federal and State laws and an approved plan, and shall:

(i) Provide adequate advance written notice by publication and/or posting of planned blasting schedules, to local governments and to residents who might be affected by the use of such explosives, and maintain a log of the magnitudes and times of blasts for a period of at least two years.

(ii) Limit the size, timing, and frequency of blasts, as determined by the physical conditions of the site.

(11) The operator shall design to applicable standards, construct, maintain and, when no longer necessary and unless otherwise authorized in an approved plan, remove all roads, pipelines, powerlines and similar utility access facilities into and across the site of operations, in a manner that will control or prevent erosion and siltation, fugitive dust, pollution of water, damage to fish or wildlife or their habitat and public or private property.

(12) The operator shall not construct roads or other access ways in, over or near stream beds or drainage channels so as to seriously alter the flow of water therein, provided, however, that nothing in this subparagraph shall be construed to prohibit relocation or alteration of such beds or channels pursuant to this Part and as set forth in an approved plan.

(13) (i) The operator shall, except where other reclamation based upon post-mining land use and not requiring revegetation pursuant to the requirements of this section is expressly provided for in an approved plan, establish on regraded areas and all other affected lands a diverse vegetative cover, native to the area and capable of regeneration and plant succession, at least equal in density and permanence to the natural vegetation; provided, however, that the Mining Supervisor with the concurrence of the appropriate authorized officer may allow the use of approved mixtures of introduced or native species where preferable to achieve quick cover or assure successful revegetation. In approving such mixture, preference will be given to non-noxious species.

(ii) The operator's responsibility and liability under his performance bond for revegetation of each planting area shall extend until such time as the appropriate authorized officer, in consultation with the Mining Supervisor, and the surface owner, if other than the United States, determines that successful revegetation in compliance with subparagraph (i) of this subsection has occurred, provided, however, that this period shall extend for a minimum of five full years after the first year of planting, and for a total period of liability not to exceed 10 years from the original planting; and further provided that,

(A) where the appropriate authorized officer, in consultation with the Mining Supervisor, determines that natural conditions such as annual precipitation, soil characteristics and native vegetation are stable and favor rapid revegetation, and that revegetation pursuant to subparagraph (i) of this subsection is likely to occur before the expiration of such minimum period, he may specify in the lease, permit, or license that such minimum period will not apply with respect to some or all of the lands included in such lease, permit or license; and

(B) where during any such minimum period such authorized officer, in consultation with the Mining Supervisor and the surface owner, if other than the United States, determines that natural conditions such as annual precipitation and soil characteristics are sufficiently unstable to favor only slow and uncertain revegetation, he may recommend to the Mining Supervisor that the liability of the operator be extended for a period of up to five years beyond the period initially established,

if the financial liability that would be incurred by the operator as a result is reasonably commensurate with the probability of successful revegetation.

(iii) During the relevant period of liability, the Mining Supervisor and the appropriate authorized officer shall, as soon as possible after each full growing season, jointly inspect and evaluate the revegetated areas to determine, in consultation with the surface owner, if other than the United States, whether satisfactory vegetative cover is being established, or whether additional revegetative efforts may be required.

(14) Except as provided in subparagraph (ii) hereof, the operator shall:

(i) Allow public access to and upon Federal lands subject to his lease, permit, or license for all lawful and proper purposes, except where such access would unduly interfere with his authorized use.

(ii) Regulate public access, vehicular traffic and wildlife or livestock grazing in all areas of active operations, including lands undergoing reclamation, in order to protect the public, wildlife and livestock from hazards associated with such operations, and to protect revegetated areas from unplanned and uncontrolled grazing. For this purpose, the operator shall provide warning signs, fencing, flagmen, barricades and other safety and protective measures as may be necessary.

(15) Coal storage areas shall be designed and maintained to eliminate fire hazards from spontaneous combustion and other accidental ignition. If a coal seam exposed by surface mining or an accumulation of slack coal or combustible waste becomes ignited during the term of a lease, the operator will immediately take all necessary steps to extinguish the fire.

(16) Upon completion or indefinite suspension of mining operations in all or any part of a strip pit, the face of the coal shall be covered with noncombustible material that will effectively protect the coal bed from becoming ignited.

(17) The driving of any underground openings by auger or other methods from any strip pit shall not be undertaken except as specifically approved by the Mining Supervisor.

Sec. 211.41 Completion of Operations and Abandonment.

(a) Grading and backfilling. Upon completion of backfilling and grading required by the operating plan and prior to replacing topsoil and revegetation, the operator shall submit a report thereon, in duplicate, to the Mining Supervisor and request inspection for approval. Whenever it is determined by such inspection that the backfilling and grading has met the requirements of the approved plan, the Mining Supervisor shall recommend to the appropriate authorized officer release of an appropriate amount of the compliance bond for the area satisfactorily backfilled and graded.

(b) Temporary abandonment. In areas in which there are no current operations, but operations are to be resumed under an approved plan, the operator shall substantially backfill, fence, protect, or otherwise effectively close all surface openings, auger holes, areas prone to subsidence, and surface facilities or workings which are a hazard to people or animals. Conspicuous signs shall be posted prohibiting entrance of unauthorized persons. All such protective measures shall be maintained in a secure condition during the term of the lease, permit, or license.

(c) Permanent abandonment. Before permanent abandonment of operations, all ppenings and excavations, including water discharge points, shall be closed or backfilled, or otherwise permanently dealt with in accordance with sound engineering practices and according to the approved plan. Drill holes, trenches, and other excavations for development or prospecting shall be abandoned in a manner to protect the surface and not to endanger any present or future underground operations or any deposit of oil, gas, other mineral resources, or ground water. Methods of abandonment shall be approved in advance by

the Mining Supervisor and may include backfilling, cementing, and capped casing, or combinations of these, or other methods. Reclamation and clean-up of surface areas around and near permanently abandoned underground or surface mines, including, except where otherwise expressly provided in an approved plan, removal of equipment and structures related to the mining operation, shall commence without delay following cessation of mining operations.

(d) Completion report, release of bond.

(1) Not less than 30 days prior to cessation or abandonment of operations, the operator shall submit to the Mining Supervisor, in duplicate, a report of his intention to cease or abandon operations, together with a statement of the exact number of acres affected by his operations, the extent and kind of reclamation accomplished, and a statement as to the structures and other facilities that are to be removed from or remain on the leased, permitted, or licensed lands.

(2) Upon receipt of such report, the Mining Supervisor and the appropriate authorized officer shall promptly make a joint inspection to determine whether operations have been completed in accordance with the approved operating plan. Where the operator has complied with all requirements of the lease, permit, or license and the regulations of this Part, the Mining Supervisor shall recommend to the appropriate authorized officer that the appropriate period of bonded liability be termined.

(3) When the surface of lands in a lease, permit, or license is not owned by the United States, the Mining Supervisor shall consult the surface owner and solicit and take into account his comments before recommending to the appropriate authorized officer that the period of liability of the bond be terminated.

Sec. 211.62 Reports.

(a) Operations. An operator under a coal lease, permit, or license shall file with the Mining Supervisor, within 30 days after the end of each calendar year or within 30 days after the cessation of operations, a report, in duplicate, containing the following:

(1) Serial number of the lease, permit, or license and a description of the lands affected by operations.

(2) The number of acres disturbed and the number of acres reclaimed, including revegetation.

(3) A description of the reclamation work remaining to be done on lands disturbed.

(b) Revegetation.

(1) The operator shall file a report, in duplicate, with the Mining Supervisor within 30 days after each planting is completed. The report shall:

(i) Identify the lease, permit, or license.

(ii) Show the types of planting or seeding, including mixtures and amounts.

(iii) Show the date of planting or seeding.

(iv) Identify or describe the planted or seeded lands.

(v) Describe any surface manipulation, mulching, fertilization, and irrigation procedures, if any, and contain such other information as may be considered relevant.

(2) The Mining Supervisor and the authorized officer of the Federal surface managing agency shall, as soon as possible

after each full growing season, inspect and evaluate the revegetated areas to determine whether satisfactory vegetative growth has been established, or whether additional revegetation efforts may be required pursuant to Subparagraph 211.40(a)(13) of this Section.

(c) Production and payments.

(1) Lessees. Lessees shall report, on the report form provided, within 30 days after expiration of the period covered by the report, all coal mined during each calendar quarter and the value basis on which royalty has been paid or will be paid. Except as provided by leases and permits issued under the regulations in 25 CFR Parts 171, 172, 173, and 174, the royalty for coal mined shall be paid to the end of the third month succeeding the extraction of the coal from the mine.

(2) Licensees. Licensees shall report all coal mined on a semi-annual basis on the report form provided.

(3) Penalty. If a lessee or permittee records or reports less than the true weight or value of coal mined, the Secretary may impose a penalty equal to double the amount of royalty due on the shortage, or the full value of the shortage. If, after warning, a lessee or permittee maintains false records or files false reports, a suit to cancel the lease may be instituted in addition to the imposition of penalties.

211.63 Basis for royalty computation; audits

(a) The gross value shall be the sale or contract unit price times the number of units sold. However, where the Mining Supervisor determines (i) that a contract of sale or other business arrangement between the lessee and a purchaser of some or all of the coal produced by the lessee is not a bona fide transaction between independent parties because it is based in whole or in part upon considerations other than the value of the coal, or (ii) that no consideration is received for some or all of such coal because the lessee is consuming such coal for his own use or adding it to inventories, the Mining Supervisor shall determine the gross value of such coal, taking into account (A) any consideration received by the lessee in other related transactions, (B) the highest price paid for coal of like quality produced from the same general area during the lease month, (C) contracts or other business arrangements between coal producers and purchasers for the sale of coal other than coal produced under his lease, which are comparable in terms, volume, time of execution, area of supply and other circumstances, and (D) such other relevant factors as the Mining Supervisor may deem appropriate.

(b) Where only crushing, storing, and loading are performed prior to the point of sale, the value of the coal for royalty purposes shall be the gross value at the point of sale. However, if additional processing of the coal is performed prior to sale such as washing to remove waste, bone, or other impurities, the processing cost above the cost from primary crushing, storing and

loading may be deducted from the gross value in determining value for royalty purposes. The Mining Supervisor will allow such deductions only when, in his judgment and subject to his audit, the lessee provides him with an accurate account of the costs so incurred.

(c) All bone coal, rock, and other impurities may be removed from the raw coal prior to determination of coal weights for royalty purposes.

(d) (1) The right is reserved to the Mining Supervisor to determine and declare the value of coal either before or after receipt of royalty payments, if it is deemed necessary by him to do so for protection of the interests of the lessor.

(2) If royalties become due and payble prior to removal of bone coal, rock, and other impurities or final weighing of coal, the Mining Supervisor may determine, by estimate, the weight of the coal for royalty purposes. In addition, the Mining Supervisor may, after the removal of bone coal, rock, and other impurities and final weighing of the coal, require the payment of such additional royalties, or allow such credits or refunds as may be necessary, to adjust the royalty payments to reflect the true weight of the coal.

(e) An audit of the lessee's accounts and books may be required annually, or at other such times as may be directed by the Mining Supervisor, by a qualified independent certified public account and at the expense of the lessee. The lessee shall furnish, free of cost, duplicate copies of such annual or other audits to the

Mining Supervisor within 30 days after the completion of each auditing. Where such audits are required, the Mining Supervisor will specify the purpose and scope of the audit and the information which to be verified or obtained.

(f)(1) Lessee shall maintain current and accurate records showing: (1) The type, quality or grade, and weight of all coal mined, sold, used on the premises, or otherwise disposed of, and all coal in storage (remaining in inventory); (2) the prices received for all coal sold and to whom sold, by type and by quality or grade.

(2) All records maintained in accordance with paragraph (a) of this section, and all other records which are pertinent to or related to lessee's operation, shall be available for examination, upon request, by the Mining Supervisor or other authorized officer of the Secretary of the Interior.

(3) Licensees must maintain a correct record of all coal mined and removed.

INSPECTION, ISSUANCE OF ORDERS, ENFORCEMENT OF ORDERS AND APPEALS

Sec. 211.70 Inspection

The operator shall provide access and means at all reasonable times for the Mining Supervisor to inspect or investigate the operation to determine whether it is in compliance with applicable laws, regulations, and orders; the terms and conditions of the lease, permit, or license; and the requirements of any approved plan.

Sec. 211.71 Notices, instructions, and orders.

(a) Address of responsible party. Before beginning operations, the operator shall inform the Mining Supervisor, in writing, of the operator's temporary and permanent post office address and the name and post office address of the superintendent, or designated agent, who will be in charge of the operations and who will act as the local representative of the operator. Thereafter, the Mining Supervisor shall be informed of any change of such address.

(b) Receipt of notices, instructions, and orders. The operator shall be construed to have received all notices and orders that are delivered by certified mail or posted at the mine or mine office, or handed to the superintendent, the mine foreman, the mine clerk, or higher officials connected with the mine or exploration site for transmittal to the operator or his local representative.

Sec. 211.72 Enforcement of orders

(a) If the Mining Supervisor determines that an operator has failed to comply with the regulations in this Part, other applicable Departmental regulations, the terms and conditions of the lease, permit, or license, the requirements of an approved plan, or orders of the Mining Supervisor and such noncompliance does not threaten immediate and serious damage to the environment, the mine or the deposit being mined, or other valuable mineral deposits or other resources, the Mining Supervisor shall serve a notice of noncompliance upon the operator by delivery in person to him or his agent or by certified or registered mail addressed to the operator at his last known address. Failure of the operator to take action in accordance with the notice of noncompliance within the time limits specified by the Mining Supervisor or to appeal to the Director pursuant to Part 290 of this Title shall be grounds for suspension of operations by the Mining Supervisor or his recommendation for the initiation of action for cancellation of the lease, permit, or license and forfeiture of any compliance bonds.

(b) The notice of noncompliance shall specify in what respect the operator has failed to comply with the provisions of applicable regulations, the terms and conditions of the lease, permit, or license, the requirements of an approved plan, or the orders of the Mining Supervisor, and shall specify the action which must be taken to correct the noncompliance and the time

limits within which such action must be taken. A written report shall be submitted by the operator to the Mining Supervisor when a noncompliance has been corrected.

(c) If, in the judgment of the Mining Supervisor, an operator is conducting activities which fail to comply with the provisions of this Part the terms and conditions of the lease, permit, or license, the requirements of approved plans or the Mining Supervisor's orders, and which threaten immediate and serious damage to the environment, the mine or the deposit being mined, or other valuable ore-bearing mineral deposits or other resources, the Mining Supervisor shall order the immediate cessation of such activities, without prior notice of noncompliance. Such order may be appealed as provided in Part 290 of this Title. Compliance with such order shall not be suspended by reason of the taking of such an appeal, unless such suspension is ordered in writing by the official before whom such appeal is pending, and then only upon a determination by such official that such suspension will not be detrimental to the lessor or adversely affect the public interest, or upon submission of a bond deemed adequate to indemnify the lessor from any resulting loss or damage.

Sec. 211.73 Appeals.

Orders or decisions issued under the regulations in this Part may be appealed as provided in Part 290 of this Title.

211.74 Applicability of State Law

(a) (1) On the effective date of this part, the Secretary shall direct a prompt review of State laws and regulations in effect or adopted and due to come into effect, relating to reclamation of lands disturbed by surface mining of coal in each State in which federal coal has been leased, permitted or licensed. If after such review the Secretary determines that such laws and regulations afford general protection of environmental quality and values at least as stringent as would occur under exclusive application of this Part, he shall by regulation direct that such State laws and regulations thereafter be applied.

(2) From and after the effective date of any such determination by the Secretary that the requirements of any State laws or regulations are as stringent as or more strigent than the performance or reclamation obligations and requirements contained in this Part, the Mining Supervisor shall include such requirements as conditions upon the approval of any proposed plan, unless (a) the Secretary determines that application of such laws and regulations would unreasonably and substantially prevent the mining of federal coal covered by such plan, and (b) the Secretary determines that it is in the overriding national interest that such coal be produced without inclusion of the requirements of such State laws or regulations in the proposed plan.

(3) In any such determination of overriding national interest, the Secretary shall include as an element of such determination and shall impose as a condition of any approval

any special conditions, or such portions of State laws or regulations, as may be applied consistent with that national interest, and will consult in advance of such determination with the Governor of the State involved.

(b) On the effective date of these regulations, the Secretary will direct representatives of the Department of consult with appropriate representatives of each State or a number of States for the purpose of formulating and entering into agreements to provide for a joint Federal-State program with respect to surface coal mine reclamation operations for administrative and enforcement purposes. Such agreements shall, wherever possible, provide for State administration and enforcement of such programs, provided that Federal interests are protected. Any such agreement shall be entered into by rulemaking, and shall have as its principal purpose the avoiding of duality of administration and enforcement of reclamation laws governing surface coal mine reclamation operations, as outlined in a (2) above.

(c) No provision of this Part shall be construed as, or shall be implemented so as to effect, a federal authorization of, consent to, or acquiescence in, the extension of the laws of any State over the lands, resources, sovereignty, or self-governing powers of any federally recognized Indian tribe or reservation, unless the prior consent of any State(s) and tribe(s) affected, including, where necessary, effective amandment of any State and/or tribal Constitution, charter, or By-Laws, has occurred.

APPENDIX 2

PUBLIC COMMENTS

CSE/JLR

NOV 12 1975

TO: Dr. William Aron
Director
Office of Ecology and Environmental Conservation

FROM: Dr. Gordon Lill /s/ Allen L. Powell
Deputy Director
National Ocean Survey

SUBJECT: OEIS #7510.11 - Proposed Surface Management of Federally Owned Coal Resources

The subject statement has been reviewed within the areas of NOS responsibility and expertise, and in terms of the impact of the proposed action on NOS activities and projects.

The following comment is offered for your consideration.

Geodetic control survey monuments may be located in the areas covered by these regulations. If there is any planned activity which will disturb or destroy these monuments, NOS requires not less than 90 days notification in advance of such activity in order to plan for their relocation. NOS recommends that the leasing agreements include the cost of any relocation required for these monuments.

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230

November 17, 1975

Director
U.S. Geological Survey
U.S. Department of the Interior
National Center
Mail Stop 760
Reston, Virginia 22092

Dear Sir:

This is in reference to your draft environmental impact statement entitled "Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041), and Coal Mining Operating Regulations (30 CFR Part 211". In order to expedite transmittal of the enclosed comments from the National Oceanic and Atmospheric Administration, we are sending them to you as they were received in this office.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving four copies of the final statement.

Sincerely,

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Enclosure: Memo from: Dr. Gordon Lill
National Ocean Survey

OFFICE OF THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

November 20, 1975

MEMORANDUM FOR: Director, U. S. Geological Survey
Department of the Interior

SUBJECT: Draft EIS on the Proposed Surface Management of Federally Owned Coal Resources

The Department of the Interior draft environmental impact statement on this subject has been reviewed by appropriate offices of the Department of Transportation. The Department has no comments to offer on this statement.

We appreciate the opportunity to review the document.

Martin Convisser

OFFICE OF THE SECRETARY OF THE TREASURY
WASHINGTON, D.C. 20220

October 21, 1975

Dear Sir:

Thank you for forwarding copies of the draft environmental impact statement for the Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations. The Department has no comment on the Statement.

Sincerely,

Anthony V. DiSilvestre
Environmental Quality Program Officer

Director, U.S. Geological Survey
National Center, Mail Stop 760
Reston, Virginia 22092

Director, Bureau of Land Management
Department of the Interior
Washington, D.C. 20240

FEDERAL POWER COMMISSION
WASHINGTON, D.C. 20426

IN REPLY REFER TO:

November 17, 1975

Dr. Vincent E. McKelvey
Director
U.S. Geological Survey
Department of Interior
Reston, Virginia 22092

Dear Dr. McKelvey:

We have reviewed the Draft Environmental Impact Statement on Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211).

Our concern is that adequate supplies of low sulfur coal which comply with established environmental regulations be available when needed for the production of electricity and that other coals be available for the production of electricity with flue gas desulfurization and for the production of synthetic natural gas. Much of the coals are in the West and would fall under the regulations. The EIS points out that at least a two-year delay in the production of coal could ensue as a result of the regulations. It would be helpful to know what the two-year delay would mean in terms of the capability of the Nation meeting its scheduled doubling of coal production by 1990, as well as the extent of the delay that electric utilities may experience in meeting sulfur oxide emission limitations as a result of production delays caused by the regulations. In essence, the trade-offs between energy and the environment and the trade-offs among environmental media need to be clearly delineated for a decision to implement the regulations.

We believe the lead-time for the production of coal could be shortened if sequential EIS's were eliminated as a possibility.

Dr. Vincent E. McKelvey 2.

The EIS that accompanies the regional plan for identifying the coal properties to be leased should be sufficient, particularly with all the environmental safeguards provided in the regulations for the development of a particular lease. The possibility of an EIS, as expressed on Page I-21, is redundant and could lead to unnecessary delays.

Although the EIS indicates that 10 to 15 small producers may be put out of business, no recognition or estimate is made as to the number of new small producers that would be prevented from initiating new operations in the field. With the increase in the demand for coal, the number could be substantial. We believe that methods for eliminating discrimination against small operators should be given further consideration.

Sincerely,

Richard F. Hill
Acting Director
Office of Energy Systems

cc: Mr. Jimeson
Dr. Heinemann
Chairman

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Washington, D. C. 20250

NOV 13 1975

Mr. Vincent J. McKelvey
Director
U.S. Geological Survey
National Center, Mail Stop 760
Reston, Virginia 22092

Dear Dr. McKelvey: - Vince

In response to your letter of October 1, 1975, we have reviewed the draft environmental impact statement entitled, "Proposed Surface Management of Federally Owned Coal Resources (43CFR Part 3041) and Coal Mining Operating Regulations (30CFR Part 211). Our suggestions for your consideration in preparing the final statement are included as an enclosure to this letter.

Thank you for providing us the opportunity to review this statement.

Sincerely,

R. M. Davis
Administrator

Enclosure

Comments on Draft Environmental Impact Statement
Proposed Surface Management of Federally Owned Coal Resources and
Coal Mining Operating Regulations

1. Section III, page 14, paragraph 2

This section is inadequately treated. We suggest rewording and adding additional paragraphs as follows:

One basic factor of far greater importance than any other in reclamation of surface mined land is to return soil in such a way that the land has the best possible productive capacity for the use planned. Data from detailed soil surveys predetermines the suitability of existing soil horizons to meet planning objectives. The reclamation plan should include the intended use of the land after mining. This would dictate the amount and kind of grading necessary, the type of vegetative cover to be planted, and the need for ponds or impoundments. It is not necessary to require that all land be restored to its original condition. Some sites may be used more efficiently after mining than they were before but this must be considered in the reclamation plan.

Grading to the planned contour is desirable, but in some areas of particular significance in the West, further settling may develop. The massive structure of the soil is susceptible to slumping and caverns. Subterranean channels and caverns may develop, resulting in further settling endangering livestock and machinery. Consideration should be given to the possibility of using other waste material in the reclamation of strip-mined lands. Management systems are needed to recycle large amounts of waste material without impairing plant growth or quality.

Plants need to be selected for specific sites. Long-term cover should be considered when selecting species as well as species for fast cover. Species adaptable to highly acidic or highly alkaline conditions are available although additional plant materials studies are needed on these soil conditions. Quality of crops grown on disturbed land areas should be considered. Adverse conditions of unusually unbalanced soil, poor rainfall distribution, elevation, slope steepness and slope aspect may all affect the growth and quality of plants. Specialty crops should be considered as an alternative on strip-mined areas.

Soil microbiology of mine spoil needs to be considered. Rhizobia, for example, which are essential for nitrogen-fixing legumes, may not have conditions favorable for development in some mine spoil conditions. Restoring the hydrology of surface mined areas is an important consideration both in the East and West. Properties of some spoil materials, especially in the West, preclude the intake of water. This will effect groundwater conditions. Therefore, infiltration rate of these specific soil materials must be considered when planning reclamation of the area.

ADDRESS ONLY THE DIRECTOR, FISH AND WILDLIFE SERVICE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

Dist to ~~FOO~~ 730-Bruce Power

RECEIVED 1975 NOV 2 1975

In Reply Refer To:
FWS/OBS

Memorandum

TO: Director, Bureau of Land Management
Director, U.S. Geological Survey

FROM: Director, Fish and Wildlifa Sarvice

SUBJECT: An Analyaia of Proposed Reviaiona in the Surface Management of Federally Owned Coal Reaources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211)

I am pleaaed to transmit to you the commenta of the Fiah and Wildlife Service on proposed reviaiona in the Coal Surface Management and Operating Regulationa. Our analyaia of theae regulationa reflecta a concern for adequata protection of fiah and wildlife raaourcea in the development of Federal coal reservas and a belief that with adequata input from the Sarvica tha timely devalopment of coal reaourcaa can occur in a manner that ia least damaging.

I feel it ia imparative that the Fiah and Wildlife Service participate on a continuing baaia with the Buraau of Land Managemant and Geological Survey in coal development deciaiona and am diaappointad that the proposed regulationa do not provide a mechaniam for thia participation. Accordingly, I have asked my staff to indicata those key areaa in tha proposed regulationa whera Fiah and Wildlifa Service technical input ia eaaential.

In addition to apecific recognition of Fish and Wildlife Service involvemant, I recommend tha insartion of tha following language at key pointa in the regulations: ". . . in consultation with the appropriate Faderal and State Natural Resource Managemant Agencies . . . ." This languaga will not reatrict timely davalopment of coal rasarvea and will indicate the Department's deaira to assure that tha development occura in an environmentally acceptabla manner.

I am concarned about the lack of clearly defined performanca atandarda. The language "to the maximum extent practicable" ia used throughout the text of tha proposed regulations, with little expreasion of what

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

Grading techniques, soil configuration, chemical amendments, surface mulchea, and groundcovers need to be considered to increase water supplying power to plants and as an aid in improving water quality.

2. Section III, page 15, paragraph 2

The phrase "revegetation of equal density" and what it implies should be reconsiderad. We suggest that the intended land use after mining and the consideration of premining and adjacent area surveys be used to determine the kind and density of revegetation.

3. Section III, page 17, paragraph 2

The phrase, "all mined lands will be revegetated to an equal or greatar status. . .," brings up the question of which land uses ara graater. We suggest that the question of whether woodland or pastureland is the highar use be discussed.

4. Section III, page 28, paragraph 2

The DEIS states that consumers may have to pay "slightly highar coal prices." Wa suggest that an estimate be made of what the additional cost to consumers will ba as a result of the proposed changes in tha ragulations.

standards might ba usad for performance and variancaa. I agraa that the regulationa muat allow tha Department flaxibility to deal with accelerated coal development. However, in my judgement the Department ahould alao provida coal operatora and the general public with an expresaion of minimally acceptable standarda for performance and variance.

Becauae Federal coal davalopment will certainly cauaa aubatantive changes within affected States, the regulationa ahould provide a mechanism for State involvement in a consulting role and provide a model for State efforta. In addition, the regulationa ahould not prohibit States from developing tighter environmental atandarda that would be applicabla on public lands.

The Fiah and Wildlifa Service ia prepared to begin participation with tha Bureau of Land Management and Geological Survey on coal ralatad problems as well as other critical energy and non-energy mineral activities of critical national importance. I view our potential rola as one of consultant and technical advisor and hava dedicated reaourcea within the Service to begin to fully develop thia role. I baliava that an open relationship at thia time would allow coal davalopmant to proceed in the most productiva and environmentally acceptable manner.

Thank you for providing tha Sarvica with an opportunity to comment on the proposad ragulationa.

Lynn A. Greenwalt

Attachmanta

11-19-75

ATTACHMENT A. General Comments on Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211)

The Fish and Wildlifa Service is pleased to have the opportunity to comment on the proposed revisions for the coal regulations. We feel these proposed regulations are very important, not only will they guide Federal coal development and set standards that will likely be used for non-Federal coal exploitation, but they will also set the stage and serve as a model for changes in regulations dealing with other minerals. In general, the proposed regulations are an improvement over existing coal regulations; however, we feel they are inadequata to assure protection and conservation of renewable biotic resources, particularly fish and wildlife resources.

The draft atatement and proposed ragulations were particularly remiss in not specifically addressing tha consulting and technical role of the Fish and Wildlife Service (FWS) and affected Statas. The proposed regulations require the "Authorized Officer" of the Surface Management Agency (usually Bureau of Land Management) and the Mining Supervisor of the Geological Survey to consult and in some instances concur on particular actions to be taken. We believe that this arrangement will undoubtedly attain the Department of the Interior's goal to encourage the development of mineral resources under its jurisdiction. We contend, however, that it will not assure that "adequate measures be taken to avoid, minimize, or correct damage to tha environment" during development of Federal coal reserves. To resolve this issua we propose that the following words be added to key portions of tha proposed regulations: ". . . in consultation with the appropriate State and Federal Natural Resource Management Agencies." We suspect that many Federal and Stata agencies will ask to be more involved in the Federal Coal Development Process and insertion of this language into the regulations will allow it on a selectiva basis.

In addition to the recommendation above, we feel it is necessary that the Fish and Wildlifa Sarvice be involved from the standpoint of legialation and secretarial orders that assign responsibilities to the Secretary of the Interior and the Fish and Wildlife Servica, i.a., the Fish and Wildlife Act, the Fish and Wildlife Coordination Act, and the Endangered Species Act. Accordingly wa have recommended in our detailed comments whare the Service must be included.

We are particularly concerned as well with the use of several terms in the CFR's, such as "unreasonably," "minimize," and "maximum extent practicable." The definitions for these terms are broad and inexact,

and in effect give the "authorized officer" of the Surface Management Agency and the Mining Supervisor broad discretionary powers without consultation or technical assistance from other interested agencies.

In lieu of an adequate consultation and technical role for the Fish and Wildlife Service we feel the definitions of these terms, particularly "to the maximum extent practicable," should be rewritten and brought into closer meaning to similar language in NEPA.

In addition to our primary concerns we offer the following general remarks about the Draft Environmental Statement.

Part I. Description of Proposed Action

In general, the section on 43 CFR 4031 reads well and can be easily correlated with the proposed regulations. We note, however, that a certain poetic license was taken in that explanations within the text do not always accurately reflect what is written in the proposed regulations. The portions dealing with 30 CFR Part 211 are difficult to correlate with the proposed rules.

Part II. Description of the Environment

Our analysis indicates that this is a superficial compendium of facts suitable for a broad brush national summary. It is difficult, if not impossible, to attach any significance to descriptions of the environment as they relate to the proposed regulations.

Part III. Probable Impact of the Proposed Action

The introduction implies the new regulations will standardize approaches and have beneficial impacts on the environment. Our analysis of the proposed regulations can find no foundation for this.

This entire section appears to skirt the issue implied in the title. We recommend the probable effects of the proposed regulations be discussed directly.

Part IV. Mitigating Measures

This part appears to assume that the CFR's and ZEAA's are completely detailed and based on scientifically known facts about possible impacts and how to mitigate for these impacts. This is simply not true.

11-19-75

ATTACHMENT B. Detailed Comments on Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211)

I. Comments on Description of the Proposed Action.

A. Most of the text of this portion of the Draft Environmental Statement is simply an interpretation of the proposed CFR's. The bulk of our comments lead to recommended changes in the CFR's. Therefore, we have opted to focus on our proposed changes.

To do, however, have the following comments on the text:

Portions of the Draft Environmental Statement from pages I-25 through I-34 (30 CFR, Part 211) are difficult to correlate with the proposed rules as noted in Appendix I. More detail should be provided and comments should be directly correlated to specific portions of the proposed rules.

In the section of the Draft Environmental Statement that defines the interrelationship of other agencies and programs (pages I-35 through I-40) there is no mention of the Fish and Wildlife Service responsibilities. We recommend the following paragraphs be added to this section:

> The U.S. Fish and Wildlife Service (FWS) administers the Fish and Wildlife Act, the Fish and Wildlife Coordination Act, and the Endangered Species Act.
>
> The Fish and Wildlife Act established the U.S. Fish and Wildlife Service to provide continuing research, extension and information services, and to take any necessary steps to develop, manage, protect and conserve fish and wildlife resources, including research, acquisition of refuge lands, development of existing facilities and other means. The Fish and Wildlife Coordination Act requires that Federal agencies planning to impound, divert, or channel the waters of any stream or other body of water must consult with the FWS in matters pertaining to the probable impact in mitigation of fish and wildlife resources.
>
> The Endangered Species Act requires all Federal agencies to consult with the Secretary of the Interior to ensure that actions authorized, funded, or carried out by them do not jeopardize a continued existence of such endangered species and threatened species or result in destruction or modification of habitats used by these species.

Part V. Probable Adverse Environmental Effects Which Cannot Be Avoided

Does not address in more than a cursory fashion impacts to wildlife populations, wildlife habitat, air, water, and land. Delay in tract selection is considered an adverse environmental affect. We have a difficult time understanding why.

Our concern in this analysis is for adequate protection and conservation of fish and wildlife resources. We do not oppose coal development, but wish to be certain that Federal coal development occurs in a manner that is least damaging to this resource.

B. Comments on Proposed Surface Management of Federally Owned Coal Resources (43 CFR, Part 3041) and Coal Mining Operating Regulations (30 CFR, Part 211).

PART 3041 - SURFACE MANAGEMENT - FEDERAL COAL RESOURCES

Subpart 3041.0-1 - Purpose

This portion contains a number of qualitative statements on effects, such as, "will minimize adverse effects," "attainable and assured," and "protection of environmental values." All of these terms are open to subjective interpretation. As indicated above, we feel these terms should either be replaced or strengthened.

Subpart 3041.0-4 - Responsibilities

Section D: We recommend the following change: "The Geological Survey before approving exploration of mining plans or the abandonment of operations consults with the Bureau of Land Management and other appropriate State and Federal Natural Resources Management Agencies on the adequacy of the surface use . . . ."

The environmental statement is clear on the responsibilities of BLM, USGS, and other Federal Surface Management Agencies. The roles and responsibilities of other Federal and State Natural Resource Management Agencies, however, are not clearly defined and should be in this section. We recommend that a new section be inserted to read as follows: "(e) The Fish and Wildlife Service will provide the necessary technical support to the Bureau of Land Management and the U.S. Geological Survey to ensure maximum consideration of fish and wildlife interests. The Service will provide information to the other management agencies regarding the impacts on all proposed mining operations on endangered species and on other fish and wildlife resources, and provide information as to the mitigatory actions that should be incorporated into the lease stipulations."

Subpart 3041.0-5 - Definitions

In general we concur with the definitions stated; however, we are concerned that a number are loosely defined and need to be strengthened or tightened. Examples of these include:

Section A: Acid and Toxic Producing Deposits (strengthen and add alkaline producing deposits as well).

Section G: Approximate Original Contour (needs to be strengthened).

Section F: Coal (this definition is a popular, not a technical one; we believe it should be rephrased to include a technical definition of coal).

Section K: Unless Extent Practicable (this is perhaps one of the weakest links in the entire definitions and should be either eliminated throughout the text and replaced with stronger language or the definition should be strengthened considerably). Please note that the language used in the same context in NEPA states that all practical means, consistent with other essential considerations of national policy will be used to preserve, maintain, restore, enhance, or prevent degradation of the environment. We recomend the same or similar language be used here.

Section Y: Top Soil (the general use of this term is to mean material capable of supporting vegetation). The definition in our opinion should be more technical and should include elements of parent materiel, microorganisms present, climate, and topography and should include a reference to the permanence of the materiel in its particular location.

In addition to those terms which we feel must be strengthened, there are a number of terms which were not defined and in our opinion should be. Several of these term do not appear in the text and should be included. Those are:

1. Abandoned Mine
2. Access Roads
3. Acid Mine Drainage
4. Alkaline Mine Drainage
5. Aquifer
6. Casual Use
7. Coal Mine Refuse
8. Dissolved Solids
9. Exploration
10. Logical Mining Unit
11. Pollution
12. Reclamation
13. Rehabilitation
14. Sediments
15. Surface Deposits with High Sediment Yields
16. Technical Examination and Environmental Analysis (TEEA)

Subpart 3041.0-6 - Coal Leasing, Permitting, and Licensing Planning Procedures

Section B: Beginning at line 28, this section should be changed as follows: ". . . the Geological Survey and appropriate State and Federal Natural Resource Management Agencies, will hold public hearings . . . ."

The third sentence of the same section should be modified to read as follows: "such water impoundments may adversely affect the water resources utilized by adjacent or surrounding land owners for agricultural, industrial, recreational, fish and wildlife, or domestic uses."

Section B(6)(v): Add fish and wildlife to the uses listed.

We recommend that the following be added to Section B(6): "(vi) The Fish and Wildlife Service and the agency exercising administration over the wildlife resources of the particular State will be consulted to assess the impact on fish and wildlife resources caused by the permanent impoundment of the waters of any stream or other body of water that are to be created on mining sites (Fish and Wildlife Coordination Act, 48 Stat. 401, as amended; 16 U.S.C. 661 et seq.)."

Section B(7): Delete the words "minimize or."

Section B(8): Restructure words such as "minimize" and "to the maximum extent possible." These are judgmental terms and appear to be in conflict with NEPA.

Section B(8)(ii)(A): This section should be changed to read as follows: ". . . at sites determined by the Mining Supervisor in consultation with the authorized officer of the Federal Service Management Agency and other appropriate Federal Natural Resource Agencies and . . . ."

Section B(8)(iii): This section should be changed to read as follows: ". . . by the Mining Supervisor after consultation with the authorized officer of the Surface Management Agency and other appropriate Federal Natural Resource Agencies."

Section B(9): In disposing of mine wastes, coal processing wastes, and other matter in a manner which will assure that no environmental degradation will occur as a result of the methods employed in their disposition.

Section B(11): In the second line add "or detention" after the word retention.

Section B(12): This section reads better than Section B(9). These two could be combined to include air, water, and terrestrial pollution.

Section B(14): On the second line insert the word "service" between remove and roads. Line 10 of this section should be changed to read as follows: ". . . except that the Mining Supervisor with the concurrence of the authorized officer of the Surface Management Agency and in consultation with the appropriate State and Federal Natural Resource Management Agencies, may approve . . . ."

Title 43, Part 23.5 (published in 34 FR, January 18, 1969), subparagraph 23.5(f) provided that when the District Manager or a representative of a Federal land managing agency determined that a proposed appropriation was contrary to the public interest or inconsistent with the purpose to which the land is reserved, then the matter must be submitted to the Secretary of the Interior for his decision. Does Subpart 3041.0-6(b) now delegate such decision-making authority to the Director of the Bureau of Land Management? This is unclear.

Section C: This section states that the Director (BLM) determines when a Federal action under sections (A) or (B) is a major Federal action that significantly affects the quality of the human environment requiring preparation of an EIS. This section seems to be in violation of NEPA, which states "prior to making any detailed statement, the responsible Federal officials shall consult with and obtain comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved."

Subpart 3041.0-7 - Performance Standards

Qualitative statements within this major category such as "maximize extraction," "minimize disturbance," "contemporaneously as practical," "approximate original contour," "maximum extent practicable," etc., are all open to subjective interpretation and should be strengthened in the definitions or replaced in the text.

Section B(3): This section should be changed to read as follows: ". . . concurrence of the Director of the Bureau of Land Management or the appropriate officer of the Federal Service Management Agency in consultation with other appropriate State and Federal Natural Resource Management Agencies, determines . . . ."

Section B(6): The Fish and Wildlife Service, as well as the agency exercising administration over the wildlife resources of the concerned State, should be consulted where permanent impoundments of the waters of any stream or other bodies of water are to be created on mining sites. The authority necessitating such consultation is the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). We suggest the first sentence of subsection 6 read as follows: "Construct all permanent water impoundments on the mining site using sound engineering and environmental standards and practices in accordance with the applicable State and local laws; . . . ."

Line 5, delete the word "unreasonably."

Section B(15): We recommend that this be changed to read as follows: "The operator shall refrain from constructing roads or other access ways in or near stream beds or drainage channels in order to prevent degradation to the stream banks, water quality, or alteration of the normal flow of water therein. The operator shall also refrain from constructing roads on key wildlife habitat or important features."

Section B(16): We recommend the following change in this opening part of this section: "The operator shall, except where other reclamation is expressly provided for, establish on all areas directly or indirectly disturbed by the mining operations, a diverse self-sustaining vegetative cover of sufficient density and composition to ensure soil stabilization and the replacement and enhancement of all vegetative resource values that existed prior to the disturbance. The Mining Supervisor with the concurrence of the authorized officer of the Surface Management Agency in consultation with other appropriate State and Federal Natural Resource Management Agencies, may . . . ."

Section B(17): The State agency exercising administration over the wildlife resources of the mined site and the Fish and Wildlife Service should be consulted concerning the adequacy of the revegetation effort as it related to fish and wildlife resources in the mined area. We recommend the following changes in this section: "The operator shall assume responsibility for successful revegetation of each planting area until such time as the authorized officer of the Surface Management Agency, in consultation with the Mining Supervisor and the appropriate State and Federal Natural Resource Management Agencies, determines that . . . ." Delete the last sentence in this section as no one can predict what the climatic conditions will be. Every operator should have equal considerations.

Section B(18): Delete the following: "Except where such access . . . health and safety." This exception, as written, could technically exclude Federal or State inspectors.

Section B(19): Delete the word "grazing" and substitute "use."

Section B(20): Reword this section as follows: "In areas within the permit area in which there are no current operations, the . . . ."

Section F: This section is poorly worded and should be changed as follows: "The operator will conduct his mining operations in such a manner as to preserve, protect, or enhance the visual resources in accordance with . . . ."

Section G: We recommend that a sentence be added to this section as follows: "The Fish and Wildlife Service, together with the respective State fish and game management agency, shall be consulted and asked to provide technical assistance."

Section H: This section needs to be rewritten so that in the event an archeological or paleontological site is encountered during excavation, the operator will immediately cease operations and notify proper authorities.

Subpart 3041.2 - Technical Examinations/Environmental Analysis

We recommend that you add a Section C: "The appropriate State and Federal Natural Resource Management Agencies shall be consulted and will be asked to provide technical assistance in the development of a TUEA."

Subpart 3041.2-1 - Technical Examination/Environmental Analysis Report

Section A(2): We recommend the following change: "Identify specific reclamation requirements and the established goals for post-reclamation land use."

Section A(4): Substitute "identify" for "minimize."

Subpart 3041.6 - Reports

Section C(2): This section should be changed as follows: "The Mining Supervisor and authorized officer of the surface management agency, in consultation with other appropriate Federal Natural Resource Agencies, ..."

Subpart 3041.7 - Notice of Non-compliance: Revocation

We recommend that a time frame be established between the discovery of non-compliance, notification to mining supervisor, notification to operator and remedial action.

PART 211 - OPERATING REGULATION:

For the most part the remarks we offered for changes in Part 3041 (Surface Management of Federally Owned Coal Resources) hold true in Part 211 as well. For example, the terminology used in each part is about the same when referring to minimizing adverse environmental effects. Terms such as "to the maximum extent practicable" and "minimize" are used quite freely. These are subjective terms and poorly defined in Section 211.2 (Definitions). In addition, we recommend that a standard set of definitions be used for both Part 3041 and Part 211.

Subpart 211.40 - Operating and Reclamation Standards

Section M(11): We recommend this section be changed to read as follows: "The impoundments will be designed and built in accordance with sound engineering and environmental standards and practices and applicable Federal and State laws and regulations."

Section N(8)(ii): We recommend the following changes: ". . . at the sites determined by the Mining Supervisor in consultation with the authorized officer of the Federal Surface Management Agency, and the appropriate Federal and State Natural Resources Management Agencies . . . ."

Section N(16): This section should be changed as follows: "The Mining Supervisor, with the concurrence of the authorized officer of the Federal Surface Management Agency, and in consultation with the appropriate Federal and State Natural Resource Management Agencies . . . ."

Section N(17): This section should be changed to read as follows: ". . . in consultation with the Mining Supervisor and the appropriate Federal and State Natural Resource Management Agencies . . . ." ". . . where the authorized officer of the Federal Surface Management Agency in consultation with appropriate Federal and State Natural Resource Management Agencies, ..."

Subpart 211.62 - Reports

Section C(2): We recommend this section be changed as follows: "The Mining Supervisor and the Authorized Officer of the Federal Surface Management Agency in consultation with the appropriate State and Federal Natural Resource Management Agencies, shall . . . ."

Subpart 211.3 - Responsibilities

Section C(14): We recommend the following change: "Consultation. Consult with the authorized officer of the Federal Surface Management Agency, and appropriate State and Federal Natural Resource Management Agencies before taking any final action . . . ."

Section C(15): We feel this additional section is necessary and offer the following for consideration: "Reclamation goals. Post mining land use and reclamation goals and objectives should be clearly determined and stated by the Mining Supervisor for public lands and provided for at the time of the submission of the mining plans. Appropriate Federal and State Natural Resource Management Agencies and the general public input will be solicited and coordinated by the mining supervisor."

Subpart 211.5 - Inspection of Records

Section B: We recommend the following change: "Exploration and mining plans submitted under . . . ." We also recommend that the Mining Supervisor be required to send a notice of availability of the submitted plan directly to appropriate Federal and State Natural Resource Management Agencies.

Subpart 211.10 - Explanation of Mining Plan

Section E: We recommend the following change: "If the circumstances warrant, or if development of an exploration or mining plan for the logical mining unit is . . . ."

Subpart 211.12 - Mine Maps and Subpart 211.20 - Information Required to be Submitted

Data or information required by these sections are submitted to the Mining Supervisor. A section should be added to each of these subparts that states that these data or information will be available for review by interested State and Federal Natural Resources Management Agencies, and that the Mining Supervisor will notify the appropriate agencies in a timely fashion.

Subpart 211.30 - Maximum Recovery

This section should be changed and enlarged upon. It currently refers to only underground mines. We recommend the following section be added: "(B) Surface Mines. When it is impractical to remove all the seams of coal of commercial quality and quantity in multiple bed deposits because of technological or economic constraints then that particular site should be withheld from development until such time as removal of all seams becomes practicable."

11-19-75

ATTACHMENT C. Detailed Comments on Parts II-IX of Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211)

II. Description of the Environment

Page #

a. Pacific Coast Provinces

18 The section on wildlife is confusing as it jumps from California to the Alaskan Tundras, and from rivers to long lakes and back again. The last paragraph on this page should also include the mammalian species of caribou, sitka black-tailed deer, red fox, black bear, wolf, brown bear, and goats.

19 Paragraph 1: Ptarmigan, redpolls and ravens should be included at the end of the first sentence.

Paragraph 2: Should include brook and brown trout in addition to the cutthroat, and in the coastal streams, cutthroat, dolly varden, arctic charr, and lake trout should be included.

Paragraph 3: There are both snow and Canadian geese as well as a variety of ducks found nesting on the Copper River delta. At the bottom of this page under the mammal section the California harbor seal is the same as Pacific harbor seal. The Steller sea lion, hump-backed whale, and the spotted seal should also be included in that list.

20 Paragraph 1: Should also include a reference to king crab, clams, and shrimp as being numerous in many bays; abalone are also present.

Paragraph 2: We recommend that the term chaparral be inserted in the title of Broad Sclerophyll (which is misspelled) (Chaparral Wildlife) and in the third sentence, chaparral should be substituted for "transition zone hardwood trees." The last sentence referring to small rodents is incomplete. There are several species of small kangaroo rats and other rodents that are confined to chaparral.

21 A small point but the subsurface environment is rarely below OPC, even in the tundra regions.

Paragraph 2: Should include reference to the limitation of the slow decomposition rate in the tundra environments. Blackfish, ling and dolly varden are also characteristic fish. In addition to the sheefish, pike and salmon inhabit major rivers. Coho salmon should also be included as an anadromous fish.

Paragraph 2: The last sentence should read "sockeye salmon fry spend 1 to 4 years in the lakes before they migrate to the sea."

Paragraph 3: The musk-ox is not on the Fish and Wildlife Service's "United States List of Endangered Species," May 1974.

Paragraph 4: Indicates a varied invertebrate fauna in the tundra waters. This is not true. Tundra waters generally have a low degree of variability in the invertebrats fauna.

22 The statement in the first line is incorrect. There is a great deal of information in the tundre bioma reports that would allow a rich discussion of the biological elements in relation to the Federal coal lands.

Paragraph 2: This paragraph should contain a statement in reference to the native land claim situation which is not yet settled. Indicete the number of native Alaskans that are directly dependent upon the fish and wildlife resources as their means of existence.

Paragraph 3: Should note that commercial fishing is of major importance in Cook Inlet and along the coast of Washington and Oregon. This large industry is dependent on the quality of the forest streams, spawning, and nursery areas. Also oil is produced in areas other than the Kenai in Cook Inlet.

27 Paragraph 1: Should accent that there are numerous ancient village and campsites that dot the major rivers as well as the coastal areas of Alaska.

b. The Rocky Mountain Province

69 Paragraph 1: The literature citation is incorrect. It should read (Kendeigh, 1961).

Paragraph 2: The correct citation should read (Sundstrom et al, 1973; Scott, 1961).

70 Predatory species such as skunks, fox, and coyotes, should also be mentioned. The citation (Kendeigh, 1961) is misspelled.

73 Paragraph 3: Blue grouse were not included.

Paragraph 4: Should include striped skunk and ground squirrels.

Paragraph 5: The last sentence says birds include the ringtail. We question whether that refers to the ringtail cat which should be in the mammal section or if it is a common name for some avian species.

75 The last paragraph should include rock bottom pools as a habitat within a stream. The statement that typical stream animals are found in sand bottom pools is incorrect.

76 Paragraph 2: The bonetail, humpback chub and the Colorado aquawfish are now on the endangered species list.

77 Paragraph 1: The bullfrog is found in some northern portions of this region, for example, along the Snake River in Idaho.

78 The statement regarding the productivity of man-made lakes versus natural lakes is rather doubtful; the list of fish should have walleyes rather than valleys, and in the first paragraph on the following page Canada geese, snow geese, brown pelicans, whistling and trumpeter swans also occur and should be included in this paragraph.

79 Change the title to read: "3. Endangered and Threatened Species."

Paragraph 1: We suggest the second sentence be modified as follows:

"Species categorized as 'threatened' are those species which are likely to become endangered within the foreseeable future throughout all or a significant portion of their range. Species whose existance is considered 'endangered' are listed in the U.S. Fish and Wildlife Service's 'United States List of Endangered Fauna,' May 1974."

Paragraphs 2-3: The discussion of endangered species is incorrect and incomplete. Therefore, we suggest the following paragraphs as a substitute:

"In the Rocky Mountain Coal Province, three mammal, five bird, and seven fish species are presently on the official endangered species list. The black-footed ferret has been reported on the basis of several observations within the province, but these have not been confirmed. Ferrets are closely associated with prairie dogs which are their major food source.

"The endangered Utah prairie dog is found in parts of the Southwestern Utah coal region. Most of its range is in the Great Basin of Utah, but a number of colonies located near the Wayne and Piute Counties boundary are in this coal region.

"The Northern Rocky Mountain Wolf (<u>Canis lupus irremotus</u>), was once considered extinct in the <u>conterminous 48</u> States; however, wolves in the former range of <u>irremotus</u> have recently been reported in Yellowstone National Park and Boisa, Challis, Flathead, Gallatin, Helene, Kootenai, Salmon, Shoshone, Teton, Custer, Beaverhead, and Targhee National Forest.
"Both species of the peregrine falcon, the American and Arctic, are considered endangered. These birds have been extirpated as a breeding species in the eastern United States and are generally decreasing in the West. In the Upper Colorado River area the peregrine falcon is uncommon. Very few nesting peregrine falcons, probably less than a half-dozen pairs, are known to occur in this province. Nests are usually found in coniferous forests or along major rivers. Extreme care should be taken to prevent disturbing them. The southern bald eagle, also endangered, probably occurs in the San Juan River coal region as a winter resident or migrant.

"The whooping crane, which breeds in Wood Buffalo National Park in south central Mackenzie, Canada, and winters on the Gulf Coast of Mexico, uses the marshes and major rivers of the Rocky Mountain Coal Province for resting and feeding while in transit.

"Two of the endangered fish, the humpback chub and the Colorado squawfish, are native to the Colorado River drainage. Both are adapted to a swift water environment. Present indications are that reservoir construction is an inhibiting factor. The natural habitat is obliterated in the impoundment areas, while reproductive requirements are affected by lowered temperature in the tailwater areas. Both are quite rare in the natural stream segments remaining.

"The Kendall warm springs dace is found only in a warm spring-fed tributary to the Green River in the Bridger National Forest in Wyoming.

"The Gila trout is found in Diamond, McKenna, and Spruce Creeks in the Black Range Primitive Area of the headwaters of the Gila River in the Gila National Forest of New Mexico.

"The woundfin, a cyprinid minnow, once found in the lower Colorado and Gila River basins in Arizona, Nevada, and Utah, is now restricted to the Virgin River below Hurricane, Utah."

80 Paragraph 2: The hump-back sucker and the boney tailed chub should also be included in this paragraph.

The Endangered Species Act of 1973 calls for both a list of endangered and threatened species. Presently, three species of trout and the grizzly bear (in the 48 conterminous States) are officially listed as "threatene " Therefore, we suggest the discussion of the spotted bat, Utah prairie dog, spotted owl, prairie falcon, arctic grayling, and the Colorado River cutthroat as they relate to threatened status be removed from the Draft Environmental Statement. In place, we suggest the following be inserted after the paragraph (paragraph 3) discussing the Kendall warm springs dace:

"In addition to the endangered species, there is one fish species, the Arizona (Apache) trout, and one mammal, the grizzly bear (in the 48 conterminous States), that are considered threatened within the province.

"The Arizona (Apache) trout is found in Ord Creek and the east fork of the White River in Arizona and Christmas Tree and Sun Moon Lakes in Arizona. The grizzly bear, a wilderness species that once inhabitated areas in all of the Western States from the Pacific Ocean to the eastern edge of the Rocky Mountains, is now found in small numbers in remote areas in Idaho, Wyoming, Montana, and Washington."

Paragraph 2: We believe that due to the importance of the DES an effort should be made to list all States that have developed "rare and endangered species" lists. New Mexico has developed such a list and Arizona is in the final stages of developing such a list. Texas, in the Gulf and Interior Provinces, also is developing such a list.

59 Paragraph 1: We suggest the following modification:

"Drainages support several varieties of trout, while hunting opportunities include deer, elk, moose, sheep, goats, bear, pronghorn antelope, upland game birds, and waterfowl hunting."

132 To keep the literature citation consistent with previous use, correct to read (Gawlstrom, et al., 1973).

c. Northern Great Plains Province

137 Paragraph 2: The sand bottom pools are not an important part of the stream but rather the hard bottom pools support the species listed. There are perhaps forty species of fish that are found in this province with the semitransmid fish being the most common.

Page II-137, 2. Aquatic Wildlife, second paragraph, fourth sentence - The shovelfish is not threatened and that part of the sentence regarding this species should be omitted. The species of other common fish should be expanded to include: walleye, northern pike, bluegill, smallmouth and largemouth bass, and various species of suckers.

138 Paragraph 1: Should include a comment that many species of smaller sunfish also occur.

140 Change title to read:

"3. Endangered and Threatened Species".

Paragraph 1: We suggest the second sentence be modified as follows:

"Species categorized as 'threatened' are those species which are likely to become endangered within the foreseeable future throughout all or a significant portion of their range. Species whose existence is considered 'endangered' are listed in the U.S. Fish and Wildlife Service's 'United States List of Endangered Fauna,' May 1974."

Paragraph 2: We suggest the following modification: "The black-footed ferret, American and arctic peregrine falcons are . . . ."

Add the following sentence:

"Other endangered species which may occur in the area are listed in Appendix 2."

widespread environmental disruption and little realistic mitigation that occurs in the eastern province.

5 Paragraph 2: Should state the number of western coal-producing states that have enacted legislation aimed at regulating surface mining rather than the general statement that exists.

9 Paragraph 1: ". . . (3) removal or pollution of surface and ground water."

9 The final paragraph in this section should be completely rewritten; it would be more accurate to state that, "It is anticipated that the negative impact on fish and wildlife caused by surface mining will be lessened under the proposed rules as compared to the effects of mining operations under the old rules." The terms 'favorably' and 'beneficial effects' are misleading and should be deleted. In short, the proposed rules are certainly better than the previous ones and under them, fish and wildlife interests will be better off. The statement should not infer, however, that fish and wildlife will be benefited overall as there will undoubtedly be destruction of a certain number of acres of fish and wildlife habitat.

20 Paragraph 1: We do not anticipate that soils and vegetation will be replaced. The land will be reshaped and vegetative communities will be reconstructed in an attempt to stabilize the mined areas.

The statement that potential loss of wildlife due to mining activity on Federal coal lands is unassumable is not altogether correct. In many of the regions, State and Federal biologists can estimate small-game, big-game, and fishery losses that will result when lands are disturbed by mining activity. If these estimates were made then, there would be some basis for the belief that small-game and fishery losses will be less than big-game losses. We suggest the following replacement sentence:

"Presently, wildlife losses caused by mining activity on Federal coal lands have not been estimated; however, it is expected that small-game, big-game, and fish population decreases will occur."

Paragraph 2: At this point in time, the Service is unsure of the overall effect of the proposed improvements in environmental control. The Service agrees that such proposed environmental controls may lessen the impact of mining activity on the fish and wildlife resources; however, we

140 There are no threatened species, with the possible exception of the grizzly bear, in the Northern Great Plains Coal Province. Therefore, we suggest this paragraph be omitted and replaced with the following sentence:

"With the exception of the grizzly bear in some remote parts of western Montana and Wyoming, there are no 'threatened' species in the Northern Great Plains Coal Province."

165 Correct "Appendix C" to read "Appendix 2."

177 Correct "Appendix C" to read "Appendix 2."

190 Paragraph 2: Rose-breasted grosbeak is misspelled.

191 There is no reference to endangered species occurring in this province. We suggest the following sentence be added after Section G:

"Endangered species found in this coal province that may possibly be encountered on Federal coal lands here are shown in Appendix 2."

d. Interior, Gulf and Eastern Provinces

The text describing the wildlife aspects of these three provinces is even more sketchy and brief than that contained for the western and northern provinces. No mention is even made of fishes in the eastern provinces where an extremely rich fauna exists in both coal and warm water habitats. The productivity of these three provinces is much greater than that of the Pacific Coast, Alaska, the Rocky Mountain or the Northern Great Plains provinces.

Part III, Probable Impact to the Proposed Action

Page #	
1	Paragraph 2: We question the statistic that 58 percent of the land disturbed through 1974 in the 14 Western States has been reclaimed.
3	Table heading "Number of States" appears to be inappropriate. It probably should read "Number of Leases Within Each State."
4	Paragraph 2: Should point out that in spite of the current laws that govern surface mining reclamation there is still

do not agree that the overall impact of mining will be beneficial to wildlife. We suggest the second sentence be changed as follows:

"However, adoption of the proposed improvements in environmental control will lessen the overall impact to wildlife and may, in some instances, actually benefit some species of wildlife."

Last Paragraph: The word "beneficial" should be struck and replaced with the words "less detrimental".

12 Paragraph 1: The last part of this paragraph should read:

". . . hance, overall impact may, in some instances, actually benefit some of species of wildlife".

13 A statement should be included at the end of this section that points out that increased access to remote areas will also affect wildlife species as well as increase erosion and stream siltation.

14 Paragraph 1: Should be clarified to point out that a well designed and executed soil preservation and reconstruction plan will result in a lessened impact on the natural environment as compared to previous regulations. There will be new opportunities for man to improve the soil characteristics in the strip-mined areas. These exceptions are eluded to in the second paragraph but should be clarified.

15 Paragraph 1: Should also include reference to soil microorganisms.

17 The final paragraph should again clarify that the proposed regulations will result in a lesser degree of detrimental impact than the former regulations.

19 Paragraph 1: The sentence referring to air pollution should read as follows: "The required regrading and revegetation of surface-mined area should result in a decrease of air pollution relative to the old regulations by eliminating or minimizing. . . ."

22 Paragraph 2: This statement should be enlarged upon as even in the most arid regions of the West there is periodic heavy runoffs where contamination of perennial downstream areas can cause quite drastic consequences.

Paragraph 3: Should read "Moreover, benthic organisms and their firm rocky substrate that is vital to their production can be smothered by silt and sand . . . ."

24 This section should also discuss the need for coal exploration activities to recover all coal resources under a particular surface area or delay development of that area until the technological and economic situation would allow for recovery of 100 percent of the usable coal. This would be the ultimate in resource conservation.

26 It should be clearly stated in this section that post-mining-reclamation goals are to be clearly established prior to any lease activities. Both State and Federal surface management agencies, and other appropriate Federal Natural Resource Management Agencies with Congressional mandated responsibilities and the public of each State should be intimately involved in the development of such reclamation goals. These goals should be stated in implicit terms so that the mining industry can develop a reclamation plan that can accomplish those goals. It should also be clarified in this section as to how higher land uses will be determined and who will be determining these categories. The last statement on this page outlines a massive loop hole in the regulations.

31 The entire paragraph should be rewritten as follows: "By requiring compliance with Section 106 of the Historic Preservation Act and Section 2 (b) of E.O. 11593, before ground disturbing activities are permitted, the new regulations will limit the destruction and result in lessened impact on national historic and cultural resources." The way the statement is written now implies that minerals and cultural resources will be benefited rather than that this revision will simply reduce the impacts.

IV. Mitigating Measures

Page #

There is nothing in this chapter to give notice that FWS or State fish and game agencies will or should have any role in development of fish and wildlife mitigating measures. Earlier comments on specific proposed standards such as TR/EA and operations and mining plans apply as to where the Service believes the States and the FWS have a viable input in the early and continuing stages of mining activity.

19 Line 3 should be changed to read "* * * and will result in decreased adverse impacts * * *"

Line 6: Should be changed to read " * * * will provide immediate reduction of adverse impacts and will themselves cause few additional adverse impacts to the natural environment; the reduction in adverse impacts should increase with time."

3 Paragraph 3: The first sentence should read "There are many aspects of the proposed regulations that will encourage consideration of land stability and usability after mining." The chapter on mitigating measures, as is the case with most of this entire ES, is so general and "floppy" that little can be said without an entire rewrite of the section.

V. Probable Adverse Environmental Effects Which Cannot Be Avoided

Page #

1 Paragraph 1: "May" should be changed to "will" in line 5.

Paragraph 3: Should begin as follows: "The major new adverse effects * * *"

VII. Irreversible and Irretrievable Commitments of Resources

Page #

1 Paragraph 1: We believe that administering the regulations will require an increased number of fish and wildlife biologists and other natural resource specialists, in addition to mineral and mining specialists. We suggest the sentence be modified as follows:

"* * * mineral and mining specialists, fish and wildlife biologists, and other natural resource specialists for such * * *"

Paragraph 2: The second sentence should read: "The demand for these employees could cause expansion and changes in the training programs offered by schools of mining engineering, physical science and natural resource specialists.

3 Paragraph 2: The second half of that sentence should read as follows: "* * * it is not anticipated that the change in regulations would result in any additional irreversible land use changes."

VIII. Alternatives to the Proposed Action

3 Paragraph 2: This section should be clarified as the proposed regulations already provide for Federal surface management agencies to declare areas as unsuitable for mining. It should

point out what the result of very large stringent or more specific requirements would be. An additional sentence should be added after the first sentence, "Environmental safeguards and standards would be increased and therefore the adverse impacts of a mining operation would be lessened to a greater degree."

4 Paragraph 2: The statement "* * * to the maximum extent practicable" needs to be clarified and defined. Practicable in whose judgment and with what limitations--economic, environmentally, socially.

United States Department of the Interior

BUREAU OF OUTDOOR RECREATION
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
DES-75/53

NOV 24 1975

Memorandum

To: Director, Bureau of Land Management

From: Director, Bureau of Outdoor Recreation

Subject: Draft environmental impact statement on the Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211)

We have reviewed the draft environmental statement in accordance with the memorandum from Geological Survey of October 1, 1975, and have the following comments to offer.

General Comments

The regulations should include some independent discussion of public recreation. Specifically, we recommend that the final regulations include a Section 3041.0-7(i) that ensures the protection of recreation resources in the same manner as the three preceding sections, which address historical values, visual resources, and fish and wildlife.

The quality of maps is generally poor. Additional maps showing greater detail should be included in the final statement to allow clear delineations of areas effected by the proposed management guidelines and regulations.

Specific Comments

On page I-1, the draft statement indicates that 530 existing coal leases on public and acquired land cover 781,400 acres; 183 outstanding preference-right lease applications cover 496,000 acres; 110 prospecting permits cover 177,000 acres; and 29 existing coal leases on Indian lands cover 260,400 acres. The net effect of these existing coal options is to remove 1,694,800 acres of public lands from effective resource and land use planning, including recreation. At present there is no limitation on the length of time a lease can be held before the lessee acts to develop active mining and exploit the coal resource. However, because of the lease, the Federal land manager is prevented from effectively planning either short-term or long-term use of the land for recreation or other resource values.

We suggest that the Department of the Interior institute procedures requiring timely and diligent development of lease lands in the current revision of surface management and coal mining regulations. One means might be to require submission of a mining plan on lease lands within 5 years after leasing and to require work to begin within another specified period, perhaps 2 years.

Existing leases could be phased through such a program, beginning with the oldest leases first and using the Energy Minerals Allocation Recommendation System (EMARS) to determine the number of leases entering the program, until such time as new leasing would be required. These requirements for timely and diligent development of new and existing coal leases would allow land managers to plan short-term uses of lease land effectively and to estimate more accurately the date when lease lands would be reclaimed for recreation or other uses. It also appears that these requirements would enable the EMARS program to assess and regulate the role of Federal coal resources in meeting national energy demands more accurately.

On page V-2, first paragraph, it is stated that the proposed regulations could contribute to unemployment in the coal industry. Section V, should also mention that these regulations will offer some economic benefits since the numbers of mining specialists who will be required will reduce unemployment incrementally.

On pages VII-1, the second paragraph deals with impacts of the regulations. It would be more appropriately placed in Section V, Impacts of the Proposed Action.

There is a duplicate Chapter V. after the Appendix which should be deleted from the final environmental statement.

2

2

Subpart 3041.0-6 Coal Leasing (pp. I-7, I-8, and IV-3) covers procedures for classifying lands as suitable or unsuitable for coal mining by the Bureau of Land Management or other land managing agencies on their own motion. However, it does not make it mandatory for these agencies to initiate such a program to provide adequate acreages of land for leasing so as to minimize the time required to get leases into production. The actions required to get land classified for coal leasing under the proposed regulations will most likely be very time consuming. The cost of preparing an application for a coal lease under the proposed regulations, subparts 3041.1 and 211.10 will be time-consuming and costly. If the application should be for lands not already classified as suitable for coal leasing, it is subject to subpart 3041.2 - Technical examination/environmental analysis - adding further delay to issuance of a lease with the possibility that part or even all of the area applied for may be denied. If environmental groups become involved under 3041.5, delays become insurmountable and costs become prohibitive.

Even if no roadblocks develop to the issuance of a coal lease, the operator will have to comply with many more requirements than in the past, involving professional expertise not previously needed. This will add considerably to the time and cost of eventual production. Some saving in time and costs, by standardizing maps and reports or statements as required under 3041.1 and 211.10 so that duplicates can be furnished to each agency rather than each requiring its own tailormade version.

Under subpart 3041.0-7(f)--visual resources (p. I-17)--this leaves much to be guessed at. It should be more specific as to what is meant by visual resources in the planning, design, and construction of facilities.

On page I-18, the last paragraph under subpart 3041.0-8--use of surface does not quote 3041.0-8(b) accurately and is confusing. Some confusion may be eliminated by changing the word "other" in the third line to these. This subpart does not recognize that surface mining, during its duration and afterwards, until vegetation has been satisfactorily established on the reclaimed land, must be an exclusive use and will interfere, to the extent of the mining lease area, with any other use of the land. Consequently, this subpart, as it presently stands, could exclude surface mining on any public lands, national forest lands, or other Federally-controlled lands on which grazing permits, leases, or other authorized uses are located. This includes practically the whole of the Federal lands containing coal resources.

Subpart 3041.7 - Notice of Noncompliance: Revocation in subpart (b) as given on page I-23 is misquoted and should be corrected. However, the subparts 3041.7(b) and (c) may be ambiguous as written. As presently written in both sections the threat of "immediate, serious or irreparable damage to the environment, resources, health and safety of employees and the public," says the threat must be to all collectively before the authorized officer may take action. If the threat need be to only one of them it should be so stated by adding after "public," or to any one of them.

OFFICE OF THE DIRECTOR

United States Department of the Interior

BUREAU OF MINES
2601 E STREET, NW.
WASHINGTON, D.C. 20241

In Reply Refer To:
EBM - MPRD
DES 75-53

November 26, 1975

Memorandum

To: Director, Geological Survey
Jogsutp

Through: Assistant Secretary -- Energy and Minerals

From: Director, Bureau of Mines

Subject: Draft environmental statement, Department of the Interior, proposed surface management of Federally-owned coal resources (43 CFR, Part 3041) and coal mining operating regulations (30 CFR, Part 211)

The Bureau of Mines Field Operation Centers have reviewed the subject environmental statement and the regulations pertaining to coal leasing and mining of Federally-owned coal.

We are in full agreement that the natural environment, consisting of land, air, water, floral and fauna habitats, and archeological elements should be given full protection and saved so long as efforts to that end do not threaten to destroy our socio-economic environment. Power is the life blood of our present socio-economic environment. Without adequately available supplies of power to meet the growing needs of our socio-economic environment at nonfinitionary costs the environment will collapse. Present world conditions have forced us to turn to our coal resources to supplement our dwindling supplies of oil and gas. This means that many, if not all, powerplants constructed in the next 15 to 20 critical years will be coal burning plants, but only if the coal is available for the planned life expectancy of the plant. Conversely, the coal reserves which we presently have in abundance will not be developed and produced in the large tonnages required to meet our power needs unless there is a guaranteed market--meaning powerplants. So, the two are interdependent and any action which curtails development of one of them--either coal or powerplant--will have a depressing effect on the other. The results will be a shortage of much needed power. Consequently, the actions which are taken to protect the natural environment must not be permitted to suppress the growth and development of our socio-economic environment.

3

On page III-4, second paragraph, the statement on "legal measures . . . "to check the proliferation of surface mining activity" is a very negative statement and raises the question as to whether this could be the purpose of the subject proposed regulations. We hope not, and suggest that the last part of the quotation be changed as follows: "to promote reclamation of surface-mined lands."

On page V-2, first complete paragraph, reference is made to increased costs of coal resulting from compliance with these regulations. The costs are unrealistically minimized while natively suggesting that producers might absorb the costs from their profits. It is also stated that the cost "is not expected to be more than a small percentage of the total coal price." Considering that the price of steam coal has gone from a high of about $8 per ton in early 1970 to as much as $40 per ton in 1975, this expectation appears ridiculous, particularly in view of the estimates of increased costs to operators, given on pages VII-1 and VII-2, of $1.5 to $3.0 million for the first 2 years the regulations are in effect. It appears that attempts have been made in the statement to minimize the increased costs to the Government as well as to industry.

The argument presented in Chapter VIII, pages 1 and 2, is true that the existing regulations which do not contain operating and reclamation standards and which give wide discretionary powers to authorized officers and the Area Mining Supervisor can result in delineation and enforcement of requirements which are not necessarily uniform. However, the natural environmental conditions throughout the seperate mining regions or within specific mining regions are not uniform and should be given individual attention to provide the most efficient, all around protection. This is the reason that professional people are used to manage the Government's interests in Federally-owned land and minerals.

Enclosed is a section-by-section review and suggested changes to improve this generally well prepared report.

Acting Director

Enclosures

REVIEW

Summary Sheet, Paragraph 3, Impact H. -- Delete the word 'Slightly"; it is indefinite. Add "and the Federal Government".

Preface, last page, top paragraph: - Suggest rewording of last line as follows: protection for slopes, for reclaimed highwalls, and for spoil areas; standards for pit backfilling, for topsoil removel and storage, and for the impoundment of water; and assurance of successful revegetation as a responsibility of the operator.

Page I-1 - The affected area and estimated recoverable coal reserves within existing leases, permits, and applications are adequately summarized here and in following sections on individual coal provinces. Similar, even though less precise, estimates of all-Federal lands designated as "Known Coal Leasing Areas" and potential leasing areas should be included in a State-by-State or field-by-field tabulation. Estimates of the overburden or mining ratios, gross value of coal "reserves, and incremental values of mining costs resulting from the proposed action should also be included. An appended table would be the best format for this information.

Page I-2, last sentence and continuing on page I-3. Exploration by drilling in areas where any structural complexity at all exists can have the location of the next hole dictated by the results of the hole being drilled. There should be provisions in the regulations that the detailed exploration plan can be altered to accommodate such circumstances. Otherwise, under strict interpretation, either a new plan or formal change order could be required for each deviation from the original plan or to gain the required information for a mining plan, unnecessary drilling might be done that would not be necessary if provision were made for altering the plan on the basis of geologic interpretation and engineering judgment as exploration drilling progressed.

Page I-3, line 9: - "integral" misspelled.

Page I-4, first paragraph, last line - suggest "The proposed subpart 3041 now sets forth a policy requiring protection of private surface, where the coal is federally-owned, at least equal to that provided under a federal ownership.

Page I-8, first line: - "tracts" misspelled.

Page I-9, first line: - suggest rearrangement -- materials; reclamation by replacement of soil, revegetation, etc.

Page I-8, line 4: - "of" misspelled.

Page I-8, line 17: - delete "to the".

Page I-10, line 10: - "en" misspelled.

Page I-10, lines 19 & 20: - suggest and maintain a cover of quick-growing plants in order that the topsoil is preserved, etc.

Page II-11, line 17: - suggest "of" be replaced by to.

Page II-12, line 18: - "them" misspelled.

Page II-13, line 24: - delete "such".

Page II-18, line 23: - delete "is".

Pages I-18, 19, and 20. Applications and Preliminary Plan. Here again, the intent is diametrically opposite to the concept of Prospecting Permits as intended under the Leasing Laws. Prospecting Permits are for as the name implies: prospecting. Prospecting does not usually lend itself to preplanning nor to a large proportion of people who prospect.

The requirement of a Preliminary Plan that sets forth the "proposed location of surface and subsurface exploration sites, such as pits, seismic lines, drill holes, trends, surface or underground mine workings" is not good engineering practice. Such a requirement pre-supposes that geologic features necessary for planning are already known.

Page I-20, paragraph 3, line 4: - "bonding" misspelled.

Page I-20, paragraph 3, line 5: - delete one of the "standards".

Page I-25, line 7: - delete "but".

Page I-25, l., s. Coal lands, both surface estate and coal, will come into private ownership under the Alaska Native Claims Settlement Act. The provision cited here needs as if these coals will remain under Federal regulations. Is this correct?

Pa ge I-27, 5., s. Misleading as to what the Mining Supervisor is authorized to do under the "General Mining Orders."

Page I-30, Maps and Plans. There is a conflict in wording between plan requirements as described here and on pages I-2, I-3, and pages I-18, 19 and 20. ". . . outlining each progressive phase of the operation . . ." is a far cry from ". . . describing in detail the operations to be undertaken . . ." Outlining makes sense for a preliminary exploration map with a generalized map drawn as exploration proceeds. If development follows exploration, a detailed map could probably be drawn beforehand but even here provision should be made for deviation caused by unforeseen circumstances. Then a mine operating plan can be prepered.

Page I-30, line 11: - suggest 'applicable' be replaced by responsible.

Page I-31, line 12: - "Methods of hole abandonment" is not covered in subpart 211.21 but is covered in subpart 211.41.

Page I-33, line 6: - the subpart on royalty should be (211.61) not (211.60).

Page II-1 - The description of the geology of the Pacific Coast Coal Province, although very generalized, is adequate for the scope of the report. Coal terminology (e.g., "B - bituminous") should be defined in a glossary or table which relates the type and rank of coal to typical ranges of proximate analysis. These comments also apply to discussions of other coal provinces in the dreft environmentel statement.

Page II-4, line 16: - delete 'in', stert sentence with The.

Pages II-6, 9 - Coal deposits of southeastern Alaske and the Penhendle are discussed in the text but are not shown on Figure 2.

Page II-8, fourth sentence. ". . . 85 feet of lignite in the Seward district." This should be: ". . . 85 feet of lignite in the Seward Peninsule district."

Page II-9, first paragraph, second and third sentences. These should read" . . . lignite to bituminous in the Susitna field and to anthracite in the vicinity of thick sills intruded into the Chickaloon Formation of the Matanuska field. Thicknes ranges from as much as 23 feet for high-volatile bituminous coal in the Matanuske field to more then 50 feet of lignite in the Susitna field."

Page II-10, third complete sentence, is not true. A suggested rewrite of the second and third sentences follows: "Much surface and underground prospecting has been done in the Bering River eras but no comercial mining has resulted."

Page II-10, Topography, fourth sentence. The Kuskokwim Mountains are not considered a mountain range. A suggested change follows: "These include the Brooks, Aleutian, and Alaska Ranges.

Page II-10, Topography, fifth sentence. This sentence is not true. The relationship of the coalfields to the mountain renges hes elready been given so this sentence can be eliminated.

Pages II-10, 11 - The narrative treatment of "Climatology" is superficial. Presentation of climato/ogical dete in the form of maps and tables would be preferable.

Page II-11, last sentence and continuing on page II-12. Two sentences begin the same--typographical errors?

Page II-12 - The qualitative treatment of 'Hydrology' is inedequate. The discussion should be supported by tabulated dete on weter quality end quentity for each coal province.

Page II-14 - The tabulated soils dete (Table II-1), and stmiler tables for other provinces, should include references to pedological classification as well as the "Unified" engineering classification. Generalized soils meps of each coal province would be eppropriate.

Page II-21, line 18: - "rush" should be musk.

Page II-23, first paragraph, second sentence. Alaske's current population is estimated at 350,000 and the 1970 census places population at 300,382.

Page II-23, lines 6-20 - These lines should be deleted from Chapter II and placed in Chapter I, Descriptom of the Proposed Action.

Page II-24, C., first paragraph. This apperently refers to the Arctic Coastal Plain, only. The Northern Coalfield extends into the northern foothills which have relief of as much as 2200 feet and averages about 600 feet.

Page II-25, line 7: - delete "and includes trails, roads, structures".

Page II-25, line 20: - So that the statement will imply facts, delete the words "and interesting".

Page II-30 - Rocks of the "Balt Series" (Belt Supergroup) should be identified with their late Proterozoic age to be consistent with the identification of other rocks by age only.

Page II-45, line 22: - "principel" misspelled.

Page II-71, line 1: - To express fact, not opinion, delete the words "of greater public interest and/or value".

Page II-77, line 9: - insert end between "with" end "at"

Page II-92, line 7: - The word "center" is confusing; delete.

Page II-92, lines 9-10: Delete the sentence "Existing, discernible ethnic minority groups are factors to be considered in environmental analyses before coal development." It does not describe the environment.

Page II-93, line 8: - "Overlend" misspelled.

Page II-96, lines 2-4: Rewrite the sentence so it will read "The Rocky Mountain and Northern Great Plains Coal Provinces include part or all of nine States in which are parts of four different prehistoric culture areas."

Page II-101, line 18: - question use of word "enteric"; suggest interior is more apropos.

Pages II-102 & 103: - The last paragraph starting on II-102 end completed on II-103 is a repetition of the paragraph on page II-100. Suggest one of them be deleted.

Page II-108, line 2: - insert comma between "Lebo" end "Tongue".

Page II-110, lines 10 and 12: - The term "O" bed is not commonly used in the literature; however, the Wyodak coalbed hes often been referred to as the Smith-Roland coalbed.

Page II-113, line 18: - "kt" should be es.

Page II-120, lines 6-8: - Delete the sentence; it is repetitive.

Page II-153, line 11: - "horizontal" misspelled.

Page II-159, line 2: - suggest "515" should be 5.58.

Page II-165, line 12: - "sheke" should be snake.

Page II-168, line 2: - "At" misspelled.

Page II-173, line 11: - "boundant" should be abundant.

Page II-173, line 21: - "fo" should be of.

Page II-182, line : - "flat and dip gently to the west." is incorrect. The surface dips gently to the west, but the formations dip toward synclinal axes trending northeast-southwest.

Page II-183, lines 18 & 19: - The source of the figures given is not indicated. However, information contained in Bureau of Mines I.C. 8680, the Reserve Base of U.S. Coals by Sulfur Content, Part I-The Eastern United States and data contained in the Bureau of Mines Energy Data Bank show the number of coalbeds with a reserve base of bituminous coal to be 24, not 19, in Pennsylvania, and 12, not 117, in West Virginia. Also, last line, "bale 11" seems to be missing.

Page II-190, line 9: - "deer" misspelled.

Page II-190, line 19: - "mild" should be milk.

Page III-1, line 5: - the figure "778,000" should be either 779,000 or 778,307 as shown in Table III-1.

Page III-1, line 9: - Revise the clause "and an additional 496,000 acres encumbered with rights that could lead to leasing," to read "and rights were held on an additional 496,000 acres that could lead to leasing.

Page III-2, line 18: - "issued" misspelled.

Page III-3, Table III-1: - The figures in column "Number of States" in the Rocky Mountains and Northern Great Plains section do not total to the sum of the leases cited for these 2 provinces - Rocky Mountain Province, 301 on page II-27, and Northern Great Plains Province, 103 on page II-104, totaling 464, not 463 as shown in the table, which results in a grand total 329 instead of the "330" shown in the table and cited throughout the Statement.

Page III-4 and VIII-11: - Texas passed laws regulating surface mining of coal and uranium in 1975 which became effective in 1976.

Page III-5, lines 6-8: - The statement is argumentative because the States of Montana and North Dakota are believed to have the most stringent laws. The New Mexico law is believed, by some, to be classed with the above 2 States. It is suggested that this paragreph be revised to avoid controversy.

Page III-6, lines 11-23 and 7, lines 1-2: - Revise these 2 paragraphs, because laws were passed in both California and Utah.

Page III-9, line 4: - Water impoundments also are often created by surface mining.

Page III-9, line 13: - Alaska was admitted to the Union on January 3, 1959.

Page III-14, line 2: - suggest adverse be inserted between "the" end "impact".

Page III-14, line 15: - suggest "successful" be replaced by the best.

Page III-21, line 16: - change "essential such" to such essential.

Page III-25, line 12: - suggest comma efter "plans".

Page III-25, line 16: - suggest "such" be deleted.

Page III-25, line 22: - suggest delete "As with the other aspects of land use described above," end substitute Accordingly.

Page III-26, line 3: - "changes should be chances.

Page III-26, line 24: - "211.3(f)(3)" should be 211.40(e)(3) and "3041.2 to 3" should be 3041.0-7(a).

Page III-28, first peregreph. Wherever exploration and mining plans are discussed together, things become confused. Here it is stated:

"Some of the data which will be required for an adequate plan may not be available or may be insufficient." How can an operator be expected to furnish in a preliminary plan data which "may not be available or may be insufficient." Why is "(over 2 years)" picked as a prolonged amount of time? This seems to be a comparative statement of with end without the regulations in which case isn't there a production curtailment whenever implementation of the regulations consumes time--be it 2 days or 2 years?

Page III-28, line 12: - suggest "smell" be deleted.

Page III-28, line 18: - suggest "An" be changed to any end "smell" be deleted.

Page III-28, line 20: - suggest "slightly" be deleted.

Page III-29, first paragraph. It seems reasonable that marginal producers may be closed as a result of the regulations but it does not seem reasonable that the "marginal producers" are all "small operators."

Page III-29, second peragraph, first sentence and second sentence. This reasoning certainly isn't valid in light of the previous paragraph, i.e., if a mine is closed with its attendant layoff of miners, reduction of service and support industries, etc., this is certainly a short term impact. Granted "human estituces end habits" can change slowly but when a person's livelihood is involved, they can also change very rapidly in reverse of the change indicated here.

Page III-29, second peregreph, last sentence. The reasoning of the example is sound but by itself is a topic point of view that doesn't look at the other side of the coin. Items on the other side of the coin might be: brownouts or outages caused by utility fuel shortages, mining prohibited because technology not at hand to re-established vegetation, overall reclamation requirements that are prohibitively expensive and energy consumptive, exorbitant consumer power bills because of increased fuel costs to utilities, etc. Admittedly, these are opposite extremes, but they are possibilities that should be mentioned along with the ideal depicted.

Page IV-3, line 6: - delete "will occur".

Page IV-3, line 18: - suggest insertion of some between "permit" and "modification".

Page IV-3, line 19: - suggest deletion of "of to" and insert in.

Page IV-4, line 15: - "or" should be of.

Page V-2, line 6: - suggest "locate" should be relocate.

Page V-2, lines 11-12: - The clause 'and could afford to pay for them.' should be deleted.

Page V-2, line 15: - Delete the word 'somewhat' because it is indefinite.

Page V-2, lines 36-37: - Delete the sentence "This is not expected to be more than a small percentage of the total coal price." The sentence is misleading.

Page V-2, line 25: - Change the word 'will' to 'may'.

Page V-2, line 26: - Change the words 'would' to 'could'.

Page V-3, line 2: - suggest after 'intended', add is accomplished. Change 'would' to 'could'.

Page V-3, line 23: - delete comma after "regulations" and 'particular'.

Page V-4, line 12: - "environmental" misspelled.

Page V-1, line 2: - "been" misspelled.

Page VI-2, last paragraph. This theme has been presented elsewhere as well as here, i.e., by regulation, the promotion of big business at the expense of the little guy. Such promotion, even if true, which it probably is, has no place in a Government publication.

Page VIII-1, line 9: - "down-drip" should be down-dip.

Page VIII-1, line 12: - "compiled" should be compiled.

Page VIII-3, line 9: - "regogty" probably should be effort.

Page VIII-4. It is difficult to follow the reasoning of how "a broad de facto relaxation of performance requirements" happens under "More Specific, More Stringent Requirements."

Page VIII-8, line 12: - suggest "reachable" be changed to obtainable, "they" be changed to these and "proposal" be changed to proposed.

Page VIII-8, line 13: - suggest sentence be ended these regulations are cited above.

Page VIII-8, line 19: - suggest deletion of "tend to".

Page VIII-9, line 12: - Define "The Eastern Mining Region".

Page VIII-9, lines 13-24 and 10, lines 1-6: - Revise this paragraph to reflect fact, not opinion. Many people believe that Montana and North Dakota have the most stringent laws.

Page VIII-11, lines 7-8: - Define "Central Mining Region".

Page VIII-11, lines 8-18: - Change the word "Four" to "Three" on line 8, and delete all reference to Texas because Texas has a mined-land reclamation law.

Page VIII-11, lines 19-24: - Revise this paragraph to show 100 percent of the surface mined coal in the Region.

Page VIII-12, lines 6-14: - Revise this paragraph to show that Texas has an adequate law that will not require updating in the near future.

Page VIII-12, lines 7-20: - Revise these two paragraphs to delete any reference to the States of California and Utah, which now have mined-land reclamation laws.

Page VIII-14, lines 3-13: - This paragraph is misleading because most of the western States have mined-land reclamation laws that are enforced on Federal and Indian lands. The paragraph should be revised so to reflect.

Page VIII-14. The Alaska Mining Region. The statement that "much of the land underlain by coal is Federally owned or controlled . . ." is true but only because most of the reserves are in Northern Field in Petroleum Reserve No. 4 and an area west of Petroleum Reserve No. 4. Even here, most of the reserves outside of Petroleum No. 4 have been selected under the Alaska Native Claims Settlement Act and eventually will come into private ownership. Otherwise, most of the remaining known minable coal reserves and the only operating mine are on State lands or State selected lands.

Only the first paragraph under The Alaska Mining Region specifically applies to Alaska. The remaining paragraphs should have another heading.

APPENDIX 3 - Update to show those States that recently passed mined-land reclamation laws. States other then California, Texas, and Utah may have passed laws. Also, recent revisions could have been made in laws or regulations. For example, Colorado is currently revising its regulations.

Comments on the regulations as they appeared in the Federal Register Volume 40, No. 173 - Friday, September 5, 1975, follow:

1) A number of terms are defined either only in Subpart 3041 (3041.0-5) or only in Part 211 (211.2). These include Director, Division Chief, Logical mining unit, Overburden, Preliminary plan, and Preparation. The close and even interlocking nature of the two sets of regulations will result in their being most commonly read together. It would seem advisable, therefore, for them to have a common set of definitions. Particular problems now exist in regard to "Director," defined only in Part 211 as Director of the Geological Survey, but which term appears undefined in Subpart 3041.0-6(c) where it almost certainly means Director of the Bureau of Land Management, and "Overburden," defined only in Subpart 3041, but used in Part 211.4(f), 211.10(c)(5)(iii), 211.10(c)(6)(iii), and 211.40(e)(3);

2) The term "Topsoil" should be defined further so that both operators and regulatory personnel will have a more precise knowledge of which natural earth materials are included;

3) The term "Valley floors" should be modified by deleting reference to "ephemeral" streams. Virtually any drainage area in the U.S. might be construed to be a channelway, floodplain or adjacent low terrace of some ephemeral stream.

Under "Specification (sic) Provisions of 43 CFR 3041," the explanation of Subpart 3041.0-6 includes a generalized reference to consultation with landowners. Scrutiny of Subpart 3021.0-6 (and parallel) section 211.62) indicates that consultation with surface owners other then the Government before termination of an operator's period of bond liability is specifically intended. Surface owners typically have a vested, rather than an impartial interest in the condition of land to be returned after bond release. The consultation procedure outlined could readily be used to thwart objective decision-making in determining adequacy of reclamation in accordance with previously approved plans and to obstruct release of bonds. Because surface owners already possess legal remedies to prevent the precipitate or inappropriate release of bonds by Federal officials, we recommend this consultation procedure be deleted.

Under "Specification Provisions of 43 CFR 3041," we note in regard to the explanation of Subpart 3041.7(b) that:

1) The description of the Federal personnel authorized to order the immediate cessation of mining activities in emergency situations is not sufficiently clear in this summary. After first referring to "the authorized officer" who is carefully defined later in both Subpart 3041 and Part 211, it then rekes reference to "any authorized representative of responsible agencies of the United States." This could be interpreted to be any authorized representative of a Federal surface managing agency, not just the "authorized officer." Conceivably, this could also be construed to give extended cessation authority to authorized representatives of Environmental Protection Agency, Fish and Wildlife Service, Mining Enforcement and Safety Administration, Occupational Safety and Health Administration, etc.;

2) Even if more clearly defined to specify "the authorized officer," it would be extending cessation powers to personnel not now formally exercising this authority. This would disperse regulatory enforcement authority among agencies and obfuscate operator responsibilities;

3) The causes for which even "the authorized officer" would be empowered to order cessation of mining seem excessive. Health and safety of employees is a legitimate concern of the Mining Enforcement and Safety Administration which has statutory authority for this. The phrase "resources," for whose protection an authorized officer is also permitted to issue cessation orders, is so broad as to grant virtually unlimited stoppage powers to surface management agency personnel. At a minimum, this term should be defined in a more specific and limited sense.

Under "Specification Provisions of 43 CFR 3041," the explanation of Subpart 3041.0-7(c) seems to place within the hands of any authorized officer of a Federal surface management agency a seemingly excessive power to impose arbitrary restrictions on mining activity. The authority to impose additional and more stringent requirements upon a mining operation would be best concentrated in a single officer within a surface management agency, such as the Director of the Bureau of Land Management (or Director of Forest Service if this is intended).

In Subpart 3041, we have these more specific comments:

1) The meaning and extent of the "environmental impact assessment" referred to in 3041.0-6(e) should be explained;

2) Subpart 3041.0-7(b)(1) is not sufficiently specific, and may be difficult for both Federal authorities and operators to interpret and implement. On the one hand, regulatory authorities could interpret maximization of resource recovery to require operators to mine to unreasonable, i.e., uneconomic, depths to remove additional seams or to strip excessive thicknesses of overburden to reach additional coal. On the other hand, an operator could contend that nonextension of future

coal extraction and minimization of future disturbance could be best served by not backfilling the last cut. This comment also applies to Part 211.40(e)(1);

3) Subpart 3041.0-7(b)(5) lacks specificity and is in part unclear. It is important that standards for minimum thickness of topsoils be developed and stated. Both operators and regulatory personnel need more precise guidelines under which to proceed. In addition, as written, the last sentence of this provision could be interpreted to mean that where topsoil is of insufficient quantity and other strata more suitable for vegetation available, all of the topsoil must be substituted for and none used. These comments apply as well to Part 211.40(a)(5);

4) Subpart 3041.0-7(b)(16) is unnecessarily rigid in forbidding the use of introduced species except as an interim measure. This is a self-defeating restriction. If better long-term vegetation consistent with the area and successive use can be obtained by means of introduced species, then this should be permitted. At the very minimum, limited experimental use of introduced species should be allowed. This comment also applies to Part 211.40(a)(16);

5) Subpart 3041.0-7(c) seems to indicate that there can be two authorized officers of federal surface managing agencies at the same time. This begs the question of whether both could, as seemingly indicated in the previous explanation of Subpart 3041.0-7(c), impose additional and more stringent requirements upon a mining operation. Some clarification of this provision and its explanation is desirable, perhaps by indicating that the first authorized officer mentioned in Subpart 3041.0-7(c) is the BLM authorized officer, and only he or another officer of this agency can impose additional requirements;

6) Subpart 3047.0-7(e)(1) requires the use of "feasible known" technology to prevent or control subsidence. It is not clear if this phrase means commercially available technology. This provision might better be rewritten to embrace the test of "maximum extent practicable," for which term a definition is already provided. This same comment applies likewise to Part 211.3(a);

7) Subpart 3041.0-7(e)(2) requires the leaving of sufficient coal underground to "assure" surface stability. The art of subsidence prevention has not advanced to the stage where the leaving of anything less than 100 percent of the coal can "assure" surface stability. This term should be modified to meet practical considerations. This comment applies also to Part 211.3(b);

8) The term "tailings" in Subpart 3041.1-1(e)(1) is not often used in coal mining and is not included in the definitions. It should either be deleted, replaced or defined.

9) The phrase "or for such other period as advisable" in Subpart 3041.8 is too vague, and could be construed to extend almost indefinitely. Some maximum period of time for required advertising should be stipulated;

10) In addition to our previous comments on Subpart 3041.7(b) under "Specification Provisions of 43 CFR 3041," we note here that an authorized officer of a Federal surface management agency is required only to notify a Mining Supervisor "promptly" after ordering a cessation of mining activities. "Immediately" or "immediately by telephone" would be more appropriate requirements.

11) Subpart 3041.4 refers to 30 CFR 3504 (3504.5-1). This must be revised and updated. The minimum and maximum must be increased to reflect present operation conditions.

In Part 211, we have these specific comments:

1) The protection offered by Part 211.5 against public disclosure of privileged or confidential information is inadequate. Some of the types of information listed, such as company trade secrets, ought never to be revealed, rather than being disclosed after termination of a permit or lease;

2) The use of the term "promptly" in Part 211.10(e) allows too much latitude for delay. Operators and others are entitled to the assurance of a decision on submitted plans within a definite time period;

3) The term "promptly" in Parts 211.13(e) and 211.13(f) concerning payment of mapping costs charged to operators should be further defined;

4) Better definition of the term "promptly" is very much needed in part 211.20. The information required to be submitted "upon request" could be extensive and involve considerable time to prepare;

5) The phrase "all waste or rejects containing practically no coal" should be clarified to provide better guidance for identification of the type of waste to be deposited seperately. Perhaps the criteria of commercial usefulness could be introduced.

6) For the sake of obtaining meaningful information, a more precise indication in Part 211.60(c) of what is required of licensees is needed. A simple request for "a correct record" is not adequate.

Note: The text on page II-102, 103 reposts the text on pages II-99, 100 and the meaning of this portion of the text is obscured.

III. Probable Impacts of the Proposed Action

The statement in Chapter III, "Probable Impact of the Proposed Action" is inadequate. On page III-31, impacts to cultural resources are characterized as "beneficial", requiring compliance with Section 106 of the National Historic Preservation Act and Section 2(b) of Executive Order 11593 before ground disturbing activities are permitted.

Short of complete preservation, any impact upon cultural resources is an irreversible and irretrievable commitment of resources. Cultural resources are finite and nonrenewable. Their loss due to any action, including salvage excavation, results in a reduction in the amount of such resources remaining for future examination and is an irretrievable loss of potential scientific and historic information. The National Historic Preservation Act and Executive Order 11593 serve to mitigate the adverse affect of this loss, but do not turn the adversity of loss into a beneficial condition.

IV. Mitigating Measures

For those cultural resource sites that are only discovered during excavation activities, we suggest that the final environmental statement establish that all activity shall then cease immediately so as to permit their evaluation and official decision as to their further disposition. The use of power equipment will no doubt result in the destruction of some cultural resources prior to discovery; however, a conscientious effort should be made to save all such resources as may be possible.

Raymond L. Freeman

United States Department of the Interior

NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
L7619-NQ

Memorandum

To: Director, Geological Survey

Through: Assistant Secretary for Fish and Wildlife and Parks

From: Associate Director, Park System Management

Subject: Review of Draft Environmental Statement on the Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations (DES 75-53)

As requested in your memorandum of October 1, 1975, we have reviewed the subject statement and have the following comments.

I. Description of Proposed Action

The proposed surface management regulations, 43 CFR Part 3041, as issued in the September 5, 1975, Federal Register, should prove sufficient to protect cultural resources. However, we do not agree that operating regulations, 30 CFR Part 211, as published in the same issue adequately protect such resources. Part 211.4(e)(9) is not sufficiently specific to offer sufficient protection. We therefore recommend that under Section 106 of the National Historic Preservation Act and Section 2(b) of Executive Order 11593 using wording similar to that of 43 CFR 3041.0-6(d) which states that leases, permits, and licenses will not be granted without compliance with the above listed legislation when sites on, or eligible for inclusion on, the National Register of Historic Places may be affected.

In regard to 30 CFR 211.10(c), Mining Plans, we recommend that the Mining Supervisor require that the mining plan also contain generalized information as to cultural resources within the affected lands and that operators be required to specify the steps to be taken to comply with applicable cultural resource legislation.

II. Description of the Environment

We realize that references in the text to significant natural and cultural features within this extensive study area are very general and that the commitment to inventory all human resource values prior to assigning lease offerings has been made (see page II-23). We are concerned, nevertheless, by the absence of any direct reference to the National Natural and Historic Landmark programs and request that the existence of these programs be recognized in this section.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Mr. Curtis J. Berklund
Director
Bureau of Land Management
U.S. Department of Interior
Washington, D.C. 20240

Dear Mr. Berklund:

The Environmental Protection Agency, in accordance with its responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act, has reviewed the Department of the Interior's draft environmental impact statement (EIS) for the proposed regulations on "Surface Management of Federally Owned Coal Resources" (43 CFR Part 3041) and the proposed "Coal Mining Operating Regulations" (30 CFR Part 211). As you know, EPA transmitted detailed comments on the proposed regulations to Secretary Kleppe on November 6, 1975. Rather than restating our previously expressed concerns over the regulations, we are enclosing a copy of our earlier transmittal as an appendix to our comments on the EIS. Additionally, a copy of our transmittal in conjunction with the September interagency review is enclosed.

In accordance with EPA procedures, we are assigning a rating of EU-2 to this statement, signifying that EPA believes the regulations to be unsatisfactory from the standpoint of environmental quality and that the environmental impact statement contains insufficient information to assess the full environmental impact of the proposed rules. This determination is made on the basis of EPA's belief that the proposed rules involve a high probability for violation of environmental quality standards (particularly State standards) and the resultant potential for significant environmental degradation which could be avoided by feasible alternatives.

With respect to the adequacy of the EIS, we note the following as outstanding concerns:

1. Description of the proposed rules. EPA believes that several key items contained in the regulations are not adequately described and analyzed within the text of the EIS. Perhaps the most significant among these omissions are discussions and environmental analysis of the terms "maximum extent practicable," "designation of lands unsuitable for mining within lease tracts," and "partial plan,"

2. A mine-by-mine reclamation report assessing the State of the Art of reclamation technology and land management practices should be included in the EIS.

3. A delineation of the coordination between the Bureau of Land Management and the Forest Service, Indian Governing Bodies, and private surface owners with respect to TREA lease stipulations, mining plan approvals, and cessation and abandonment of mining activities should be made in the EIS.

4. In revising the EIS, the expertise of participants in such efforts as the Northern Great Plains Resources Program is a significant potential resource that should be tapped with respect to the viabilities of various alternatives for developing coal leasing and operating regulations.

5. The EIS should explain the relationship between the proposed regulations and the NEARS process.

Again we thank you for the opportunity to provide our comments, and we look forward to working with your staff again in the near future.

Sincerely yours,

Rebecca W. Hanmer
Acting Director
Office of Federal Activities

Enclosures

2. Environmental impact analysis. EPA's review of the regulations revealed several areas where the proposed rules constitute less stringent environmental requirements than either existing regulations or previous regulations proposed. We do not believe, however, that the appropriate analysis of the impacts arising from these less stringent requirements was provided in the EIS.

3. Scope of alternatives. Features of several relevant alternatives such as the January 1975 proposed 30 CFR 211 and the Administration's version of the "Surface Mining Bill" were not presented in the analysis of alternatives. Further, the environmental analysis of the alternatives presented is not complete.

4. Interface between the proposed regulations and related programs. An analysis of the relationship between the proposed rules and the Department of the Interior's coal leasing program (EMARS) is not provided in the EIS.

5. Presentation of available analysis and other comments. The EIS is deficient in its presentation of key resource information such as reports from the Northern Great Plains Resource Program, the Southwest Energy Study, and Project Independence. All of these represent programs in which DOI has actively participated. We also believe that much information is available as a result of the earnest efforts of operators currently engaged in reclamation research.

The enclosed comments detail the specific nature of our concerns with respect to the EIS, however, our foremost objective is to encourage the issuance of regulations that will ensure the efficient recovery of the Nation's coal resources in a manner that will also ensure protection of our environmental resources.

To date, EPA has enjoyed a productive exchange with the Department of Interior Staff during the review of the proposed regulations and EIS. We further pledge to render whatever assistance we can provide in improving the quality of both the regulations and the EIS.

Accordingly, as a start in improving the EIS, we offer the following recommendations for your consideration in preparing the final statement:

1. A comparison between the proposed rules and requirements for performance standards and mining plans currently enforced by the various coal-producing States should be provided in the EIS.

Environmental Protection Agency

Detailed Comments on the Draft Environmental Impact Statement (EIS)
for
Proposed Surface Management of Federally Owned Coal Resources
(43 CFR Part 3040)
and
Coal Mining Operating Regulations (30 CFR Part 211)

1. The EIS inadequately describes the environmental impacts associated with promulgation of the proposed regulations.

The EIS describes the environmental impact of the proposed regulations in terms of 1) decreased disturbance to federal, Indian, and private surface lands in tertiary by Tescrol coal, 2) decreased off-site disturbance during active mining; 3) contemporaneous revegetation and reclamation of mined land; 4) increased benefits to human and wildlife habitat, and 5) more stringent environmental standards built into leases.

The EPA review of both the EIS and the regulations finds that despite the extension in coverage of acreage in the regulations, and despite the placement of performance standards which heretofore did not exist in the BLM regulations, the leasing procedures and performance standards as proposed represent a major weakening of both the existing BLM procedures for licensing and leasing, and the January 1975 proposal of USGS regulations, performance standards, and requirements of mining and exploration plans.

a. The proposed regulations do not provide explicit environmental criteria for designating lands unsuitable for mining within lease tracts whereas the existing regulations do. The EIS discusses this point in terms of promulgating more strict regulations as an alternative to the proposed regulations.

b. The proposed BLM regulations do not require mining plan approval prior to commencement of mining whereas the existing regulations require this approval. The EIS does not discuss this point in terms of the BLM regulations.

The USGS regulations do, however, require an approved mining plan prior to commencement of mining. However, these regulations provide an exception for a partial plan which may be substituted for a mining plan. In this case, mining may commence without an approved mining plan. The proposed January 1975 USGS regulations require mining plan approval and no allowance for partial plans. The EIS does not discuss the allowance of partial plans.

c. The proposed regulations relax certain elements of the performance standard requirements and provide a variance procedure to the approximate original contour based on the concept that the operator shall reclaim to the maximum extent practicable. The proposed January 1975 USGS regulations define more stringent performance standards and reclam-

ation requirements the operator must meet at a minimum, and a procedure of variances and appeals to these requirements through the Director of the BLM and Secretary of Interior. The EIS does not adequately discuss the use of "the maximum extent practicable" as a variance mechanism.

d. The proposed regulations give the Secretary discretion to adopt and apply as Federal law State regulations on Federal lands within the State, at the request of the Governor, if the Secretary, upon review of that State's regulations determines that such application would effectuate the purpose of the regulations, result in protection of the environment, and would be consistent with the interest of the U.S. in the timely and orderly development of its coal resources.

The Mineral Leasing Act of 1920 requires that all regulations promulgated pursuant to the statute shall not be in conflict with State laws and rights, including the right to levy taxes. The existing BLM regulations are silent with respect to reclamation laws, but require compliance with State air and water quality standards. The proposed regulations suggest selective pre-emption. The EIS states that State laws are currently being enforced on existing leases, however, it does not examine those State regulations which are more stringent.

As a result of those key provisions which were relaxed from the existing regulations, EPA believes that the proposed regulations, if promulgated, could result in serious environmental degradation due to ill-defined performance and reclamation standards based on the maximum extent practicable criterion, insufficient mining plan requirements, and potential non-enforcement of State water quality standards on Federal lands. As a result, the regulations could result in the allowance of a polluting discharge from a mining operation both during operation and after ultimate mine abandonment; the allowance of high walls and open pits rather than a return to original contour; the allowance of inadequate waste treatment requirements for mining operations during actual mining; inadequate mine waste disposal, both liquid and solid; and inadequate control of surface effects of underground mining. Finally, selective enforcement of State water quality standards will result in water quality violations and mining in areas unsuitable for mining because of water quality constraints.

These impacts are neither identified nor assessed in the EIS.

II. The EIS inadequately defines the leasing procedures to be followed by the BLM.

The EIS describes permitting, licensing and leasing procedures in the following manner. 1) BLM initially evaluates lands under-lain with

federal coal as to their suitability for leasing and coal development. Included in this evaluation is an environmental assessment of the potential impact of such development on the environment. If the environmental assessment indicates that a decision to issue leases for coal development would be a major Federal action significantly affecting the quality of the human environment, an EIS will be prepared. 2) Prior to final selection of tracts within an area, BLM further evaluates in a more detailed manner the impacts of such development on the tracts under consideration. This evaluation takes into account alternative uses of the land and its other natural resources, the need for proposed coal development, and the socio-economic considerations relevant to multiple use management. BLM may hold public hearings and consult with State and local officials. 3) If a decision is made to offer tracts for a coal lease on the basis of the above procedures and, according to the regulations, after receipt of an application and preliminary plan, a Technical Examination and Environmental Analysis Report (TEEA) is prepared. The TEEA develops any special terms and conditions for inclusion in the lease as may be required to protect the environment, to permit use of the land for other purposes, to allow new post-mining land uses, and all bond requirements.

The description of the leasing process in the EIS and the regulations differs considerably from the EMARS process for leasing described in the Final EIS for the Proposed Federal Coal Leasing Program. In that EIS, EMAR's suggests that leasing will occur in known coal areas where management framework plans have been developed which take into account ultimate environmental and land use considerations after an extensive planning and public hearing process. Further, on the basis of inputs from the Northern Great Plains program, coal development would be authorized only where reclamation of the affected lands was assured. Public participation, including nominations for and against leasing tracts and designating lands unsuitable for mining on the basis of reclamation potential would be an integral part of the process.

Major areas of differences between the EIS and associated regulations and the EMARS process include

1) lease tract selection
2) designating lands unsuitable for mining within lease tracts
3) prospecting permits
4) special drilling rights prior to lease sale vs. casual use
5) public participation, including public hearings

Because of the differences delineated above, EPA believes that the EIS and the regulations inadequately define leasing procedures to be followed by the BLM.

III. The EIS inadequately considers alternatives.

The EIS considered several alternatives ranging from no action to enacting Federal legislation controlling surface mining of coal; however EPA believes that the substance of the alternatives including the environmental impacts of these alternatives were not examined appropriately. For example, under the alternative of letting "State Mining Laws Govern Strip Mining on Federal Lands," some coal producing States such as Utah do not have current regulations governing the extraction of coal. The potential for severe impacts to Federal lands from operations in these States is significant, yet no analysis is provided in the EIS. A second example might involve the exemption of small operators. While the EIS notes that only about 10 or 15 operations involving less than 100, 000-tons per year are known to exist, there does exist the possibility of adjacent small operations resulting in a compound effect. This is particularly worthy of consideration in eastern operations, yet it was not identified as a potential problem in the EIS.

Additionally, leasing procedures and performance standards were not compared with the requirements provided in

1) 1969 BLM and proposed 1975 Janney USGS regulations.
2) The Administration proposed surface mining bill.
3) EMAR's program for Coal Leasing.

IV. Other Comments

1. The EIS gives us no real criteria to judge or assurance of valid evidence that mining of the western lands can be reclaimed to an equal or better use. EPA recognizes the many research efforts and the active operations where grading is being done, seedings and maintenance procedures are underway, and the vegetative growth that has been initiated. No full-scale reclamation of mined lands has existed for a sufficiently long period to give evidence that the reclamation (vegetation, soil stability, and biological systems supported thereby) will last under the most probable climatic conditions. Further, there is little published that adequately represents the research activities undertaken. It seems appropriate, if not necessary, to examine all of the major mining activities throughout the Northern Great Plains and Rocky Mountain Coal provinces and to present important details of spoil placement, soil amendments, seeding procedures, growth measurements, climatology, biological system measurements, water data, and other pertinent information.

EPA recommends that DOI prepare a document reporting reclamation activities mine-by-mine, to date, and include this report in the Final EIS. The document could serve as the basis for an analysis and comparison of alternative performance and reclamation standard requirements. It would also assess the State of the Art and would be extremely useful in decision making on the regulations.

EPA's review of the EIS results in great concern that the regulations proposed will not take advantage of the strides made to date by coal operators in the western states. Many of these operators have made increasingly productive attempts to implement mining and reclamation procedures to produce graded terrain that blends in with undisturbed areas. The same operators have entered into research efforts that, possibly in the next ten years, may give greater certainty to our ability to achieve revegetation in terms of productivity and succession as well as in terms of supporting ecosystems dependent upon hardy and adapted vegetative systems. Operators no longer consider as unnecessarily time-consuming and demanding, or expensive, the reclamation procedures which the environment requires.

We also believe that DOI should utilize EPA's comments on the Coal Regulations which were submitted to your Agency on December 8, 1975 in the final rulemaking. Further, explanation of the reasons for not utilizing any of these comments should be provided in the Final EIS.

2. The EIS is inadequate in its analysis of the imposition of the proposed regulations on the principal geographical areas that may be subject to coal mining. For example, the impacts of the proposed performance standards and the options available for mining the thick coals of the Eastern Powder River Basin are not analyzed. On the one hand, the EIS states that the impact of these regulations must be analyzed on a site-specific basis. On the other hand, experiences gained during the Northern Great Plains Resources Program suggest a greater amount of information in existence than assumed by the EIS. This information, gained from on-the-ground investigations, would allow a more accurate representation of the effects of the proposed regulations as well as the effects of possible alternatives to the proposed regulations.

3. The draft EIS is unclear as to the impacts of the proposed regulation on Indian lands. We recommend that the circumstances under which the proposed regulations would apply to coal owned by Indians be more carefully presented. An analysis of the adequacy of the proposed regulations to control mining on the appropriate Indian lands should then follow. Coordination of the proposed regulations with the Indian tribes should also follow. The same issue holds for Forest Service and privately-owned surface lands.

4. The EIS is not clear in its discussion of logical mining units (LMU). The concept of developing coal in a manner that maximizes recovery and minimizes disturbance is commendable. However, it is not clear just what determines an LMU or how it may be applied to coals of different ownerships. For example, if a small mount of Federally-owned coal exists within a very large quantity of privately-owned coal, how will this regulation and the concept of LMU be applied? The EIS does not address how the regulations may regulate extensive mining

in a coal basin - a problem that has sometimes been hypothetically examined in terms of the desirability of a regional mining plan or a large LMU. The question arises as to how far outside the lease area an applicant must detail hydrologic or other data.

5. The proposed regulations do not examine the issue of the maximum amount of bond currently required of operators. Since this bond amount must be sufficient for a third party to reclaim abandoned lands, it would seem necessary to also propose elimination of current maximum bond requirements and instead substitute a bonding limit that is a function of acres under lease and current reclamation costs.

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

OFFICE OF THE GOVERNOR

STATE POLICY DEVELOPMENT AND PLANNING — POUCH AD – JUNEAU 99811 PHONE 465-3512

November 24, 1975

Director
U.S. Department of the Interior
U.S. Geological Survey
National Center
Mail Stop 760
Reston, Virginia 22092

Subject: Coal Mining Management and Operating Regulations
State I.D. No. 75102201

Dear Director:

The Alaska State Clearinghouse has completed review on the subject project.

The following agencies were invited to review and comment:

State of Alaska

Department of Community and Regional Affairs
Department of Environmental Conservation
Department of Fish and Game (Anchorage, Fairbanks)
Department of Highways
Department of Natural Resources
Division of Lands
Division of Parks
Department of Commerce and Economics Development

Five of the above agencies responded and their comments are attached.

The Clearinghouse finds this project to be consistent with State long-range planning goals and objectives. Therefore, this letter will satisfy the review requirements of the Office of Management and Budget Circular A-95.

Sincerely,

Raymond W. Estess
State-Federal Coordinator

Attachments

MEMORANDUM — State of Alaska

TO: Raymond W. Estess
State-Federal Coordinator
Division of Policy Development and Planning
Office of the Governor
Juneau

DATE: November 17, 1975

FILE NO:

TELEPHONE NO:

FROM: James W. Brooks, Commissioner
Department of Fish and Game
Bruce M. Barrett
Projects Review Coordinator
Habitat Protection Section
Anchorage

SUBJECT: Coal Mining Management and Operating Regulations
State I.D. No. 75102201

The Alaska Department of Fish and Game has reviewed the subject statement prepared by the Department of the Interior. Coal deposits which are numerous in this state provides an important energy reserve valuable not only to the people of Alaska but to the nation. Development of these deposits must be in harmony with the state's maintenance policy for its renewable resources and assuredly can be provided the chemical, physical and biological integrity of the natural environment is afforded protection through the instigation of proper controls and monitoring programs prior to the onset of coal development. Federal adoption of the proposed regulations as outlined in the subject EIS would mandate that environmental degradation be minimized and that an operator follow sound planning, mining and reclamation practices. Since this reflects the departmental goals, we are in full support of these regulations.

cc: P. Denton - ADNR/ADL, Anchorage
D. Wallington - ADEC, Juneau

02-001B

STATE of ALASKA

MEMORANDUM

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF LANDS

TO: RAYMOND W. ESTESS
State-Federal Coordinator
Office of the Governor
Division of Policy Development and Planning
Pouch AD
Juneau, Alaska 99811

DATE: November 19, 1975

FROM: GARY JOHNSON, Acting Chief
State Division of Lands
323 E. 4th Avenue
Anchorage, Alaska 99501

SUBJECT: State I.D. No. 75102201
Coal Mining Management and Operating Regulations

The above-noted project has been reviewed by the Division of Lands' staff, there being no comments relative to the proposal. Thank you for the opportunity to review this project.

02-001B

STATE of ALASKA

MEMORANDUM

TO: Raymond Estess
State-Federal Coordinator
Division of Policy Development and Planning
Office of the Governor

DATE: November 6, 1975

FROM: John C. Becker, Director
Transportation Planning Division
Department of Highways

SUBJECT: Coal Mining Management and Operating Regulations
State I. D. No. 75102201

In response to your October 30, 1975 memorandum we have reviewed the above project and have no comments to offer.

JCB:JB:bks

RECEIVED
NOV 12 1975
Division of Policy Development & Planning

MEMORANDUM State of Alaska

DEPARTMENT OF COMMUNITY AND REGIONAL AFFAIRS

TO: Raymond W. Estess
State-Federal Coordinator
Division of Policy Development and Planning
Office of the Governor

DATE: November 4, 1975

FILE NO:

TELEPHONE NO:

FROM: Lee McAnerney, Commissioner

SUBJECT: Coal Mining Management and Operating Regulations
State I.D. No. 75102201

The Department of Community and Regional Affairs has reviewed the above mentioned project and we have no comments.

LMcA:SW:aw

MEMORANDUM State of Alaska

TO: Raymond Estess
State-Federal Coordinator
Ak. Div. of Policy Development Planning
Juneau

DATE: November 18, 1975

FILE NO:

TELEPHONE NO:

FROM: James W. Brooks, Commissioner
Department of Fish and Game

J. Scott Grundy, Reg. Supervisor
Habitat Protection Section
Fairbanks

SUBJECT: State I.O. No. 75102201
Coal Leasing and Operating Regulations

The Alaska Department of Fish and Game has reviewed the DEIS 75-53, "Proposed Surface Management of Federally Owned Coal Resources (423 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211) "prepared by the U.S. Department of the Interior.

Alaska with its vast coal deposits and large percentage of federal lands will be markedly affected by any surface coal mining regulations or the lack thereof. We are particularly pleased to review an impact statement on proposed regulations. All to often, we are faced with the problem of going through lengthy and costly evaluations of individual proposals or actual project development. A process which could be prevented by a little forethought and planning in establishing the governing regulations.

While there is obvious merit in considering the impact of regulation on proposals as far reaching as federal coal leasing, there is danger in focusing too intently on only one phase of the decision making process. Regulations designed to expand the scope of federal environmental responsibility will be useless if they are not followed through by equally far sighted and environmentally aware implementation and enforcement.

Just as there is danger in focusing too intently on only one stage of the regulating process so is there danger in looking too intently at only one facet of the coal mining industry. The most environmentally conscious coal strip mining operation will be of little value of the generating plants this coal is feeding or the industry it is supporting is not subjected to environmental regulations as equally responsible.

The statement properly assesses the proposed leasing, permitting, licensing and operating regulations. It deals in a general way with the impacted areas, and offers some discussion to the alternatives to this proposal. It seems inadequate, however, in discussing the procedures and policies necessary to enact and enforce these regulations. It does not discuss the broader implication (environmental and socio-economic) that large scale coal strip mining will have, regardless of leasing and operating regulations. The document does not adequately discuss inter-relationships with other agencies. Even though this statement deals with federal coal reserves and federal and private surface ownership, it directly affects fish and wildlife resources and habitat. Concomitantly it directly affects state fish and game agencies, their governing regulations and procedures. It is essential that jurisdictional responsibilities be clearly

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identified in the final regulations. Working relations and responsibilities between agencies (Divisions) within the Federal Government as well as relations between federal and state governments, private organizations, and citizens should be clearly defined.

The following questions or comments are directed at specific statements in the text of the statement:

Chapter I - Description of the Proposed Action

I-1. 30 CFR 211 extends operating regulations to Indian lands administered by the Department of Interior but the leasing procedures (43 CFR subpart 3041) are not extended to Indian lands. What is, or will, govern the leasing procedures for federal coal resources on Indian lands? As it applies to Alaska, will lands conveyed to native village and regional corporations be treated as lands with private surface ownership? What leasing procedures will be followed on lands whose ownership status is still in question?

I-7. Throughout the statement repeated mention is made of "Federal surface management agency if other than BLM" but nowhere is there any indication of who these "other agencies" might be.

I-8. Prior to tract selection, the authorized officer... "may hold public hearings". In light of the far reaching implication of coal mining, and the large scale operation anticipated on federal lands public hearings should be required when considering tract selection.

The proposed performance standards are fraught with phrases requiring interpretation. Interpretation that can and will vary between individuals, points of view and objectives. Every effort should be made to clarify and specify these standards as closely as possible. For example:

I-9. 3041-0-7(b)(2). "is contemporaneously as practicable" is subject to interpretation.

"or equal or better uses that can reasonably be attained" is subject to interpretation. "Better use" should be defined and the decision making process of determining a "better use" clearly explained.

I-10. 3041-0-7(b)(3). "to the maximum extent practicable" is subject to interpretation.

I-10. 3041-0-7(b)(4). "within a short time" is subject to interpretation

I-11. 3041-07(b)(6) and 3041.0-7(b)(8) unreasonably degrade the water quality of receiving streams",

"Minimize disturbance to the prevailing quality and quantity of water:,

"Prevent to the maximum extent practicable (A) contribution of suspended solids to stream flow... (B) deepening or enlargement of natural or re-constructed stream channels"..., are all subject to interpretation as

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well as direct conflict with existing state water quality criteria. Performance standards must clearly reflect existing state or federal water quality criteria and/or regulations designed to protect aquatic resources, whichever is the more stringent.

I-13 3041.0-7(b)(14). It should be clearly pointed out that after mining the fate of access developed on land with private surface ownership is decided by that private owner. In largely undeveloped areas such as Alaska, coal deposits may be located in wilderness areas or surrounded by large blocks of wilderness. The development of access is a critical problem. Special care must be taken to coordinate tract leases and access proposals with the necessary state and federal agencies.

I-14 3041.07(b)(15). We suggest changing "refrain from" to "prohibit".

I-14 3041.07(b)(16). An excellently written standard. Pre-disturbance investigations can establish specific and evident standards that would have to be met prior to the release of bonding responsibility.

I-14 3041.0-7(b)(18). There is an obvious need to control public access and use in "areas of active operation" (3041.0-7 (b)(19), but the right of public access to tracts under lease, but not being actively developed must be closely guarded. "Lawful and proper purposes" should be defined. The potential for interference with the authorized use or health and safety hazards must be clearly demonstrated in order to deny public access.

I-17 3041.0-7(b). This provision should be amended to reflect the necessity of compliance with existing state regulations protecting fish and wildlife resources and habitat.

I-20. 3041.2-1. The technical examination/environmental analysis report should be made available to and reviewed by the appropriate state agencies and public.

I-21. 3041.2-1. Interpretation of the technical examination/environmental analysis report misplaces the burden of proof. It should fall upon industry to justify why an area of concern should be included in a lease tract and not be the responsibility of the management agencies to show why it should not be included.

I-21. 3041.4 Since development of federal coal resources will affect state resources (air, water, fish, wildlife) provisions should be made for state input into bonding requirements to avoid willful forfeiture of bonds and allow for inflationary costs, performance bonds should be set well in excess of estimated reclamation costs.

3041.5 The period for holding records open to public inspection should be extended to 60 days.

I-22. 3041.6. Periodic reports should be filed much more frequently than annually. We recommend monthly progress reports by the operator.

I-22. 3041.7. What mechanisms will be established for input from effected citizens, private organizations or state agencies after the lease is let?

I-23 3041.7 In view of the tremendous amount of capital investment and operating costs that will be required to develop these resources, it will be very difficult to order a suspension of operations or cancellation of leases once development begins. Provisions should be made for some form of enforcement (fines, temporary shut down) short of cancelling of lease or permanent shut down.

I-25. The proposed reclamation and environmentel controls contain phrases subject to interpretation. Interpretation that can and will vary between individuals, points of view and objectives. Every effort should be made to clarify and specify these controls as clearly as possible.

2(e) "as contemporaneously as practicable" is subject to interpretation.

2(b) "Maximum extent practicable" is subject to interpretation.

I-26(e). If in fact water effluent monitoring is required of the operator, mechanisms should be established for independent monitoring or agency monitoring of the same effected waters.

I-29. The on-site decision maker (Area Mining Supervisor) is four steps removed in the decision making process. For these regulations to be effective interpretation of these regulations must be consistent at each of these decision making levels.

"Maybe" required to monitor air and water quality, should be changed to "will be" required.

The location of the "office of the appropriate mining supervisor and the mining plans is critical to proper surveillance and availability to public inspection. Is this to be a state office, local office? Where will it be located in relation to the leased tract? Will its location be published?

I-31 (211.20) Since operators will be working on public grounds, all prospecting and exploration reports should become public record.

I-32(211.4) Revegetation should be done with native plants only.

I-32(211.42). The storage of waste containing some coal must be done under stringent environmental controls to prevent erosion and subsequent environmental degradation.

I-33(211.60). Since operators will be working on public grounds, all accounts of coal mined and sold, to when sold and the price received, should become public record.

I-34(211.74). It is imperative that the applicability of state laws be established prior to the leasing process.

I-39. As the proposed regulations apply to Alaska where federal coal deposits are in largely undeveloped areas or wilderness areas, liability should be extended to recognize the inherent value of a previously undisturbed area, and the period of liability clearly defined.

Chapter II. Description of the Environment.

Because of the general character of this chapter our comments will largely be directed only to that portion affecting Alaska. Environmental analysis to be prepared later on individual leases will certainly have to be a great deal more site-specific than these generalizations.

We question the decision of lumping Alaska with the other Pacific coast states. Because of its extreme climates, peculiar access and transportation problems, unique land status questions and large coal deposits, it should be addressed individually.

II-7. We find it very difficult to describe the Arctic Coastal Plain as the counter part of the Interior Plain system. There are very few, if any, similarities in these two entirely different systems.

II-12. There may be "large amounts of good quality surface water" in southeast Alaska and some coastal areas, but in Interior and Arctic Alaska the availability is seasonal at best and often inadequate then. Oil and gas developers in Interior and Arctic Alaska are finding the availability of freshwater to be a severely critical factor.

II-16. The vegetation of areas north of the Brooks Range do not approach any of the classifications offered in the vegetation section.

II-18. The caribou is an important species utilizing vast areas underlain by federal coal and should be listed.

II-19. The "dense evergreen growth" is often less than dense or absent in Interior and Arctic Alaska. Furthermore, the "cold and winters with much snow" can be serious threats and limiting factors to wildlife populations.

The Copper River Delta is a critical waterfowl migratory stop as well as nesting area.

The list of aquatic and semiaquatic wildlife is only partial at best and should be expanded.

II-21. King and silver salmon also spend part of their life cycles in freshwaters,

Peregrine falcons breed above and below the Arctic Circle.

The musk ox is not an endangered species. The AOFAS held a controlled hunt in 1975 and plans a second in early 1976.

II-22. There is presently very little domestic reindeer use on the North Slope.

The varied fish and wildlife populations are particularly important to the Alaska citizens and the native Alaskans.

The bulk of the "northern oil and gas field development" is far to the north and east of the northern coal fields. This coal region is a largely undeveloped and wilderness area.

II-23. "One complete cycle" of the planning process should be defined and explained.

II-24. Esthetic values in Alaska are subject to extreme seasonal variations.

II-25. Gold mining activity, not gold activity; early trapping activity should be included.

II-26. The first sentence of the last paragraph is a generalized statement that cannot stand without delineation of current federal cases and qualification.

II-36. The final sentence of the first paragraph should be deleted. It is the function of the lease policies, site environmental impact statements and mining plans to determine whether or not a tract is mineable.

II-68. Terminology such as "stalk the forest year long" and "living quarters for many kinds of animals (II-70)" should be rephrased.

II-85. The last sentence end thought were lost in the page transition.

II-87. The last sentence of the second paragraph is beyond the scope of this statement and should be deleted.

II-103. This page is a duplication of page II-100.

II-120. The second paragraph of this page exemplifies the dangers of a too narrow point of view when considering coal mining. The implication of large scale off site water development as a result of a tract lease must be considered in the leasing and operation regulations and not glossed over in a single paragraph.

II-135. The black footed ferret should not be included in a list on"conspicuous terrestrial animals".

II-144. The final sentence of the first paragraph is a value judgement that should be stricken from this statement.

II-161 (1). Areas of eastern Oklahoma are heavily forested.

Probable Impact of the Proposed Action

III-7. These proposed regulations if enacted could "ameliorate many of the potentially adverse effects of coal mining". They would not, however, result in beneficial impacts to the environment.

III-10. Reclamation and revegetation of disturbed areas should occur concomitant with development and not wait until "mining operations are completed".

III-11. Mined beins that fill with water certainly will have an impact on the mined area. It is questionable if these impacts will be beneficial in each case.

III-14. The second sentence of this page is ill conceived. Well designed and executed soil preservation and reconstruction plans may have some mitigative value but never a beneficial value to the natural environment.

The final sentence of this page is another example of the far reaching off site implication that must be considered in these proposed leasing and operating regulations. Where will the "non-saline material" come from to replace the unsuitable surface material?

III-17. Revegetation should occur concomitant with development and not necessarily "delayed from 3 to 10 years on any one site".

In the final sentence on this page the word "natural" should be replaced with "disturbed".

III-20. The question of how the "lowering of the local water table" will effect revegetation and off site water uses must be adequately addressed in the lease proposal and mining plan.

III-22. "Increased turbidity" can also be severely detrimental to anadromous and non-anadromous fish spawning success.

III-26. Cropland certainly is at a permium in Alaska. Unfortunately, because of the extreme weather and short growing season suitable agricultural areas are very restricted.

III-31. "Impacts on National historic and cultural resources" may be minimal but I doubt beneficial.

Mitigating Measures

IV-3. What is the criteria and by whom is the decisinn made to determine wildlife habitat important scenic, historical and cultural features?

Probable Adverse Environmental Effects Which Cannot be Avoided.

V-4. The Alaska Department of Fish and Game welcomes and looks forward to reviewing the more comprehensive impact statement covering the overall effects of the entire coal leasing program. Hopefully some of the comments developed from this statement can be used when considering this broader statement.

Alternatives to the Proposed Action.

VIII-4. If absolute requirements are not established in the general leasing and nperating regulations, then they must be established on a site specific basis in coordination with existing state and federal regulations for the protection of water quality and fish and wildlife resources.

Thank you for this opportunity to comment.

STATE OF ALASKA

OFFICE OF THE GOVERNOR

STATE POLICY DEVELOPMENT AND PLANNING

Decemher 10, 1975

Director
U.S. Department of the Interior
U.S. Geological Survey
National Center
Mail Stop 760
Reston, Virginia 22092

Subject: Coal Mining Management and Operating Regulations
State I.D. No. 75102201

Dear Director:

Comments from the Department of Commerce and Economic Development on the suhject project were received after the State Clearinghouse had completed the project review.

Attached for your consideration is a copy of their comments.

Sincerely,

Raymond W. Estess
Raymond W. Estess
State-Federal Coordinator

Attachment

cc: Commissioner Langhorne A. Motley

ALASKA

MEMORANDUM

E.O.B.
OPR: E. O. Bracken
Phone: 465-2019

TO: Raymond H. Estess
State Federal Coordinator
Division of Policy Development and Planning
Officer of the Governor

DATE: November 24, 1975

FROM: Langhorne A. Motley
Commissioner
Department of Commerce and Economic Development

SUBJECT: Coal Mining Management and Operating Regulations
State I.D. No. 75102201

Generel Comment:

This proposal may be among management blunders with a net effect more serious than the "mistakes of the past", which it attempts to deal with. Over-regulation of highly technical operating problems by those not also fully aware of the physical requirements of the processes and conditions can result in shortages through imposing impossible or irrational specifications.

In the interest of obtaining the best flow of resource raw materials at reasonable prices, much of the detail should be left to the lease operator and knowledgeable people in the supervising agency. The general guidelines of N.E.P.A., and increased awareness of the purpose of productive harmony within both industry and the management agencies can achieve the desired result. Too much detail will be an obstacle to many operations owing to the variance in working conditions from mine to mine and from deposit to deposit. Mineral resources were not laid down by cookbook methods and their racovery requires the flexibility to deal with the problems as they are revealed in the process.

Section 3041.0, Purpose

The objectives are generally reasonabla, but may be counterproductiva to good resource recovery. In those instancas where economic conditions demand temporary stoppage of production the landscaping of working faces or removal of operating features may result in unnecessary cost for both removal and landscaping and for reconditioning the lease for production later under more favorable operating climate. The extra effort will result in higher cost for the energy product.

Section 3041.0-7(b)(10)(P. I-12) is a case in point.

Why should there be a restriction against mining within 200 feet of an underground mine? In the case where the underground and surface mine both operate both operations might gain from joint action in the 200 foot strip and benefit total resource recovery. In the case of an abandoned underground mine, there would be no compelling reason, (with underground conditions known and safe stripping operation designed) to leave a 200 foot strip of coal in the ground. The decision would be a matter of operating procedure and should be left to the operator.

3041.07(d) and .07(e) and 3041-8 place responsiblity with tha operator and the supervising agency. This, together with a clear statement of purpose, and related environmental awareness, should serve the purpose of resource recovery.

The details should be left to the leasing agreement and the operating plan.

The Environmental Section summarizes the situation but does not dwell on details. This is a refreshing change from the recent trend in impact statements and regulatory proposals.

Table III-1 is somewhat confusing. What is the significance of "Number of States" listed for each state on the list?

P. III-8

The impact noted as a final paragraph under "probable impact" can be serious in a situation where energy supplies become a matter of local survival. The possibility of small individual, family, or cooperative operation of limited sized coal deposits should be allowed and provided for. This type of operation could become an important source of fuel for local use, or given a general breakdown of the economy, supply a means of livelihood for many small operations and an important source of fuel. Thera are also coal seams where this may be the only economic means nf recovery.

This alternative should be left open and the operator type would almost certainly be classed among marginal producers.

P. III-19

The requirement for storage in layers with impervious (or low permeability) layers between layers of materials including coal appears to conflict with a previous provision for storage in a manner to facilitate eventual recovery. There is a danger of becoming ton generally specific in this respect. The operating details should be left open to agreement between the operator and the management agency based on the working conditions, grade and class of materiel, and the working plan.

The Section on Water Resources, P.P. III-20,23, does not mention one of the important considerations in mining. The supply of processing water may also become a limiting factor in many semiarid areas. This may become extremely important in Arctic and interior Alaskan coal fields.

P.III-28

The socioeconomic impact discussion understates the inflationary influence of the proposal. Cost increases owing to required nonproductive features of the regulations will be substantial. The discussion identifies problem areas without apparent recognition of the effect of delays and added operating (paperwork) costs on the value of money that the costs are measured by.

The most constructive critical comment on this discussion would be to replace "smell" by "substantial" when speaking of additional cost.

The effect on small operators, their employees and local economies is also understated. The inflationary impact of making wards of potentially productiva people and resources is among the important problems in the national economy. Small shoestring operations which could otherwise keep a few people productively employed can also be of assistance in solving local energy problems. The discussion reflects the common unrealistic, and idealistic view in which money and

government can cure all ills. The need for product and productivity is lost from the concept.

Mitigating Measures:(Chapter IV)

The advantages cited may become obstacles as current shortages and related inflationary influences develop. These regulations should be given thorough study to eliminate overlap with other environmental regulations and, in accordance with Executive Order 11821 (1974), inflationary impacts determined and eliminated.

The small inflationary increments of each of many over corrective measures add to the total burden. "They are not, therefore, readily quantifiable at this time." (Lines 2 & 3, p. V-4) may be the most pertinent sentence in the publication.

Will long-term productivity really benefit from elimination of small-scale production? (P. VI-2)

(P. VII-2)

The impact of increasing paperwork requirements seems understated. If these regulations were the only set requiring draft statements, study, comment and revised statements, comment and final statements, the impact might be as stated. Unfortunately this is not the case. Multiple layers of regulations, many covering similar or identical operating conditions, each add bulk, frequency and cost.

This section commits the common falacy of attempting numbers with no reference to assumptions leading to the estimate (which in each case can only apply under one set of assumptions). The need for improved technology is apparent. The need to relax and change, out of economic and strategic necessity, is predictable. Alleged (anticipated) adverse impacts of mining may be mitigated under other regulatory mechanisms. The proposed regulations, therefore, commit both industrial and governmental efforts to nonproductive purposes and introduce the added burden of revision under emergency conditions if imposed.

Public demand for mining regulations should be balanced against public demand for reasonably priced energy and conveniences, jobs and prosperous economic climate. A further result of imposed increased operating cost is poor recovery of the mineral resource. The best and most efficient recovery of underground minerals can be achieved by profit margins which allow processing the lowest quality material while access is open.

VIII-3 (Unfamiliar Term, "an rggoty"?)

Summary:

The proposed regulations attempt to specify operating requirements which vary widely with local conditions. The effect of multilayered regulation will certainly inflate living costs both by increasing production costs and absorbing the value of currency through nonproductive imposed restrictions and enforcement costs. Environmental factors, which the regulations attempt to protect, may suffer in the long-term from unrealistic or rigidly enforced uniform regulations.

The optimum value will result from equilibrium between public demand for mining regulations and public demand for energy and conveniences dependent on energy.

The impact on living costs, jobs, and the national prosperity should be considered in accordance with Executive Order 11821 for any new regulatory measures.

The proposed regulations are generally reasonable, but attempt too much of what is properly left to the enforcement agency and sound operating practice for the best recovery of mineral resources.

In each case, the lease agreement should define objectives and general operating guidelines suitable to the given situation. Excessive control and over-regulation should be avoided where possible in the interest of inflationary effects. Where practical, State regulations should be adopted, but the proposal should apply only as the boundary of operating regulations when no other regulation applies.

STATE OF ARKANSAS
DEPARTMENT OF LOCAL SERVICES
400 TRAIN STATION SQUARE • VICTORY AT MARKHAM
LITTLE ROCK 72201

DAVID PEYTON
GOVERNOR

RONALD R. COPELAND
DIRECTOR

November 4, 1975

Director
U.S. Geological Survey
National Center, Mail Stop 780
Reston, Virginia 22092

Re: Draft Environmental Statement
Proposed Surface Management
of Federally Owned Coal Resources
and Coal Mining Operating
Regulations

Dear Sir:

The State Planning and Development Clearinghouse has enclosed comments on the above cited Environmental Impact Statement from the Department of Local Services.

If we can be of further assistance, please don't hesitate to call on us.

Sincerely,

Fred Kleihauer

Fred Kleihauer
Director, State Clearinghouse

FKinh
Encl

STATE OF ARKANSAS
DEPARTMENT OF LOCAL SERVICES
400 TRAIN STATION SQUARE • VICTORY AT MARKHAM
LITTLE ROCK 72201

DAVID PEYTON
GOVERNOR

RONALD R. COPELAND
DIRECTOR

MEMORANDUM

TO: State Planning and Development Clearinghouse

FROM: Jim Reeves, Environmental Review

THROUGH: Ron Copeland
Tom Herrin

SUBJECT: Draft Environmental Statement - Proposed Surface Management of Federally Owned Coal Resources (43CFR Part 3041) and Coal Mining Operating Regulations (30CFR Part 211), DES 75-53

DATE: October 20, 1975

The Department of Local Services has the following comments regarding the above cited document:

The Draft Environmental Statement - Proposed Surface Management of Federally Owned Coal Resources (43CFR Part 3041) and Coal Mining Operating Regulations (30CFR Part 211), DES 75-53, sufficiently covers the environmental spectrum involved in surface mining, and the Department concurs with one exception. The Department feels Laws Govern Strip Mining on Federal Lands", should be given more consideration. Many states now have the capacity to monitor mining operations. The lack of uniformity cited in the discussion of this alternative can be dealt with by allowing those states with equal or more stringent laws concerning mining operations to enforce their laws and encouraging those states with no laws, or weaker laws, to adopt, as a minimum, regulations equal to, and patterned after, the proposed regulations.

JR/bw

•OFFICE OF THE SECRETARY
RESOURCES BUILDING
1416 NINTH STREET
95814
(916) 445-2656
Department of Conservation
Department of Water Resources
Department of Navigation and Ocean Development
Department of Parks and Recreation
Department of Fish and Game

EDMUND G. BROWN JR.
GOVERNOR OF
CALIFORNIA

Air Resources Board
Colorado River Board
San Francisco Bay Conservation and Development Commission
San Joaquin River Conservancy Board
Delta Protection Commission
State Reclamation Board
State Water Resources Control Board
Tahoe Regional Planning Agency Governing Body
Water Resources Conservation and Development Commission

THE RESOURCES AGENCY OF CALIFORNIA

SACRAMENTO, CALIFORNIA

DEC 5 1975

Dr. Vincent E. McKelvey
Director
U. S. Geological Survey
Department of the Interior
National Center
Reston, Virginia 22092

Dear Dr. McKelvey:

The State of California has reviewed the "Draft Environmental Statement, Proposed Surface Management of Federally Owned Coal Resources (43CFR Part 3041) and Coal Mining Operating Regulations (30CFR Part 211), DES 75-53", submitted to the Office of Planning and Research (State Clearinghouse) in the Governor's Office, in accordance with Part II of the U. S. Office of Management and Budget Circular A-95 and the National Environmental Policy Act of 1969.

This review was coordinated with the Departments of Water Resources, Food and Agriculture, Transportation, Health, Conservation, Fish and Game, Parks and Recreation, and Navigation and Ocean Development; Public Utilities Commission; the State Lands Commission; the State Water Resources Control Board; the Air Resources Board; the Reclamation Board; the Solid Waste Management Board; and the Energy Resources Conservation and Development Commission. Our comments on the draft statement are set forth below.

We note that coal deposits in California are small and scattered throughout 43 counties and that there presently exists only one federal coal lease totaling 80 acres. Because these coal deposits are small and scattered, and because your statement does not include enough detailed information, the State Department of Fish and Game would like the opportunity to review and comment on specific lease agreements as they are being considered to evaluate the potential impact mining these resources would have on fish and wildlife resources.

Following are specific comments of the Division of Mines and Geology of the Department of Conservation:

BLM

November 6, 1975

File Ref: M 9720

Director
Bureau of Land Management
Department of Interior
Washington, D. C. 20240

Dear Sir:

In review of the proposed Coal Mining Operating Regulations, the State Lands Division has the following comments:

Referring to Part 3040 - Environment and Safety, Subpart 3041, Surface Management - Federal Coal Resources:

Section 3041.0-7 Performance Standards

(b)(2) This section should state that the operator shall be required to file a mining reclamation plan with the Mining Supervisor and the authorized manager of the surface land area prior to operation. Such plan should be made available to all interested agencies for review.

(b)(3) Regulations should state that the cut slopes shall be 1.5 to 1 and not greater then the angle of repose.

(b)(6)(iii) The regulation should state that all water discharge will comply with discharge requirement for mins waters set by the local or state jurisdiction.

(b)(16) The section implies that an operator may not be required to revegetate if he has previously filed an approved reclamation plan. The section should read, "The operator shall, except where a previously approved reclamation plan provides for equivalent vegetation. establish....",

1. On page III-7, it is stated that California does not have any state regulation of the industry. Senate Bill 750, Surface Mining and Land Reclamation, will become effective on January 1, 1976. The provisions of this act should be incorporated into this EIS both in Chapter III and Appendix 3.

2. On page V-2, the statement is made that "...it is reasonable to assume that the cost of complying with the regulations may result in either reduced profits to operators or somewhat higher coal prices if such cost is passed on to the consumer." It should be stated that the cost of complying with the regulations will increase the cost of coal mining activities.

3. In Appendix I, Title 43, Public Lands: Interior, Part 23, Surface Exploration, Mining, and Reclamation of Lands, great care is taken to define many of the terms used in Title 43. The term "exploration" is not defined. As the regulations would require approval of a plan prior to exploration, it would be appropriate to define the term. As presently used in the document the term could be construed to mean anything from walking traverses to extensive drilling programs.

Attached is a copy of a letter dated November 6, 1975, from the State Lands Division to the Director, Bureau of Land Management, U. S. Department of the Interior, commenting on the proposed regulations. These comments are to be considered as part of the State's comments.

Thank you for the opportunity to review and comment on this statement.

Sincerely,

CLAIRE T. DEDRICK
Secretary for Resources

By

Attachment
cc: Director of Management Systems
State Clearinghouse
Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814
(SCH No. 75101390)

(b)(17) This section should state that the operator, prior to any mining operation, shall indicate to the authorized officer of the surface management area those areas where soil fertility is low and the probability of revegetation is low.

Referring to Part 211 - Coal Mining Operating Regulations:

Section 211.40 Reclamation and Performance Standards - Operating and Reclamation Standards

The standards written in this section are the same as those found in Section 3041.0-7; therefore, the same coments apply.

Thank you for the opportunity to review and comment.

Sincerely,

D. J. EVERITTS, Manager
Energy and Mineral Development

RLN:sl

STATE OF FLORIDA

Department of Administration

Division of State Planning

660 Apalachee Parkway - 1804 Building

TALLAHASSEE

32304

(904) 488-1115

Reubin O'D. Askew
GOVERNOR

R.G. Whittle, Jr.
STATE PLANNING DIRECTOR
(ACTING)

Lt. Gov. J. H. "Jim" Williams
SECRETARY OF ADMINISTRATION

January 3, 1975

Director
U.S. Geological Survey
National Center Mail Stop 760
Reston, Virginia 22092

Dear Sir:

Please consider the enclosed comments from the Department of Environmental Regulation on the Draft Environmental Impact Statement on Proposed Surface Management of Federally Owned Coal Resources, SAI #76-0764E, as part of our comments submitted to your office on November 25, 1975.

Sincerely,

R. G. Whittle, Jr.
Acting Director

RGWjr:hc

Enclosure

cc: Wayne Voigt
Walter Kolb
Dan Farley

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

2562 EXECUTIVE CENTER CIRCLE, EAST
MONTGOMERY BUILDING
TALLAHASSEE, FLORIDA 32301

[illegible]
GOVERNOR

JOSEPH W. LANDERS, JR.
SECRETARY

December 24, 1975

Mr. Wayne C. Voigt
Bureau of Intergovernmental Relations
660 Apalachee Parkway
Tallahassee, Florida 32304

Dear Mr. Voigt:

U. S. Department of Interior Draft Environmental Impact Statement on Proposed Surface Management of Federally Owned Coal Resources (43CFR Par 3041 and Coal Mining Operating Regulations (30CFR Par 211) DES 75-53. SAI Project Number 75-0764-E

The Department of Environmental Regulation has reviewed the draft environmental impact statement prepared by the Department of Interior and submits the following comments:

1. The State of Florida is not one of the states directly affected by the management practices regarding federally owned coal resources; however, the states north of Florida whose drainage discharges into Florida waters do have such reserves. The indirect impact resulting from increased mining of federally owned resources may have a significant affect on water resources as well as the biological resources of this state. Increasingly, this state is aware of the potential affects caused in neighboring states at other similar projects are undertaken. Therefore, we are concerned that specific development of upstream areas, such as coal mining areas, could have far reaching affects on the downstream area and its biological and water resources.

2. The environmental impact statement discusses the probability that there will be a special effort to initiate implementation of reclamation where strip mining will occur. In view of the unsuccessful attempts in the past two Sessions of Congress to override the President's veto of the strip mine control bill, We are unconvinced that an effective control of this practice can be found.

Mr. Wayne C. Voigt
December 24, 1975
Page Two

We appreciate the opportunity to review this draft statement and would like to review the final environmental impact statement when complete.

Sincerely,

Dan Farley, Director
Division of Environmental
Permitting

DFF/rfs

STATE OF FLORIDA

Department of Administration

Division of State Planning

660 Apalachee Parkway - 1804 Building

TALLAHASSEE

32304

(904) 488-1115

Reubin O'D. Askew
GOVERNOR

R.G. Whittle, Jr.
STATE PLANNING DIRECTOR
(ACTING)

Lt. Gov. J. H. "Jim" Williams
SECRETARY OF ADMINISTRATION

November 25, 1975

Director
U. S. Geological Survey
National Center Mail Stop 760
Reston, Virginia 22092

Dear Sir:

Functioning as the state planning and development clearinghouse contemplated in U. S. Office of Management and Budget Circular A-95, we have reviewed the following draft environmental impact statement:

Proposed Surface Management of Federally Owned Coal Reserves and Coal Mining Operating Regulations
SAI #76-0764E

During our review we referred the environmental impact statement to the following agencies, which we identified as interested: Department of Natural Resources; Department of Environmental Regulation; Department of Agriculture and Consumer Services; Department of Administration, Energy Data Center; Department of State; Department of Transportation; and Game and Fresh Water Fish Commission. Based upon their reviews of this draft statement, we have no comment to offer at this time, although the Department of Environmental Regulation has indicated that they may wish to comment at a future date. Any comments received by us shall be forwarded to you for review.

In accordance with the Council on Environmental Quality guidelines concerning statement on proposed federal actions affecting the environment, as required by the National Environmental Policy Act of 1969, and U. S. Office of Management and Budget Circular A-95, this letter, with attachments, should be appended to the final environmental impact statement on this project. Comments regarding this statement and project contained herein or attached hereto should be addressed in the statement.

Director, U.S. Geological Survey
November 25, 1975
Page 2

We request that you forward us copies of the final environmental impact statement prepared on this project.

Sincerely,

R. G. Whittle, Jr.
Acting Director

RGW:kc

Enclosures

cc: Mr. John Bethea
Mr. Charles Blair
Mr. T. Mabry Ervin
Mr. J. Landers
Mr. W. N. Lofroos
Mr. Harmon Shields
Mr. E. J. Trombetta
Mr. H. E. Wallace
Mr. Robert Williams
Mr. Wayne Voigt
Mr. Walter Kolb

GEORGE R. ARIYOSHI
Governor
HIDETO KONO
Director
FRANK DeFRANCIS
Deputy Director

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

Kamamalu Building, 250 South King St., Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

November 21, 1975

Ref. No. 5896

Director
Bureau of Land Management
Department of the Interior
Washington, D.C. 20240

Dear Sir:

Subject: Draft Environmental Impact Statement for Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041), and Coal Mining Operating Regulations (30 CFR Part 211), DES 75-53

In response to the letter of October 1, 1975, from the U.S. Geological Survey transmitting the subject document for our review and comment, herewith are the comments we have to offer at this time.

Although coal mining operations are non-existent in the State of Hawaii, we have conducted a review of the subject document to examine its adequacy in addressing concerns we feel are important to an environmental impact statement. While we find that the statement, in general, is well organized, two comments are offered for your consideration.

First, Chapter VII could be expanded to include a discussion of the regulatory costs in terms of units of coal extracted, thereby creating a means for comparison with petroleum and other energy producing costs. This could further serve as a basis for evaluating the impact of energy costs on other industries as well as inflationary effects in general.

Secondly, we note that the subject document does not provide a set of precautionary measures to be taken in situations where archaeological sites are uncovered during the mining operation. This, we feel, also merits further consideration.

We appreciate this opportunity to review the subject document and to express our views on it. We also hope that the comments we have provided will be of use to you in developing the final environmental impact statement.

Sincerely,

for HIDETO KONO

STATE OF IDAHO

DIVISION OF BUDGET, POLICY PLANNING AND COORDINATION

STATEHOUSE
BOISE, IDAHO 83720

November 28, 1975

U. S. Department of the Interior
Geological Survey
Reston, Virginia 22092

To Whom It May Concern:

The Idaho State Clearinghouse has reviewed the draft environmental statement on the Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211). The statement was sent to the following for review and comment:

Ken Stolz, Natural and Physical Resource Planner for the Division of Budget, Policy Planning and Coordination - no comment
Department of Lands - comments attached
Department of Health and Welfare, Division of Environment - no comment
Division of Tourism and Industrial Development - no comment
Public Utilities Commission, Division of Energy
Ida-Ore Regional Planning and Development Association - no comment
Southeast Idaho Council of Governments
Magic Valley Association of Governments
Department of Water Resources

We urge your consideration of the comments submitted by the Idaho Department of Lands prior to finalization of the environmental statement.

We appreciate the opportunity to review.

Sincerely,

Donna R. Gues
State Clearinghouse

lf

enclosure

cc: Lands

EQUAL OPPORTUNITY EMPLOYER

...ments regarding the Proposed Surface Management of Federally Owned Coal ...esources (SAI No. 01055450)

Comments in reference to Appendix 3, as noted:

Table 4-3: "NOTE" at bottom of table should read, "Michigan, Oregon, South Dakota and Idaho have surface mining laws, but had no production."

Table 4-4: No Changes

Table 4-5: Summary of the State Surface Mining Reclamation Acts, Western Region, should include the following information regarding Idaho:

State	Idaho
Title or Code Citation (Minerals Covered)	Idaho Surface Mining Act, Title 47, Chapter 15, Idaho Code. Effective May 31, 1975 (all minerals).
License and/or Permit Requirements:	
Application and Fee	Application for permits must be filed with the State Department of Lands. A Reclamation Plan, approved by the State Board of Land Commissioners, is required for exploration or mining activities affecting more than two (2) acres of surface lands, prior to commencement of operations. No application fee is required.
Penalty	For violation of provisions, a civil penalty imposed of not less than $100 nor more than $1000 for each day that violation continues. May be enjoined from continuing such violations. For willful violations or falsification of information, a fine of not less then $1000 nor more than $5000 or imprisonment not to exceed one (1) year, or both.
Bond Requirements	Bond penalty shall be in such an amount as is deemed necessary to insure operator's performance in compliance with the Act, but bond may not exceed $500 for any given acre of affected land.
Reclamation Requirements	Affected lands shall be reclaimed in accordance with the approved Reclamation Plan, which shall include: Overburden ridges leveled to a minimum width of 10 feet at the top; peaks of overburden leveled to a minimum width of 15 feet at the top; overburden piles prepared in a manner to control erosion; insure control of stream or lake siltation caused by operations on affected lands to a degree less than that which existed prior to operations or to meet the requirements of the State Code regarding health and safety, whichever is

Comments

(Reclamation Requirements, Cont.)	the lesser standard; cross-ditching of abandoned roads to prevent erosion; plugging of exploration drill holes; topping of abandoned lands with overburden reasonably available from the pit that will be conducive to erosion and growth of vegetation; conduct revegetation program on all affected lands, except as may be excused by the Act, to result in vegetation comparable to that which existed prior to operations; preparation of tailings ponds to leave in a condition that is non-hazardous to human and animal life. Time limitations and definitions are imposed by the Act on reclamation activities.
Failure to Reclaim Penalties Bond Forfeit (Permit Denial)	Yes

STATE OF IOWA

Office for Planning and Programming

523 East 12th Street, Des Moines, Iowa 50319 Telephone 515/281-3711

ROBERT D. RAY
Governor

ROBERT F. TYSON
Director

STATE CLEARINGHOUSE

PROJECT NOTIFICATION AND REVIEW SIGNOFF

Date Received: October 7, 1975 State Application Identifier: 760383

Review Completed: October 29, 1975

APPLICANT PROJECT TITLE:
Draft EIS, Proposed Surface Management of Federally Owned Coal Resources
APPLICANT AGENCY: U.S. Department of the Interior
Address: Geological Survey
Reston, Virginia 22092
FEDERAL PROGRAM TITLE, AGENCY AND CATALOG NUMBER: Minerals Leasing
Department of the Interior
Bureau of Land Management
Catalog No. 15.207

AMOUNT OF FUNDS REQUESTED: NA

PROJECT DESCRIPTION:
The project includes the draft environmental statement on the proposed Surface Management of Federally Owned Coal Resources as submitted by the United States Department of the Interior.

The State Clearinghouse makes the following disposition concerning this application:

☐ No Comment Necessary. The application must be submitted as received by the Clearinghouse with this form attached as evidence that the required review has been performed.

☒ Comments are Attached. The application must be submitted with this form plus the attached comments as evidence that the required review has been performed.

STATE CLEARINGHOUSE COMMENTS:

The State Clearinghouse recommends the approval of this project.

CH-14 Rev. 9-75

Federal Funds Coordinator

Iowa department of environmental quality

October 24, 1975

A. Thomas Wallace, Jr.
Federal Funds Coordinator
Office for Planning & Programming
State Capitol
LOCAL

RE: FWPCA Letter of Intent
Project: No. 760383, Draft EIS
Proposed Surface Management of
Federally Owned Coal Resources

Dear Mr. Wallace:

The above-referenced project has been reviewed by this Department.

This letter is to indicate that this agency has no comment to submit on this project.

We thank you for the opportunity to review this project.

Very truly yours,

Charles C. Miller

Charles C. Miller
Chief of Planning

CCM/ZL/ me

6500 Delaware Ave. P.O. Box 3326, Des Moines, Iowa 50316 • 515/265-8136

STATE OF KANSAS

Department of Administration

DIVISION OF STATE PLANNING AND RESEARCH
1109-W Docking Office Building
Topeka, Kansas 66612

November 3, 1975

Director
U.S. Geological Survey
National Center
Mail Stop 760
Reston, Virginia 22092

Re: Surface Management of Federally Owned Coal
Resources and Coal Mining Operations Regulations
Clearinghouse no. 2373-Interior (65)

Dear Director:

The referenced project has been processed by the Division of State Planning and Research under its clearinghouse responsibilities described in Circular A-95.

After review by interested state agencies, it has been found that the proposed project does not adversely affect state plans. Enclosed are comments concerning this project for your information and referral.

Sincerely,

Walter H. Plostila

Walter H. Plostila
Assistant Director for Research and
Grants Coordination

WHP:rb

enc.

State Clearinghouse
State of Kansas

DIV. OF STATE PLANNING & RESEARCH
ST. OFFICE BLDG.
TOPEKA, KS. 66612

REQUEST FOR ACTION ON PROPOSAL (UNDER OFFICE OF MANAGEMENT AND BUDGET CIRCULAR A-95)

Agency Name Mr. Wesbebar-Corporation Commission	OCT 30 1975
Clearinghouse Number 2373-Interior(ES)	Applicant's Name U.S. Dept. of the Interior
Expected Filing Date	Project Title Surface Management of Federally Owned Coal Resources and Coal Mining Operations Regulations
RETURN NO LATER THAN October 29, 1975	Return to Division of the Budget, Department of Administration, 1st Floor, Statehouse, Topeka, Kansas 66612

The enclosed proposal has been submitted to the Division of the Budget under its clearinghouse responsibilities described in Office of Management and Budget Circular A-95. Your review of this proposal as it affects the interest of the state will be appreciated. Your appropriate comments concerning the proposal should be submitted to the Division of the Budget no later than the date specified above.

Comments filed on a proposal may include: (1) the extent to which the project is consistent with or contributes to the fulfillment of comprehensive planning within the state; (2) how the proposal relates to state objectives; and (3) the effect of the proposal on your agency's activities.

X No Objections — Request for Additional Information (discuss below)

Objections (discuss below) — Request for a Conference

COMMENTS:

As there are no current leases for the mining of coal from federal lands in Kansas, surface management of federally owned coal reserves has a minimal application in Kansas.

Appendix 3, Page 4 - 55, incorrectly sets bond requirements in Kansas. The correct amount is not less than $300 nor more than $1,000 per acre with a $3,000 minimum.

Signature

State Clearinghouse
State of Kansas

DIV. OF STATE PLANNING & RESEARCH
ST. OFFICE BLDG.
TOPEKA, KS. 66612

REQUEST FOR ACTION ON PROPOSAL (UNDER OFFICE OF MANAGEMENT AND BUDGET CIRCULAR A-95)

Agency Name Guy Gibson-Board of Agriculture	OCT 30 1975
Clearinghouse Number 2373-Interior(ES)	Applicant's Name U.S. Dept. of the Interior
Expected Filing Date	Project Title Surface Management of Federally Owned Coal Resources and Coal Mining Operations Regulations
RETURN NO LATER THAN October 29, 1975	Return to Division of the Budget, Department of Administration, 1st Floor, Statehouse, Topeka, Kansas 66612

The enclosed proposal has been submitted to the Division of the Budget under its clearinghouse responsibilities described in Office of Management and Budget Circular A-95. Your review of this proposal as it affects the interest of the state will be appreciated. Your appropriate comments concerning the proposal should be submitted to the Division of the Budget no later than the date specified above.

Comments filed on a proposal may include: (1) the extent to which the project is consistent with or contributes to the fulfillment of comprehensive planning within the state; (2) how the proposal relates to state objectives; and (3) the effect of the proposal on your agency's activities.

____ No Objections — ____ Request for Additional Information (discuss below)

____ Objections (discuss below) — ____ Request for a Conference

COMMENTS:

One of the alternatives considered is to let state mining laws govern strip mining on federal lands. The draft environmental statement states this alternative is already in effect for all practical purposes.

In Kansas the agency having regulatory authority on strip mining operations is the Mined-Land Conservation and Reclamation Board. Two regulations of that Board are as follows: (1) Copies of permits or other regulatory authority, in writing, with copies of maps submitted in application for these permits, to change, alter, remove, or replace watercourses, roads, highways and utility lines must accompany applications for mining permits. (2) Where reclamation work involves water impoundments, conformity with the regulations of the Chief Engineer of the Division of Water Resources shall be required.

Ref: K.S.A. 82a-301 to 305.

Signature

State Clearinghouse
State of Kansas

DIV. OF STATE PLANNING & RESEARCH
ST. OFFICE BLDG.
TOPEKA, KS. 66612

REQUEST FOR ACTION ON PROPOSAL (UNDER OFFICE OF MANAGEMENT AND BUDGET CIRCULAR A-95)

Agency Name C. F. Breidahl-State Conservation Commission	
Clearinghouse Number 2373-Interior(ES)	Applicant's Name U.S. Dept. of the Interior
Expected Filing Date	Project Title Surface Management of Federally Owned Coal Resources and Coal Mining Operations Regulations
RETURN NO LATER THAN October 29, 1975	Return to Division of the Budget, Department of Administration, 1st Floor, Statehouse, Topeka, Kansas 66612

The enclosed proposal has been submitted to the Division of the Budget under its clearinghouse responsibilities described in Office of Management and Budget Circular A-95. Your review of this proposal as it affects the interest of the state will be appreciated. Your appropriate comments concerning the proposal should be submitted to the Division of the Budget no later than the date specified above.

Comments filed on a proposal may include: (1) the extent to which the project is consistent with or contributes to the fulfillment of comprehensive planning within the state; (2) how the proposal relates to state objectives; and (3) the effect of the proposal on your agency's activities.

____ No Objections — ____ Request for Additional Information (discuss below)

____ Objections (discuss below) — ____ Request for a Conference

COMMENTS:

The subject DES appears to be realistic and complete but not overdone. The proposed rules and regulations for mining coal in federal lands and for federally owned minerals are reasonable yet require needed reclamation and restoration of land for beneficial use.

C. F. Breidahl

Signature/Executive Secretary

John S. Hoffman
Secretary

Julian M. Carroll
Governor

COMMONWEALTH OF KENTUCKY
DEPARTMENT FOR NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION
OFFICE OF THE SECRETARY
FRANKFORT, KENTUCKY 40601
TELEPHONE (502) 564-3350

December 10, 1975

Director
U. S. Geological Survey
National Center, Mail Stop 760
Reston, Virginia 22092

Subject: Draft Environmental Impact Statement 75-000
Proposed Surface Management of Federally owned Coal Resources and Coal Mining Operating Regulations

Gentlemen:

The Kentucky Environmental Review Agencies have reviewed the above mentioned Environmental Impact Statement and have the following comments:

"The State Historic Preservation Officer and the Kentucky Heritage Commission staff have reviewed the aforementioned draft environmental impact statement. We were pleased to note that the impact on historic and cultural resources will be largely beneficial since compliance with Section 106, P. L. 89-665, and Executive Order 11593 will be required. We recommend that the State Historic Preservation Officer, Mrs. Eldred Melton, be contacted prior to issuance of any permits or licenses for projects in Kentucky."

According to the State Archeologist, although these new regulations will probably have little impact on Kentucky, we would like to point out one problem we find in this Draft EIS. In Chapter III Probable Impact of the Proposed Action under the heading of "Cultural Resources" (page III-31) it is stated that "Impacts on National historic and cultural resources will be largely beneficial by requiring compliance with Section 106 of the Historic Preservation Act and Section 2(b) of E.O. 11593 before ground disturbing activities are gained." It is generally considered that the Law 89-209), The Historic Site Act of 1935 (Public Law 74-292), The National Environmental Policy Act of 1969 (Public Law 91-190), and the Archeological and Historic Preservation Act of 1974 (Public Law 93-291) is to preserve and protect cultural resources on Federally owned or controlled lands or on lands that may be affected by Federal actions. To say that destruction of these resources is beneficial misrepresents the purpose and intent of these laws.

Director
U. S. Geological Survey
Page Two
December 15, 1975

Comments of the Division of Air Pollution, Kentucky Department for Natural Resources and Environmental Protection, are as follows:

A review of the proposed regulations by the Division of Air Pollution indicates that the State of Kentucky will not be affected by the regulations as much as the Western States. This is due to the fact that Kentucky already has strict state regulations that cover these areas. However, the Division of Air Pollution will have to restrain its endorsement of these proposed regulations subject to the Final Environmental Impact Statemement.

On page V-4 the draft document states: The Department has completed and will shortly be publishing an impact statement covering the overall effects of the entire coal leasing program. Additional data, and further elaboration of the physical and environmental characteristics and impact of mining general, are treated therein and will be included in the final environmental impact statement upon the regulations now being proposed, as appropriate.

If a proper evaluation of the total environmental impact is to be accomplished, the Division will have to have the additional information that is referenced above.

The Division would also like to comment on some of the specifics in the regulations:

1. On page 1-13, Section 3041.0-7 (B)(14) should include a reference to air pollution so that it would read: construct, maintain, and, when they are no longer necessary, remove roads, pipelines and other similar facilities into and across the site of operations in a manner that will control or prevent erosion and siltation, pollution of air and water, damage to fish or wildlife or their habitats, or public or private property, except that the Mining Supervisor, after consultation with the authorized officer of the surface management agency, may approve the retention, after mining, of specific such facilities where consistent with the proposed postmining use of the lands.
2. On page 1-32, the second sentence should include a reference to air pollution so that it would read: Deleterious materials will be treated and disposed of in a safe manner designed to prevent contamination of both the ambient air and ground and surface water.

3. On page 1-36 in the last paragraph, dealing with EPA's administering the Clean Air Act, it states that new industrial facilities will have to meet New Source Performance Standards. It should also be noted that due to proposed 'significant deterioration' regulations, additional and stricter standards could be mandatory in some instances, i.e., if the site were in or near a designated Class I area.

4. On page III-3, Table III-1 is somewhat confusing. The column for listing the number of federal coal leases in the separate states equals 529, while the grand total reads 530. If there is indeed one 'unaccounted' federal coal lease, would this lease be located in Kentucky?

Director
U. S. Geological Survey
Page Three
December 15, 1975

Any further comments received by this agency will be forwarded to you.

Sincerely and respectfully,

John S. Hoffman
John S. Hoffman
Secretary

JSH:jb

36

723

ELLEN BRYAN MOORE
REGISTER

STATE OF LOUISIANA
STATE LAND OFFICE
BATON ROUGE
70804
November 3, 1975

NOV 7 9 12 AM '75

Director
Bureau of Land Management
Department of Interior
Washington, D.C. 20240

720

Dear Sir:

Reference is made to your draft environmental statement entitled "Proposed Surface Management of Federally Owned Coal Resources (43 C.F.R. Part 3041) and Coal Mining Operating Regulations (30 C.F.R. Part 211)."

We have reviewed the draft and it appears to be comprehensive and well-planned. The new standards and regulations outlined in the statement should significantly reduce the negative environmental impact associated with the mining of coal while affording the most practical maximum recovery of a natural resource. We feel that the new regulations are important since it appears that, at the present time, Louisiana has no statutory provisions regarding surface mine reclamation.

Thank you for the opportunity of reviewing the statement.

Sincerely,

Ellen B. Moore
Ellen Bryan Moore
Register

cc: Mr. DeWitt H. Braud, Jr.
Environmental Coordinator
State of Louisiana

MARVIN MANDEL
GOVERNOR

MARYLAND
DEPARTMENT OF STATE PLANNING
301 WEST PRESTON STREET
BALTIMORE, MARYLAND 21201
TELEPHONE: 301-383-2451

VLADIMIR A. WAHBE
SECRETARY OF STATE PLANNING
MADELINE L. SCHUSTER
DEPUTY SECRETARY

November 25, 1975

Director
U.S. Geological Survey
National Center
Mail Stop 760
Reston, Virginia 22092

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT

Applicant: U.S. Department of the Interior

Project: Draft EIS - Surface Management of Federally-Owned Coal Resources

State Clearinghouse Control Number: 76-10-188

State Clearinghouse Contact: Warren D. Hodges (383-2467)

Dear Sir:

The State Clearinghouse has reviewed the above Statement. In accordance with the procedures established by the Office of Management and Budget Circular A-95, the State Clearinghouse received comments (copies attached) from the following:

Department of Economic and Community Development, Department of Natural Resources, Environmental Health Administration, Tri-County Council for Western Maryland, Allegany County, Garrett County, Washington County and our staff - advised that the Statement appears to adequately cover those areas of interests to their agencies.

Maryland Energy Policy Office - noted that most of the Federally owned mineral rights lie beneath State-owned forest and parks which precludes their being stripmined. The Office also indicated that further attention should be given to the possible increase in demand on privately owned coal resources in the Eastern United States because these Federal mining regulations may slow down production and increase cost of coal mining from Federally owned coal deposits.

We hope this review will be helpful to your agency and we look forward to continued cooperation.

Sincerely,

Vladimir Wahbe
Vladimir Wahbe

Enc.
cc: Jerold Gettleman
Paul McKee
Donald Noren
Ernest Combs
Benjamin Sansom
Tim Dugan
Donald Frush
Bernard Payne
Lois Gilliam

rg

Maryland Department of State Planning
State Office Building
301 West Preston Street
Baltimore, Maryland 21201 Date: NOV 7 1975

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: U.S. Department of the Interior

Project: Draft EIS - Surface Management of Federally-Owned Coal Resources

State Clearinghouse Control Number: 76-10-188

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item: None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:	X	

Signature [signature]

Title

Agency COMMUNITY DEVELOPMENT ADMINISTRATION

Maryland Department of State Planning
State Office Building
301 West Preston Street
Baltimore, Maryland 21201 Date: November 4, 1975

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: U.S. Department of the Interior

Project: Draft EIS - Surface Management of Federally-Owned Coal Resources

State Clearinghouse Control Number: 76-10-188

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item: None	Comment enclosed
1. Additional specific effects which should be assessed:	✓	
2. Additional alternatives which should be considered:	✓	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	✓	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	✓	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	✓	
6. We identify issues which require further discussion of resolution as shown:	✓	

Signature Paul W. McKee

Title Assistant Secretary

Agency Dept. of Natural Resources

JAMES B. COULTER
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
TAWES STATE OFFICE BUILDING
ANNAPOLIS 21401

LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

November 4, 1975

TO: Warren Hodges

FROM: Paul W. McKee

SUBJECT: SCH Control Number: 76-10-188

Applicant: U.S. Department of the Interior

Project: Draft EIS - Surface Management of Federally-Owned Coal Resources

We have reviewed the U.S. Department of Interior draft EIS on the proposed Federal regulations governing strip mining. The proposed regulations are in two parts. Proposed regulation 43 CFR 3041 would replace 43 CFR insofar as 43 CFR 23 applies to coal. Proposed 43 CFR 3041 would be administered by the Bureau of Land Management and would cover the requirements to be incorporated in federal leases and permits for the protection of surface and non-mineral resources and for reclamation. Proposed regulation 30 CFR 211 would be administered by the Geological Survey and would cover mining operations including the discovery, testing, development, mining and preparation of coal under leases and permits issued for federally-owned coal.

We have consulted with Harry Buckley, who informs us that there is no federally-owned coal in Maryland. Accordingly, the proposed regulations will not be applicable in this State.

PWM:fcg

Maryland Department of State Planning
State Office Building
301 West Preston Street
Baltimore, Maryland 21201 Date: OCT 20 1975

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: U.S. Department of the Interior

Project: Draft EIS - Surface Management of Federally-Owned Coal Resources

State Clearinghouse Control Number: 76-10-188

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item: None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:	X	

Signature Donald H. Noren

Title Donald H. Noren, Director

Agency Environmental Health Administration

cc: Mr. Paul McKee

Maryland Department of State Planning
State Office Building
301 West Preston Street
Baltimore, Maryland 21201 Date: October 15, 1975

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: U.S. Department of the Interior

Project: Draft EIS - Surface Management of Federally-Owned Coal Resources

State Clearinghouse Control Number: 76-10-188

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	/	
2. Additional alternatives which should be considered:	/	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	/	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	/	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	/	
6. We identify issues which require further discussion of resolution as shown:	/	

Signature [illegible]

Title [illegible]

Agency [illegible]

Maryland Department of State Planning
State Office Building
301 West Preston Street
Baltimore, Maryland 21201 Date:

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: U.S. Department of the Interior

Project: Draft EIS - Surface Management of Federally-Owned Coal Resources

State Clearinghouse Control Number: 76-10-188

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:		

Signature [illegible]

Title Allegany County

Agency

[illegible]

Maryland Department of State Planning
State Office Building
301 West Preston Street
Baltimore, Maryland 21201 Date:

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: U.S. Dept of the Interior

Project: Draft EIS - Surface Mgt of Federally-Owned Coal Resources

State Clearinghouse Control Number:

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:	X	

Signature [illegible]

Title [illegible]

Agency

[illegible]

WASHINGTON COUNTY PLANNING COMMISSION
COURT HOUSE ANNEX, 24 SUMMIT AVENUE
HAGERSTOWN, MARYLAND 21740
TELEPHONE 791-3065

DEPT. OF STATE PLANNING
RECEIVED
OCT 17 1975
REVIEWED
ANSWERED

October 10, 1975

Mr. Warren Hodges, Chief
Department of State Planning
301 West Preston Street
Baltimore, Maryland 21201

Re: Draft ELS - Surface Management of Federally-Owned Coal Resources
Control Number 76-10-188

Dear Mr. Hodges:

The referenced draft has been reviewed, and we have no comments to offer, as the provisions do not apply to Washington County.

We appreciate the opportunity to participate in the review process.

Sincerely yours,

Don Frush

Donald R. Frush
Chairman

DRF:vmb

...and Department of State Planning
...ate Office Building
301 West Preston Street
Baltimore, Maryland 21201

Date: October 10, 1975

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: U.S. Department of the Interior

Project: Draft EIS - Surface Management of Federally-Owned Coal Resources

State Clearinghouse Control Number: 76-10-188

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item: None	Comment enclosed
1. Additional specific affects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental affects:	X	
4. Additional control measures which should be applied to reduce adverse environmental affects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:	X	

Signature

Title Chairman

Agency Washington County Planning Commission

STATE OF MARYLAND
ENERGY POLICY OFFICE

5TH REGIMENT ARMORY 219 WEST HOFFMAN STREET BALTIMORE, MARYLAND 21201
383-6810

MARVIN MANDEL
Governor

John P. Hewitt
Director

DEPT. OF STATE PLANNING
RECEIVED
OCT 20 1975
REVIEWED
ANSWERED

October 17, 1975

TO: Bryan Gatch

FROM: Bernard Payne

RE: DRAFT EIS - Surface Management of Federally-Owned Coal Resources - Control No. 76-10-188

No. 6 - Issues which require further discussion of resolution as shown:

While the Federal Government may own the mineral rights to an estimated 50,000 acres in Garrett and Alleghaney counties, only approximately 15,000 acres are estimated to have coal reserves. Almost all of the estimated 50,000 acres of federally-owned mineral rights lie beneath state owned forests and parks, and under Maryland law may not be strip mined. Thus the new regulations governing the surface management of federally-owned coal resources should have no direct impact on the State of Maryland.

Two issues which require further discussion are:

1. Since these new Coal Mining Operating Regulations will slow down the production and increase the cost of coal from federally owned coal deposits (primarily in the West), what will be the increased demand on privately owned coal resources in the Eastern part of the U.S. including Maryland?

2. Under the Maryland law, will the state be required to reimburse the Federal Government for the coal rights under State Forests and Parks?

WBP:a
Enclosure

...and Department of State Planning
...ate Office Building
301 West Preston Street
Baltimore, Maryland 21201

Date:

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: U.S. Department of the Interior

Project: Draft EIS - Surface Management of Federally-Owned Coal Resources

State Clearinghouse Control Number: 76-10-188

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item: None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:	X	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:	X	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	X	
6. We identify issues which require further discussion of resolution as shown:		X

Signature

Title Energy Policy Administrator

Agency Maryland Energy Policy Office

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

HOWARD A. TANNER, Director

November 14, 1975

Mr. J. F. Cragwell, Jr., Director
U.S. Geological Survey
National Center Mail Stop 760
Reston, Virginia 22092

Dear Mr. Cragwell:

We have reviewed the draft environmental statement on the Proposed Surface Management of Federally owned coal resources and coal mining operation regulations.

We find the document to be a well written and thorough consideration of needed environmental controls for mining operations. The proposed regulations are both adequate and necessary in regions where extensive surface mining of coal deposits is now taking place or can be expected to occur in the future.

Michigan's coal industry presently consists of one small operation at Williamston just east of Lansing. This operation is mining a seam of coal varying from 1 to 3 feet in thickness under 15 to 20 feet of shale and glacial overburden using underground mining techniques. In our opinion, if such an operation were subject to the proposed regulations, it would be precluded from operation because of the costs of conducting the required preliminary studies and monitoring efforts.

Coal mining in Michigan, being in an area of heavy overburden, would be by underground mining techniques. The environmental disturbances attendent to such an operation would involve the disposal of mine waste rock and waters, and the locating of processing plants and coal storage facilities. Because this type of mining does not involve the massive earth changes associated with strip mining, we believe that a different set of controls are needed to regulate it. We would urge that these needs be considered in the final environmental statement.

R1026-1 1/75

J. F. Cragwell 2. November 14, 1975

Climatic and soil conditions in Michigan are conducive to rapid revegetation and stabilization of these coal mining sites. Top soil stockpiling and preservation during the mining operations for reclamation purposes is covered in the procedures of Michigan's Mine Reclamation Act.

It would also seem appropriate that each state should ultimately have an opportunity to review specific sites for federal coal extraction so that any unique environmental problems could be identified and dealt with.

We trust these comments will be useful to you in the preparation of the final environmental statement. Should you have any questions, please contact us.

Sincerely,

Howard A. Tanner
Director

cc: Director, Bureau of Land Mgm't.
Department of the Interior
Washington, D.C. 20240

Christopher S. Bond
Governor

J. Neil Nielson
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Jefferson City 65101

Mark L. Edelman
Deputy Commissioner

November 13, 1975

Director
Bureau of Land Management
Department of the Interior
Washington, D. C. 20240

Dear Sir:

Subject: 75100046, Draft Environmental Impact Statement on the Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211)

The Division of Budget and Planning, as the designated State Clearinghouse, has coordinated a review of the above referred draft environmental impact statement with various concerned or affected state agencies pursuant to Section 102(2)(c) of the National Environmental Policy Act.

Enclosed please find the comments received. None of the other state agencies involved in the review had comments or recommendations to offer at this time.

We appreciate the opportunity to review the statement and anticipate receiving the final environmental impact statement when prepared.

Sincerely,

Terry L. Rehma
Grants Coordinator

JACK CURTIS, *Chairman*
720 N. Jefferson
Springfield 65802

DANIEL W. DUNCAN, *Vice Chairman*
3321 South Second St.
St. Joseph 64503

LYNN W. BAUER, *Member*
3301 Grand Avenue
Kansas City 64128

W. R. LOGAN, *Member*
Ewing 63537

ROGER R. LINCOLN, *Member*
3847 Hamilton
St. Louis 63116

A. C. BILBY, *Member*
701 Davis
New Madrid 63869

MISSOURI
STATE HIGHWAY COMMISSION

ROBERT N. HUNTER, *Chief Engineer*

BRUCE A. RING, *Chief Counsel*

L. V. McLAUGHLIN, *Asst. Chief Engineer*

MRS. IRENE WOLLENBERG, *Secretary*

Jefferson City, Missouri 65101
Telephone (314) 751-2551

October 20, 1975

GENERAL: A-95 Review
Application No. 75100046

Mr. Terry Rehma, A-95 Coordinator
Division of State Planning and Analysis
State Capitol, P. O. Box 809
Jefferson City, Missouri 65101

Dear Mr. Rehma:

The Draft Environmental Impact Statement covering proposed surface management of Federally owned coal resources and coal mining operating regulations by the U.S. Department of the Interior does not address the effect on transportation facilities. We suggest that the report be expanded to cover the effect of such an operation on transportation facilities.

Very truly yours,

L. V. McLaughlin
Assistant Chief Engineer
A-95 Review Agent

OFFICE OF PLANNING AND PROGRAMMING

STATE OF NEBRASKA

BOX 94601 · STATE CAPITOL · LINCOLN, NEBRASKA · 68509 · (402) 471-2414

Governor J. James Exon
State Planning Director

W. Don Nelson
Director

November 20, 1975

Director
U. S. Geological Survey
National Center
Mail Drop 760
Reston, Virginia 22092

Dear Sir:

Project 75 10 07 70
Surface Management of Coal Resources

Under the provisions of OMB Circular A-95, this office has completed a state level review of the draft environmental impact statement on the Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations.

The proposed regulations do not appear to be in conflict with any state level comprehensive plans. No comments were received from agencies during this review.

This letter completes the state clearinghouse review.

Sincerely,

Warren White
Natural Resources Coordinator

WW:mp

STATE OF NEVADA
GOVERNOR'S OFFICE OF PLANNING COORDINATION
CAPITOL BUILDING, ROOM 48
CAPITOL COMPLEX
CARSON CITY, NEVADA 89710
(702) 885-4668

November 17, 1975

Director
Bureau of Land Management
Department of the Interior
Washington, D.C. 20240

RE: Surface Management of Federally Owned Coal Resources (43 CFR Part 3041)
and Coal Mining Operating Regulations (30 CFR Part 211) SAI NV # 76SS0024

Dear Sir:

The State Clearinghouse does not find any conflicts with the proposed statement; however, a water pollution problem which is not mentioned should be discussed. "Acid mine drainage, caused by pyritic sulfur in coal deposits, when exposed to oxygen, it is oxidized to sulfuric acid, and iron oxides. These substances can enter surface or ground water causing a very acidic condition affecting the aquatic biota, and recreational use."

Sincerely,

Bruce D. Arkell
State Planning Coordinator

BDA/kam

cc: Environmental Protection Services

NDSIC FORM B (9/71)

PNRs NO.

Date Received

FROM: STATE INTERGOVERNMENTAL CLEARINGHOUSE
STATE PLANNING DIVISION
STATE CAPITOL
BISMARCK, NORTH DAKOTA 58501

ENVIRONMENTAL IMPACT STATEMENT TO BE REVIEWED

TO: Dr. Ed Noble
State Geologist
Grand Forks, ND 58201

ISSUED BY: U.S. Department of the Interior

DATE: October 23, 1975

NAME OF PROJECT: Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations

The attached Environmental Impact Statement is referred to your agency for review and possible comments. If you consider it satisfactory, please check the box labeled, "no comment." Otherwise, please check one of the other appropriate boxes. Your cooperation is asked in completing this memo and returning it to the State Intergovernmental Clearinghouse within 10 days from date of receipt. If no response is received within 15 days of date of notification it will be assumed you have no comment.

☐ No comment

☐ Meeting desired with applicant

☒ Comments submitted herewith

1. Specific comments which are to be attached to the review statement which will be submitted by the State Intergovernmental Clearinghouse: (Use reverse side or separate sheets if necessary)

COMMENTS:

Only two technical items appear to need any comment:

Section 0-7 (b.) (17), page I-16 suggests that 10 years is sufficient to establish revegetation to the standard of self-vegetation. This may be, but in view of arid region vegetation succession problems, perhaps a statement of "once self-vegetation is established or self-vegetation is deemed unfeasible by the mine officer, liability of the mining company shall cease, in any case this period shall not be less than five years" or similar would be better.

Section 0-7 (c.), page I-16 neglects that subsidence of underground coal mines may take place 20-30 years after cessation of mining. I'm not sure that adequate safeguards are built in the regulations for shallow depth underground mining.

One other major area of concern is the possible conflict of state and federal environmental legislation and mining regulation. Although the report discusses the problem, the proposed answer is federal priority in all cases, with state legislation being substituted for federal rules only when approved by the Secretary of the Interior.

This solution is not acceptable. In cases of private surface ownership, more stringent state reclamation rules should always have precedence; perhaps even when federal surface is involved states should exercise regulation if state rules are more stringent than federal. The "splitting" of regulations by some mutual agreement between state and federal regulatory bodies should be provided for when individual mines cross such regulatory boundaries.

In general, other aspects of the report appear to represent a sincere effort of the Department of the Interior to enable development of much-needed coal reserves at the least possible environmental expense.

2. Reasons why meeting is desired with applicant:

Reviewer's Signature: Ed C. Noble Date: November 13, 1975

Title: Assistant State Geologist Tele: 777-2231

NORTH DAKOTA STATE PLANNING DIVISION
STATE CAPITOL—FOURTH FLOOR—BISMARCK, NORTH DAKOTA 58505
701 224-2810

November 19, 1975

STATE INTERGOVERNMENTAL CLEARINGHOUSE "LETTER OF COMMENT"
ON PROJECT REVIEW IN CONFORMANCE WITH OMB CIRCULAR NO. A-95

To: U.S. Department of the Interior
STATE APPLICATION IDENTIFIER: 7501130522

Director
Bureau of Land Management
Department of the Interior
Washington, D.C. 20240

Dear Sir:

Subject: Draft Environmental Impact Statement by the U.S. Department of the Interior on the Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operations Regulations.

This Draft EIS was received in our office on October 13, 1975.

In the process of the A-95 review, the attached comments were received from the State Geologist, State Historical Society, Public Service Commission, State Water Commission and the Soil Conservation Service.

This document and attachments constitute the comment of the State Intergovernmental Clearinghouse, made in compliance with OMB Circular No. A-95.

Sincerely yours,

Bonnie E. Austin
Miss Bonnie E. Austin
Associate Planner

BEA/de

Attachments:

cc: Director, Geological Survey

NDSIC FORM B (9/71)

PNRS NO.

Date Received

FROM: STATE INTERGOVERNMENTAL CLEARINGHOUSE
STATE PLANNING DIVISION
STATE CAPITOL
BISMARCK, NORTH DAKOTA 58501

RECEIVED NOV 7 1975 State Planning Division

ENVIRONMENTAL IMPACT STATEMENT TO BE REVIEWED

TO: Mr. James Sperry
Historical Society
Bismarck, ND 58505

ISSUED BY: U.S. Department of the Interior

DATE: October 23, 1975

NAME OF PROJECT: Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations

The attached Environmental Impact Statement is referred to your agency for review and possible comments. If you consider it satisfactory, please check the box labeled, "no comment." Otherwise, please check one of the other appropriate boxes. Your cooperation is asked in completing this memo and returning it to the State Intergovernmental Clearinghouse within 10 days from date of receipt. If no response is received within 15 days of date of notification it will be assumed you have no comment.

☐ No comment

☐ Meeting desired with applicant

☒ Comments submitted herewith

1. Specific comments which are to be attached to the review statement which will be submitted by the State Intergovernmental Clearinghouse: (Use reverse side or separate sheets if necessary)

(See attached statement)

2. Reasons why meeting is desired with applicant:

Reviewer's Signature: Nick G. Franke Date: November 6, 1975

Title: Research Archaeologist Tele: 224-2672

State Historical Society of north dakota

November 6, 1975

OMB A-95 Project Review - Comments

U.S. Department of the Interior
Re: Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations.

1.) Page II-95, (4): The statement that the mountain fur trade was the "first exploitation of the natural resources of the area" ignores the use of the natural resources of the area by the American Indian.

2.) Page II-148, 2. Ethnic: This section erroneously implies that the Europeans who settled the Northern Great Plains were ethnically homogeneous.

3.) Page III-31, Cultural Resources: The measures taken to mitigate the impacts of coal development on historic and archeological sites are not benefical because they only lessen the negative impacts of coal development on these values.

"Buy North Dakota Products"

NDSIC FORM B (9/71)

PNRS NO.

Date Received

FROM: STATE INTERGOVERNMENTAL CLEARINGHOUSE
STATE PLANNING DIVISION
STATE CAPITOL
BISMARCK, NORTH DAKOTA 58501

RECEIVED NOV 6 1975 State Planning Division

ENVIRONMENTAL IMPACT STATEMENT TO BE REVIEWED

TO: Mr. Ed Englerth
Public Service Commission
Bismarck, ND 58505

RECEIVED OCT 28 1975 NORTH DAKOTA PUBLIC SERVICE COMMISSION

ISSUED BY: U.S. Department of the Interior

DATE: October 23, 1975

NAME OF PROJECT: Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations

The attached Environmental Impact Statement is referred to your agency for review and possible comments. If you consider it satisfactory, please check the box labeled, "no comment." Otherwise, please check one of the other appropriate boxes. Your cooperation is asked in completing this memo and returning it to the State Intergovernmental Clearinghouse within 10 days from date of receipt. If no response is received within 15 days of date of notification it will be assumed you have no comment.

☐ No comment

☐ Meeting desired with applicant

☐ Comments submitted herewith

1. Specific comments which are to be attached to the review statement which will be submitted by the State Intergovernmental Clearinghouse: (Use reverse side or separate sheets if necessary)

Comments were sent to the Governor's Office for forwarding to meet the Nov. 5th deadline for response after publication in the Fed. Register.

2. Reasons why meeting is desired with applicant:

Reviewer's Signature: E. J. Englerth Date: 4 Nov. 1975

Title: Director, Reclamation + Siting Tele: 2410

NDSIC FORM B (9/71)

PNRS NO.

Date Received

FROM: STATE INTERGOVERNMENTAL CLEARINGHOUSE
STATE PLANNING DIVISION
STATE CAPITOL
BISMARCK, NORTH DAKOTA 58501

RECEIVED NOV 5 1975 State Planning Division

ENVIRONMENTAL IMPACT STATEMENT TO BE REVIEWED

TO: Mr. Vernon Fahy
Water Commission
Bismarck, ND 58505

ISSUED BY: U.S. Department of the Interior

DATE: October 23, 1975

NAME OF PROJECT: Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations

The attached Environmental Impact Statement is referred to your agency for review and possible comments. If you consider it satisfactory, please check the box labeled, "no comment." Otherwise, please check one of the other appropriate boxes. Your cooperation is asked in completing this memo and returning it to the State Intergovernmental Clearinghouse within 10 days from date of receipt. If no response is received within 15 days of date of notification it will be assumed you have no comment.

☐ No comment

☐ Meeting desired with applicant

☐ Comments submitted herewith

1. Specific comments which are to be attached to the review statement which will be submitted by the State Intergovernmental Clearinghouse: (Use reverse side or separate sheets if necessary)

THE PROVISION RELATING TO DISCRETION OF SECRETARY TO IMPLEMENT STATE REGULATIONS UPON REQUEST OF GOVERNOR SEEMS TO RECOGNIZE THE RIGHT OF THE STATE TO CONTROL DEVELOPMENT TO SOME EXTENT.
MUCH MORE INFO IS NEEDED CONCERNING IMPACT OF MINING ON GROUNDWATER.

2. Reasons why meeting is desired with applicant:

Reviewer's Signature: Vernon Fahy Date: 10/29/75

Title: STATE ENGR. Tele: 224-2750

NDSIC FORM B (9/71)

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Box 1458, Bismarck, North Dakota 58501

November 11, 1975

RECEIVED NOV 12 1975 State Planning Division

Austin Engel
State Planning Agency
State Capitol
Bismarck, North Dakota 58501

Dear Mr. Engel:

Reference the attached NDSIC Form B (9/71) concerning Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Regulations.

The regulations contained in the statement provide adequate protection for the soil resource, no further comment is offered.

I appreciated the opportunity to review the draft statement.

Sincerely,

Neal A. McClure

Neal A. McClure
Assistant State Conservationist

Attachment

cc: Ike Ellison, Coordinator, Natural Resources Council
State Capitol, Bismarck, ND

AN EQUAL OPPORTUNITY EMPLOYE

EXECUTIVE DEPARTMENT

INTERGOVERNMENTAL RELATIONS DIVISION

240 COTTAGE STREET S.E. SALEM, OREGON 9731

ROBERT W. STRAUB
GOVERNOR

STAFFORD HANSELL
Director

November 18, 1975

Director
Bureau of Land Management
Department of Interior
Washington, D.C. 20240

Dear Sir:

Re: Proposed Surface Management of Federally Owned Coal Resources
PNRS # 7510 4 250

Thank you for submitting your draft Environmental Impact Statement for State of Oregon review and comment.

Your draft was referred to the appropriate state agencies. Land Conservation and Development, Department of Environmental Quality, Department of Fish and Wildlife, and Water Resources Department offered the enclosed comments which should be addressed in preparation of your final Environmental Impact Statement.

We will expect to receive copies of the final statement as required by Council of Environmental Quality Guidelines.

Sincerely,

William H. Young
Administrator

WHY:lm
Enclosures

RECEIVED ... DIVISION ... ENVIRONMENTAL ASSESSMENT

OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

STATE CLEARINGHOUSE

Intergovernmental Relations Division
240 Cottage Street S.E., Salem, Oregon 97310
Ph: 378-3732

LOCAL GOVERNMENT RELATIONS DIV. NOV 18 1975

PNRS STATE REVIEW

Project #: 7510 4 250 Return Date: NOV 14 1975

ENVIRONMENTAL IMPACT REVIEW PROCEDURES

1. A response is required to all notices requesting environmental review.
2. OMB A-95 (Revised) provides for a 30-day extension of time, if necessary. If you cannot respond by the above return date, please call the State Clearinghouse to arrange for an extension.

ENVIRONMENTAL IMPACT REVIEW
DRAFT STATEMENT

( ) This project does not have significant environmental impact.

( ) The environmental impact is adequately described.

(✓) We suggest that the following points be considered in the preparation of a Final Environmental Impact Statement regarding this project.

( ) No comment.

REMARKS

Mining and post mining activities should be coordinated with the Local City and/or County Comprehensive Plan. In consideration of alternatives and formulation of requirements to be incorporated in leases, ~~and~~ permits and licenses the surface management agencies and GS should consider the socio-economic and growth impacts of the proposed project on the local area. Does the City or County being affected have adequate facilities ~~B~~ or planned facilities to accommodate the mining activity?

Agency LCDC Nov14 By John R. Gustafson

OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

STATE CLEARINGHOUSE

Intergovernmental Relations Division
240 Cottage Street S.E., Salem, Oregon 97310
Ph: 378-3732

OCT 27 1975

Administrative Services Division Dept. of Environmental Quality RECEIVED OCT 20 1975

PNRS STATE REVIEW

Project #: 7510 4 250 Return Date: NOV 14 1975

ENVIRONMENTAL IMPACT REVIEW PROCEDURES

1. A response is required to all notices requesting environmental review.
2. OMB A-95 (Revised) provides for a 30-day extension of time, if necessary. If you cannot respond by the above return date, please call the State Clearinghouse to arrange for an extension.

ENVIRONMENTAL IMPACT REVIEW
DRAFT STATEMENT

( ) This project does not have significant environmental impact.

(X) The general environmental impact is adequately described.

( ) We suggest that the following points be considered in the preparation of a Final Environmental Impact Statement regarding this project.

( ) No comment.

REMARKS

This report is adequate to describe very general conditions over vast areas. A very detailed EIS would be needed for specific coal mining locations.

10-23-75

Agency DEQ By G. Carter

OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

STATE CLEARINGHOUSE

Intergovernmental Relations Division
240 Cottage Street S.E., Salem, Oregon 97310
Ph: 378-3732

PNRS STATE REVIEW

Project #: 7510 4 250 Return Date: NOV 14 1975

ENVIRONMENTAL IMPACT REVIEW PROCEDURES

1. A response is required to all notices requesting environmental review.
2. OMB A-95 (Revised) provides for a 30-day extension of time, if necessary. If you cannot respond by the above return date, please call the State Clearinghouse to arrange for an extension.

ENVIRONMENTAL IMPACT REVIEW
DRAFT STATEMENT

( ) This project does not have significant environmental impact.

( ) The environmental impact is adequately described.

(X) We suggest that the following points be considered in the preparation of a Final Environmental Impact Statement regarding this project.

( ) No comment.

REMARKS

(See attachment.)

Agency Fish + Wildlife By William E. Straw 10/24/75
Environmental Management Section

Oregon Department of Fish and Wildlife

Comments on

Draft Environmental Statement - Department of the Interior

Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations

The statement provides a reasonable analysis of the impacts of the proposed regulations. The following comments are suggested to strengthen the environmental impact and mitigation sections of the statement.

1. Environmental Impact - Fish and Wildlife. The report adequately describes the displacement and potential loss of wildlife in terms of the animals themselves, but no mention is made of the monetary loss from wildlife oriented recreation or commercial harvest. Following reclamation, the wildlife species composition will most likely be much different than that which existed prior to mining. This change in species may result in a reduction of monetary benefits derived from wildlife. For example, conversion of an anadromous fish stream to a stream containing less desirable fish would affect local revenues generated by sport and commercial fishing.

2. Mitigating Measures. Although the regulations allow for withdrawal of key wildlife areas, there needs to be provisions to replace, in kind, wildlife and their habitat which may be totally eliminated by mining activity. It should be noted in the statement that some types of wildlife losses cannot be mitigated.

OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

STATE CLEARINGHOUSE

Intergovernmental Relations Division
240 Cottage Street S.E., Salem, Oregon 97310
Ph: 378-3732

PNRS STATE REVIEW

Project #: 7510 4 250 Return Date: NOV 14 1975

ENVIRONMENTAL IMPACT REVIEW PROCEDURES

1. A response is required to all notices requesting environmental review.
2. OMB A-95 (Revised) provides for a 30-day extension of time, if necessary. If you cannot respond by the above return date, please call the State Clearinghouse to arrange for an extension.

ENVIRONMENTAL IMPACT REVIEW
DRAFT STATEMENT

( ) This project does not have significant environmental impact.

( ) The environmental impact is adequately described.

(X) We suggest that the following points be considered in the preparation of a Final Environmental Impact Statement regarding this project.

( ) No comment.

REMARKS

See Attached memo

Agency Water Resources By Jake Szramek

STATE OF OREGON INTEROFFICE MEMO

TO: Federal Aid Coordinator DATE: November 3, 1975

FROM: Jake Szramek
Water Resources Department

SUBJECT: Draft Environmental Statement Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations

We have the following comment to offer in regard to the subject draft statement.

Page II - 12 Section D Hydrology. It should be noted that Oregon streams have low summer flows. These low summer flows have to satisfy a variety of users when water demands are at their peak. In addition to water supply and demand, Oregon has established minimum flows that are maintained for fish life and in some instances water quality and have set policy guidelines that regulate water use.

Thus, coal operators should be informed that they would have to determine water availability and policy guidelines to see if their needs could be satisfied under existing conditions.

STATE OF TENNESSEE

OFFICE OF URBAN AND FEDERAL AFFAIRS

SUITE 108 • PARKWAY TOWERS BUILDING • NASHVILLE 37219 • 615-741-2714

RAY BLANTON, Governor

WASHINGTON BUTLER, JR., Director

November 19, 1975

Director
U. S. Geological Survey
National Center
Mail Stop 760
Reston, Virginia 22092

RE: Draft Environmental Impact Statement
Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211)

Dear Sir:

As the officially designated State Clearinghouse for Federal development programs under OMB Circular A-95 guidelines, we have conducted a review of the subject draft EIS. Included are proposed new BLM coal leasing, permitting and licensing regulations (43 CRF Part 3041) and revised USGS coal exploration, mining operating, and reclamation regulations (30 CFR Part 211) as they apply to all aspects of coal operations on public and acquired lands.

No State agencies have identified conflicts with their current or planned activities. Enclosed are recommendations from the Tennessee Wildlife Resources Agency that merit your thorough consideration in preparation of the final environmental statement.

We appreciate the opportunity to review this proposal. We, or other reviewing authorities, may wish to comment further at a later time. If this office, as the State Clearinghouse, can be of further assistance, please do not hesitate to contact us.

Please forward five (5) copies of the final EIS upon its completion and distribution.

Sincerely,

A. D. Walters (for)

Stephen H. Norris
Grant Review Coordinator

SHN:mn

Enclosure

cc: Director, Bureau of Land Management

TENNESSEE WILDLIFE RESOURCES AGENCY

ELLINGTON AGRICULTURAL CENTER
P. O. BOX 40747
NASHVILLE, TENNESSEE 37204

HARVEY BRAY, Executive Director
ROY H. ANDERSON, Asst. Director
GARY T. MYERS, Asst. Director

November 12, 1975

Mr. Stephen H. Norris
Grant Review Coordinator
Office of Urban and Federal Affairs
Suite 108
Parkway Towers Building
Nashville, Tennessee 37219

Re: Department of Interior - DEIS, Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations

Dear Mr. Norris:

We have reviewed the above-captioned coal mining regulations for Federally owned coal resources. Regulations and revisions provide for: expansion of Federal scope of authority to private surface over Federally owned minerals; required submission of detailed exploration and/or mining plans prior to operations, and required reclamation as an integral part of mining operations.

There are no Federal leases of coal listed for Tennessee (page III-3). However, we conclude that the proposed regulations will very significantly minimize detrimental environmental impacts from mining of Federally - leased coal. We, therefore, have no objections to the regulations subject to the following comments:

1. The list of 30 endangered species which may appear on Federal coal lands seems short in consideration of the much longer official Federal list. An example of a possible missing species is the red-cockaded woodpecker, which is found in old age pine woodlands from southeastern Oklahoma, Arkansas, Western Kentucky, Southeastern Virginia south to the Gulf Coast. We recommend that this and other Federally-listed species be considered for possible presence on Federal coal lands.

2. It is recommended that recognition be given to State lists of endangered species where Federally leased coal lands are located and to protection of habitat for these species.

Mr. Stephen H. Norris
Page - 2
November 12, 1975

We appreciate this opportunity for comment.

Sincerely,

Harvey Bray, Executive Director
Tennessee Wildlife Resources Agency

Robert M. Hatcher

Robert M. Hatcher, Environmental Planner
Planning & Environmental Resources Division

RMH/ss

cc: Mr. Hudson Nichols

OFFICE OF THE GOVERNOR
DIVISION OF PLANNING COORDINATION

DOLPH BRISCOE, GOVERNOR

JAMES M. ROSE, DIRECTOR

December 22, 1975

Mr. Vincent E. McKelvey
Director
U.S. Geological Survey
National Center
Mail Stop 760
Reston, Virginia 22092

Dear Mr. McKelvey:

The Draft Environmental Impact Statement (EIS) for the proposed, "Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Regulations (30 CFR Part 211) DES 7553," has been reviewed by the Governor's Division of Planning Coordination and interested State agencies as prescribed by the National Environmental Policy Act of 1969. The comments of the individual agencies are enclosed and each should be considered in its entirety.

The review participants noted that there are apparently no federally owned coal deposits in Texas that fall within the jurisdiction of the above cited regulations. They also noted that the Draft EIS implies that the Secretary of the Interior has discretionary authority to adopt and apply as federal law any State regulations pertaining to surface mining for federal lands under his jurisdiction. Therefore they stated that the Draft EIS should be corrected to record that the State of Texas has a Surface Mining and Reclamation Act; Senate Bill 55 of the 64th Texas Legislature. In addition, the reviewing agencies submitted suggestions to strengthen the document. These comments are briefly summarized as follows:

1. The Texas Department of Agriculture (TDA) noted that the Draft EIS is well conceived. However, they made a number of suggestions to clarify ambiguities. The TDA suggested that the cost of reclamation should be documented. They expressed concern for the impact of the assertion that large coal mining operations are more efficient than small ones and expressed strong objection to the inference that improved environmental conditions would be gained by eliminating small mining operations.

EXECUTIVE OFFICE BUILDING • 411 WEST 13TH STREET • AUSTIN, TEXAS 78701 • (512) 475-2427

2. The Texas Water Rights Commission (TWRC) stated that the Draft EIS should include some discussion of the probable impact of lignite coal mining on the National Forests and Grasslands in Texas. They suggested that mention should be made of the degree to which federally owned lands in Texas had been inventoried for lucrable resources. The TWRC also requested clarification of whether the programmatic approach precludes the need for assessing specific projects or the concentration of energy related projects in an area.

3. The Texas Air Control Board stated that the Draft EIS should contain further discussion on the control of fires in coal banks because these fires are a source of air pollution. They also provided guidance for the treatment of access roads to prevent excess emissions of particulate matter.

4. The Surface Mining and Reclamation Division of the Railroad Commission of Texas (SMRD) informed us that "Rules for Regulating Surface Mining of Coal and Uranium" will be reviewed in a second hearing in January, 1976, and that these rules should become effective early next year. They suggested that engineering estimates should include the capacity of catch basins or holding ponds to contain or control water pumped from the mine floor and the maximum 5-inch/24 hour rainfall runoff recorded for the area by the nearest weather bureau service. They emphasized the need for preventing cuts within 100 feet of an oil or gas well unless these wells have been properly plugged. They stated that no cuts should be allowed within 150 feet of the outside line of the right of way for a public highway and that, where possible, natural vegetation screening should be required where complete reclamation cannot be achieved. The SMRD requested that they be informed of any future mining operations to be developed in Texas.

The Division of Planning Coordination noted that the procedures for issuing permits and the regulations for mining operation include certain provisions that should be emphasized in the draft EIS. The provisions include: the requirement for the preparation of an environmental impact assessment for an area being considered for coal development; the conduct of public hearings and consultations with local and State agencies in the selection of tracts for development; and the discretionary authority of the Secretary of the Interior to direct, at the request of the Governor, that some or all existing State laws, regulations and procedures be applied as a matter of federal law. We also suggest the need for flexibility in requirements pertaining to subsidence and revegetation. The effect of subsidence and the feasibility of revegetation will vary throughout the country, particularly in different areas of this State. Therefore, some exception may be desirable, particularly where controlling or preventing subsidence and total reclamation may constitute a waste of resources, effort and funds.

EDMUND L. NICHOLS
Assistant Commissioner

October 27, 1975

Mr. Wayne N. Brown, Chief
Intergovernmental Coordination
Division of Planning Coordination
Office of the Governor
Austin, Texas 78711

Dear Wayne:

This is in response to your letter of October 17, 1975, soliciting comments on the Draft Environmental Impact Statement On the Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) And Coal Mining Operating Regulations (30 CFR Part 211).

We have reviewed this draft EIS and proposed regulations and find that generally it is well written and well conceived; We do offer some comments which we believe will make the statements more precise and pertinent to the subject.

There is stated a requirement to replace overburden and waste in the mined area to the maximum extent possible. This is ambiguous and subject to various interpretations. The requirement to protect to the maximum extent practicable the quality and quantity of upstream, downstream and groundwater suffers from the same defect of ambiguity and opportunity for abuse. Both reclamation and water-related requirement should be clarified and made more specific for the good of environmental as well as legitimate mining concerns.

The section requiring regulation of public access, vehicular traffic and wildlife by warning fencing and flagmen needs rewording. The implication that wildlife will respond to warnings and flagmen detracts from the credibility of the section.

The requirement that the operator take visual resources into account in the planning, design and construction of facilities is vague. A definition of visual resources is needed and a more specific instruction than "taking into account" is needed.

The Texas Parks and Wildlife Department and the Bureau of Economic Geology also participated in the review of this document and concurres without exception. This Division recognizes that the development of federally owned coal resources is essential to the development of an extensive source of alternative fuel. We urge you to consider the preceding comments in the preparation of final rules and regulations for the discovery and mining of coal resources.

If we can be of further assistance, please let us know.

Sincerely,

JAMES M. ROSE
Director

JMR:eec 17/16

Enclosures

cc: Hon. John C. White, TDA
Mr. Charles R. Barden, TACB
Dr. C. J. Groat, BEG
Mr. Robert F. Schneider, TWRC
Mr. Clayton T. Garrison, TP&WD
Mr. Ray Payne, TRRC

The section requiring that exploration and mining work be conducted to minimize, control, and to the maximum extent practicable prevent air and water pollution is too general and subject to too many interpretations. This should be clarified and made more specific to avoid abuse.

The section requiring that subsidence be controlled or prevented may be too stringent. In some situations, subsidence may not be harmful, so controlling or preventing it would constitute a waste of resources, effort and funds.

The section on endangered and threatened species has several speculative statements regarding species which may be considered endangered but offers nothing more than the author's opinion in support. More factual support information is needed. Also, the notion that the "threatened" species list include all vertebrate species considered threatened is too vague and subject to abuse. For credibility, definition of "threatened species" authority is essential.

The section captioned Human Values Resources is misnamed. It actually addressed aesthetic, not human values.

The section on economics is at least inadequate. It is unacceptable to try to cover the economics of the nation's largest fossil fuel resource in two sentences.

The section discussing the role of states in regulating surface coal mining includes Texas in the list of states with no statutory controls. This is incorrect. Texas has a Surface Mining and Reclamation Act. This should be corrected.

The chapter on probable adverse impacts contains several statements that are clearly no more than opinions and probably only wishful thinking. An example is the assertion that the cost of reclamation would cost only a small percentage of the cost of the coal. This argument, if used, must be documented. The contention that large coal mining operations are more efficient than small ones, hence the environmental impacts will be improved by driving the small operations out of business is appalling. This is blatantly incorrect and it is hardly appropriate for a federal agency to take such a flagrant position in view of the nation's anti-trust laws and individual initiative tradition. This chapter ought to be rewritten. Further, this chapter appears twice in the document. Once is clearly enough. The allega-

Mr. Wayne N. Brown, Chief
October 27, 1975
page three

tions regarding small operators versus big ones is repeated and elaborated in Chapter VI. Correction is called for.

We appreciate the opportunity to review this statement.

Sincerely,

Edmund C. Nichols

ECN/pcf

TEXAS WATER RIGHTS COMMISSION

STEPHEN F. AUSTIN STATE OFFICE BUILDING

November 13, 1975

Brigadier General James M. Rose
Director, Division of Planning Coordination
Office of the Governor
411 West 13th Street
Austin, Texas 78701

Attention: Mr. Wayne N. Brown

Re: U.S. Department of the Interior, U.S. Geological Survey's Bureau of Land Management -- Draft Environmental Statement -- "Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211), DES 75-83," October 1, 1975.

Dear General Rose:

As requested in your letter of October 17 and the U.S. Geological Survey's letter of October 1, 1975, the staff of the Texas Water Rights Commission has reviewed the referenced document. The review was made pursuant to the Commission's duties as a member agency of the Interagency Council on Natural Resources and the Environment (ICNRE) to assist your office in reviewing Federal actions pursuant to Office of Management and Budget Circular No. A-95. More specifically, the review was made from the standpoint of the effects of the proposed referenced action on the State of Texas, and the water rights impacts of the proposed action.

The staff furnishes the following comments for your consideration:

1. Generally, the referenced document fulfills the analytical, coordinative, and administrative requirements of Sec. 102 (2)(C) of the National Environmental Policy Act of 1969.

P. O. BOX 13207 AREA CODE 512 AUSTIN, TEXAS 78711

2. The discussion on pages II-160 through II-180, relative to the Gulf Coast Province should include some discussion of the probable impacts of lignite coal mining on the Angelina, Davey Crockett, Sabine, Sam Houston, and the Big Thicket National Forests; and, the Caddo and the Cross Timbers National Grasslands in Texas. It appears that 43 CFR 23 incorporates the concept of "multiple use" of Federal lands. This assumption is based on the staff's interpretation of Section 23. 1, which states:

> "It is the policy of this Department to encourage the development of the mineral resources under its jurisdiction where mining is authorized. However, the public interest requires that, with respect to the exploration for, and the surface mining of, such minerals, adequate measures be taken to avoid, minimize, or correct damage to the environment--land, water, and air--and to avoid, minimize, or correct hazards to the public health and safety. The regulations in this part prescribe procedures to that end." (Emphasis added.)

3. Analysis of Section 3041. 0-7 (b)(6) through (20), inclusive, of Proposed Rules, 43 CFR 3040, Subpart 3041, indicates that proper consideration will be given to the protection of State water and water rights, both on local and regional bases, incident to possible surface, coal-mining operations on federally-owned National Forests, Botanical and Biological Preserves, and Grasslands in Texas.

4. Mention should be made of the degree to which the federally-owned lands in Texas have been inventoried for locatable mineral resources.

5. Mention should be made of the cross impacts of the provisions of the Energy Supply and Environmental Coordination Act of

1974 (Public Law 93-319, enacted by Congress on June 24, 1975) with both 43 CFR 3041 and 30 CFR 211.

6. Clarification and discussion should be furnished whether the referenced programmatic statement is intended to preclude the need for preparing statements for specific projects, or for regional areas in which a great concentration of many energy-related projects and activities are under consideration, including coal mining, coal gasification, power plants, water developments, transportation systems, pipelines, and power transmission lines. It might be more advantageous to all managers and the public concerned, to consider the cumulative environmental, social, and economic impact of permitting all such interrelated projects within a given geographical area. It should be emphasized that program, regional, and project Environmental Impact Statements serve different needs of planners, managers, and the public.

The foregoing comments are presented with the constructive intent of enhancing the usefulness of the referenced document. If you have any questions, please notify Dr. Alfred J. D'Arezzo, Special Analyst for Environment and Interagency Coordination, phone (512) 475-2678.

Sincerely,

Robert E. Schneider
Executive Director

RES-AJD:ll

TEXAS AIR CONTROL BOARD

PHONE 512/451-5711
8520 SHOAL CREEK BOULEVARD

CHARLES R. BARDEN, P. E.
EXECUTIVE DIRECTOR

AUSTIN, TEXAS – 78758

November 12, 1975

Mr. Wayne N. Brown, Chief
Intergovernmental Coordination
Planning Coordination
Governor's Office
Executive Office Building
411 West 13th Street
Austin, Texas 78701

Re: Draft Environmental Impact Statement on the Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211)

Dear Mr. Brown:

We have reviewed the above cited document. We feel some further discussion could be made concerning the control of fires in coal banks as this could become a source of air pollution. It may be necessary to treat access roads with asphalt, oil, water or suitable chemicals to prevent excess emissions of particulate matter.

Thank you for the review opportunity. If we can be of further assistance, please contact me.

Sincerely yours,

Bill Stewart, P.E.
Deputy Director
Control and Prevention

TEXAS PARKS AND WILDLIFE DEPARTMENT

CLAYTON T. GARRISON
EXECUTIVE DIRECTOR

JOHN H. REAGAN BUILDING
AUSTIN, TEXAS 78701

October 27, 1975

Mr. Wayne N. Brown
Governor's Division of Planning Coordination
Executive Office Building
411 W. 13th Street
Austin, Texas 78701

Dear Mr. Brown:

This Department has reviewed the draft environmental impact statement on the proposed surface management of federally owned coal resources (43 CFR Part 3041) and coal mining operating regulations (30 CFR Part 211). We concur with the statement as presented.

We appreciate the opportunity to comment on this statement.

Sincerely,

CLAYTON T. GARRISON
Executive Director

CTG:RLC:pd

5-1117-005

THE UNIVERSITY OF TEXAS AT AUSTIN
BUREAU OF ECONOMIC GEOLOGY
AUSTIN, TEXAS 78712

University Station, Box X
Phone 512—471-1534

November 11, 1975

Mr. Wayne N. Brown, Chief
Division of Planning Coordination
P. O. Box 12428
Austin, Texas 78711

Dear Mr. Brown:

The staff of the Bureau of Economic Geology has reviewed the Draft Environmental Impact Statement on the Proposed Surface Management of Federally Owned Coal Resources (43CFR Part 3041) and Coal Mining Operating Regulationa (30CFR Part 211).

We have no negative comments on these regulations.

Thank you for the opportunity to respond.

Sincerely,

C. G. Groat
Acting Director

CGG:wll

TEXAS WATER QUALITY BOARD

1700 NORTH CONGRESS AVE. 78701
P.O. BOX 13246 CAPITOL STATION 78711
AUSTIN, TEXAS

November 26, 1975

Re: Draft Environmental Impact Statement,
Federal Coal Leasing Program

General James M. Rose, Director
Governor's Division of Planning Coordination
Executive Office Building
411 West 13th Street
Austin, Texas 78701

Dear General Rose:

The staff of the Texas Water Quality Board has reviewed the draft environmental impact atatement covering the Federal Coal Leasing Program and offer the following comments regarding the statement.

The present federal coal leasing program would not have any effect on Texas aince there are presently no federal coal leases within the State. However, pages III-4 and III-5 of this report states that Texas has no statutes specifically requiring surface mine reclamation. Thia report is of recent enough vintage that the authors should be aware of the "Texas Surface Mining and Reclamation Act" enacted June 21, 1975. In any case, this portion of the report should be corrected to reflect the actual exiating conditions with respect to mining reclamation statutes in the State of Texas.

In the event that the Federal Government doea obtain coal leases in Texaa, the impact of the rules set forth in this report would only be minimal, aince the Federally enacted regulations and the recently enacted Texas statutes are in rather close agreement with reapect to aurface management and mining operating procedures.

We appreciate the opportunity to review this activity. If we can be of further assiatance, please let us know.

Very truly yours,

Emory G. Long, Director
Administrative Operations

AGENCY REVIEW TRANSMITTAL SHEET

TO: James M. Rose, Director
Division of Planning Coordination
Office of the Governor
(Attn: State Clearinghouse)

Date: Sent 11/21/75
Due: 11/21/75

FROM: Mr. Hugh C. Yantis, Jr., Texas Water Quality Board

SUBJECT: PUBLIC NOTICE SN-NA-1, GALVESTON DISTRICT, CORPS OF ENGINEERS, NEW WORK DREDGING, TAYLORS BAYOU, TEXAS, DRAINAGE AND FLOOD CONTROL PROJECT

We have reviewed the cited document and our comments as to the adequacy of treatment of environmental effects of concern are shown below:

	Check (✓) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	✓	
2. Additional alternatives which should be considered:	✓	
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	✓	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources.	✓	
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:	✓	
6. We identify issues which require further discussion or resolution:		✓

☐ This agency concurs with the implementation of this project.

☐ This agency does not wish to comment on the subject document because:

Name & title of reviewing official

Enclosure(s)

There is no definition of the quality of dredged material. The spoil quality is needed in order to determine its disposition. If the spoil is contaminated, as we suspect, it must be deposited in on-land confined disposal areas. It is the stated policy of this agency that the decant liquid from a spoil area must be routed to the channel being dredged; there is no statement regarding route of decant liquid.

ARTHUR RISTAU, DIRECTOR

STATE PLANNING OFFICE

STATE OF VERMONT
OFFICE OF THE GOVERNOR
MONTPELIER, VERMONT 05602
AREA CODE 802-828-3326

MEMORANDUM

To: U.S. Geological Survey, Director
National Center, Mail Stop 760
Reston, Virginia 22092

From: Lucinda M. Jones, State Planner

Date: November 17, 1975

Re: Draft environmental impact statement, Proposed Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations

As the state clearinghouse under OBOMB Circular A-95 we have notified interested public agencies of the above environmental impact statement and have received no comments.

LMJ:en

COMMONWEALTH of VIRGINIA

GERALD P. McCARTHY
ADMINISTRATOR

Council on the Environment

ninth STREET OFFICE BUILDING
RICHMOND 23219

January 16, 1976

Director, Geological Survey
Bureau of Land Management
U.S. Department of the Interior
Washington, D.C. 20220

Subject: Surface Management of Federally Owned Coal Resources and Coal Mining Operating Regulations

Dear Sir:

We have reviewed the subject draft environmental impact statement. The following state agencies participated in this review:

Division of State Planning and Community Affairs
State Water Control Board
State Department of Health
State Air Pollution Control Board
Soil and Water Conservation Commission
Commission of Outdoor Recreation
State Department of Conservation and Economic Development
Department of Labor and Industry, Division of Mines and Quarries

Based on the comments we received, we understand that these regulations will apply only to leases of Federally owned coal lands. Since none of these lands are located in the Commonwealth of Virginia these regulations will have no effect on this state.

Additionally, we would like to mention that we in Virginia have a great concern for conducting mining operations so as to avoid, minimize or control erosion, pollution of air and water, alteration of drainage, damage to vegetation and wildlife and damage to recreational, historical, archeological and ecological values of the land so that localized environmental effects on air, water and land are acceptable. Therefore, state regulations already exist which are very similar to those discussed in the subject document.

Director, Geological Survey
January 16, 1976
Page Two

Thank you very much for the opportunity to comment.

Sincerely,

Grace P. McCarthy

GPM:dls

cc: Honorable Earl J. Shiflet, Secretary of Commerce and Resources
Mr. Oscar H. Adams, State Department of Health

STATE OF WEST VIRGINIA
DEPARTMENT OF NATURAL RESOURCES
CHARLESTON 25305

IRA S. LATIMER, JR.
Director

December 4, 1975

V. E. McKelvey, Director
U.S. Geological Survey
National Center
Mail Stop 760
Reston, Virginia 22092

RE: DEIS, Proposed Surface Management of Federally Owned Coal Resources

Dear Mr. McKelvey:

The West Virginia Department of Natural Resources has reviewed the above referenced Draft Environmental Impact Statement (DEIS) and submits the following comments and recommendations.

The regulations seem to grant a significant amount of authority to inspection personnel. Page I-21 states that "The authorized officer of the surface management agency must set the amount of bond and take the necessary action for an increase or partial release of a bond, after consultation with the Mining Supervisor." It is thought that the regulations should describe bonding requirements and procedures in more detail. Bonding flexibility could still be maintained with a provision that would stipulate a minimum bond requirement.

Page I-23 states that failure of the operator to take action on a noncompliance notice will result in possible cancellation of the lease, permit or license. Strengthening this section by eliminating the word "possible" and inserting a requirement similar to West Virginia's revocation provision should further assure environmental quality control. The West Virginia Surface Mining and Reclamation Law states "If the Director finds that an applicant is or has been affiliated with or managed or controlled by, or is or has been under the common control of, other than as an employee, a person who or which has had a surface or strip-ming permit revoked or bond or other security forfeited for failure to reclaim lands as required by the laws of the State, he shall not issue a permit to the applicant." (Chapter 20-6-8, Code of West Virginia)

While reading the document, it was apparent that the relative importance of the coal provinces to the federal government decreased from west to east. For instance, aquatic resources and rare and endangered species were not discussed for the Eastern Province. Even worse was the complete misrepresentation of the economic and human-value resources of the Appalachians (Pages II-192 to 193). The statement "Coal mining has essentially replaced hunting and subsistence farming as the economic basis of the area." is archaic and unjust. This statement completely ignores the importance of oil and gas to Appalachia and the impact of the region's chemical industry on the total economy of the Nation. In addition, the timber industry and more recently, recreation and tourism, are very important economic assets to the area.

This document failed to evaluate any potential adverse socio-economic impacts that increased development of western coal will have on the Eastern Coal Province States. The lease price of Federal coal should not place an unfair economic hardship on the coal industry of other mining regions. It is thought that uniform Federal reclamation controls should help establish a healthy market in the pricing of coal.

The Alternatives Section (VIII-8) briefly discussed a feature of proposed Federal reclamation legislation, a special Reclamation Fund which would be used to reclaim abandoned surface mined lands. In view of the experience of West Virginia's reclamation program, such a Fund should be included in any Federal surface mining law or regulations. The increased cost of coal to the consumer for special reclamation would be insignificant when compared to the environmental and social benefits. This fund should be administered so as to be compatible with on-going state reclamation programs that have been successful in the reclamation of abandoned surface mine lands. Public ownership does not have to be a prerequisite for the successful reclamation of these existing scars. Equitable distribution of funds to the states should be made on the basis of acreage in need of reclamation, regardless of ownership.

It is essential that any Federal regulatory surface mine reclamation program establish the following provisions: (1) issuance of exploratory permits should be subject to reclamation obligations, (2) a prelim. for reclamation must be a requirement for issuing a mining permit; (3) stringent sedimentation and water pollution controls; (4) adequate bonding to assure that public funds will not be required to achieve reclamation; (5) a limitation clause which allows the regulatory agency the right to refuse a permit with just cause to protect irreplaceable, unique high quality values and/or for reasons of public welfare and safety; (6) reclamation regulations for Federally owned properties should be consistent with proposed congressional legislation for surface mine reclamation on all lands.

In general, the proposed regulations appear to provide a comprehensive program that takes into consideration the previously enumerated provisions. Proper enforcement coupled with a cooperative mining industry

should assure environmental protection and uniform reclamation requirements for Federal coal resources. If you desire additional information, or have any questions, do not hesitate to contact this office.

Sincerely,

Ira S. Latimer, Jr.
Director

ISL/wbs

ED HERSCHLER, Governor
A. J. "JACK" HULL, Pres. Laramie
FLOYD CARR, Vice-Pres. Saratoga
CHARLES H. BROWN, Wheatland
JAMES P. CASTBERG, Powell
GENE BONDI, [illegible]
ROGER WILDER, Evanston
DAVE WHEELER, Lander

State of Wyoming

LLM 7--123

JAMES B. WHITE
Director
EARL M. THOMAS
Assistant Director
REX CORSI
Chief Game Warden
W. DONALD DEXTER
Chief Fish Warden
EVA M. SORAN
Chief Fiscal Officer
CHESTER C. ANDERSON
Chief Research & Development

GAME AND FISH DEPARTMENT
CHEYENNE 82002

November 21, 1975

Secretary of the Intarior
Interior Building
Washington, DC 20240

Dear Mr. Secretary:

Personnal of the Wyoming Game and Fish Department have reviewed the Draft Environmental Statement relating to tha Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211) reference DES 75-53 as prepared by the U. S. Department of the Interior. Our review indicates that the proposed regulations would result in beneficiel impacts on wildlife habitat as indicated in tha DES. One adverse impact not accounted for is that of committing efforts of state wildlife agencies to cooperate in monitoring the implementation of this proposed regulation. This commitment is currently duplicated by our cooperation with other stata agencies charged with enforceing similar laws and regulations. Since the Game and Fish Department is charged with management and conservation of wildlife in Wyoming, it seems natural to assume that we be involved in permitting and monitoring of ectivities that present the potential of impacting wildlife to the extent that seems possible in the development of Wyoming's coal resources.

Review of the altarnativee to the proposed action indicated that the alternatives to "Let State Mining Laws Govern Strip Mining on Federal Lands" would result in essentially the same beneficial effects to wildlife resources in Wyoming as would the proposed action. Election of this alternative would perhaps also eliminate the duplication of effort indicated above as an adverse impact on wildlife management.

Perhaps the adoption of the proposed rules and regulations as outlined along with the provisions that they be implemented by state agencies in cooperation with the federal permitting authority would be a workable solution. Implementation of the National Environmental Policy Act and tha resulting rules and regulations governing water and air quality is currently being accomplished within a procedure that might be considered in this case.

Thank you for the opportunity to review this document in the interest of the fish and wildlife resources in Wyoming.

Sincerely,

James B. White, Director
Wyoming Game and Fish Department

JBW/HBM/kms

cc: State Planning Coordinator
Department of Environmental Quality
Director of Plant Siting
Director of Land Use Planning

NATIONAL COAL ASSOCIATION

Coal Building 1130 Seventeenth Street, Northwest Washington, D. C. 20036 (202) 466-4300

November 21, 1975

Dr. Vincent E. McKelvey
Director
United States Geological Survey
Department of the Interior
12201 Sunrise Valley Drive
Reston, Virginia 22092

Dear Dr. McKelvey:

National Coal Association hereby submits its comments and proposals on the proposed COAL MINING OPERATING REGULATIONS (40 CFR 3041 and 30 CFR 211) which appeared in the Federal Register 40, No. 173, pp. 41124-30, September 5, 1975.

We respectfully request that these comments be carefully considered and made a part of the official record.

Very truly yours,

William E. Hyman
Vice President-Law

WEH:mp

STATEMENT OF THE NATIONAL COAL ASSOCIATION
ON THE NOTICE OF PROPOSED RULEMAKING
ON SURFACE MANAGEMENT OF FEDERALLY OWNED
COAL RESOURCES
AND
COAL MINING OPERATING REGULATIONS
TO THE U. S. DEPARTMENT OF THE INTERIOR

November 21, 1975

The National Coal Association (NCA) is a nationwide trade association which represents the principal producers and distributors of most of the commercially mined bituminous coal in the United States.

Many of the producing members of NCA prospect, explore, develop and mine coal on the public and acquired lands of the United States and on Indian lands. On September 5, 1975, the Acting Secretary of Interior issued a Notice of Proposed Rulemaking to revise the Department of Interior's Coal Mining Operating Regulations contained in 30 CFR 211 and 43 CFR 23 and to promulgate a new Subpart 3041 of 43 CFR entitled "Surface Management -- Federal Coal Resources." It is also proposed that 30 CFR Part 216, applicable to coal mining operations under leases in the State of Alaska, which were issued pursuant to the Alaska Coal Leasing Act of October 20, 1914, be revoked and that operations under those leases also be governed by the proposed regulations in 30 CFR 211. The proposed revision of the coal mining operating regulations are quite clearly of extreme importance to the National Coal Association and its members. The following statement is submitted by NCA with regard to the proposed revision of these regulations.

I. Applicability of the Proposed Regulations

In the Notice of Proposed Rulemaking (Federal Register, Vol. 40, No. 173, P. 41123 -- September 5, 1975) the Department of Interior stated:

> Public comment is expressly requested upon the question of whether separate provision should be made within the proposed regulations to cover existing regulations, or whether separate effective dates for the new regulations should be provided for new and existing operations, and in either event what time period for compliance is appropriate.

This request for comments is of primary importance to the producing members of NCA. The request for comment is in two parts and our comments are so treated herein.

(A) Whether separate provisions should be made within the proposed regulations to cover existing operations or existing regulations;[*] and

(B) The appropriate time period for compliance with the regulations.

A. Whether Separate Provisions Should be Made Within the Proposed Regulations to Cover Existing Operations or Existing Regulations.

It is NCA's position that the proposed regulations should contain a specific provision which clearly states that the existing regulations are those which shall apply and continue to apply to existing operations with approved mining plans. At this point it should be noted that these proposed regulations are part of the mechanism by which the Energy Minerals Activity Recommendation System(EMARS) program is to be implemented. They set forth the procedure for acquiring new coal leases on Federal and Indian Lands and the performance standards applicable thereto.

Our producing members have invested huge sums of money, time and effort in developing their mines. In almost all cases, long term coal supply commitments have been made for the coal to be produced from these mines and their customers have made long term plans and financial commitments based on the receipt of this coal. These mines

[*] It is our understanding from the Bureau of Land Management that the term "existing regulations" is a misprint in the Federal Register; it should have been "existing operations". We are, however, addressing ourselves in this comment to both existing operations and existing regulations because of the terminology of the Federal Register.

are not permitted to operate without regard to environmental protection. In approving mining plans for these existing operations, the Department has required the operators to take reasonable and effective steps to protect the environment. On the more recent operations, Final Environmental Impact Statements (EIS) have been prepared and filed.

Existing operations with approved mining plans have been developed to utilize certain and specific types of mining equipment. The entire economic feasibility is predicated upon the investment in the existing operation and the price for which the coal therefrom is sold. Eighty-five to ninety percent (85% to 90%) of annual production is or will be committed to long term contracts based upon the economics of approved mining plans. To apply new and different standards and regulations to existing mines with approved mining plans in compliance with existing regulations would not only be economically infeasible, but it would be inordinately inequitable and violative of established contractural rights and obligations.

As to existing mining operations, such important aspects as soil handling procedures and overburden removal, both of which are major cost considerations, have been determined prior to the purchase of equipment and incorporated in the mining plan to achieve the land form necessary to support the post mining land uses. These are developed on a site-specific basis for each mine and determine the size of the dragline and other equipment necessary for these operations. Equipment outlays are the major capital investment for the mining enterprise and are critical to the economic feasibility of the operation. Application of these regulations to existing operations could require change in soil handling procedures and overburden removal which in turn could necessitate the total replacement of the

equipment. Assuming the operator could make the capital investment required for the change-over, such major equipment replacement could increase the cost of production drastically, and to the extent that these production cost increases can be passed on, the cost of energy to the ultimate consumer would be increased significantly. Depending on the equipment replaced, the economic feasibility of the entire mining project could be jeopardized.

Recommendation:

The proposed Bureau of Land Management (BLM) and U. S. Geological Survey (USGS) regulations (43 CFR subpart 3041 and 30 CFR 211) should not be retroactive; they should be prospective only. Clearly, the retroactive application of a program which could prevent the exercise of legally vested property rights would constitute a violation of due process. Therefore, it should be made clear that the regulations are applicable only to leases, permits and licenses issued on or after the effective date of the regulations. The proposed regulations should be applicable only to new leases and operations thereon. All mining plans for operations on new leases would have to meet the standards of the proposed regulations.

B. The Appropriate Time Period for Compliance With the Regulations.

As stated above, the proposed regulations would not be applicable to existing leases, permits, and licenses. Indeed, there would be a serious legal question involved, since under established law the lease terms and not the proposed regulations would govern. Therefore, the appropriate time period for compliance would be dependent upon the effective date of these regulations.

As to the situations below, the regulations only should be applicable as follows:

1. Those cases with a mining plan filed or an Environmental Impact Statement (EIS) being processed and legal and substantial financial commitments have been made should be covered by existing, and not the proposed, regulations, notwithstanding the fact that mining has not actually commenced. Otherwise, production planning would be disrupted, contract rights destroyed and the economic feasibility of the operation altered after financial obligations have been determined.
2. Those cases without a mining plan submitted and with or without an EIS completed, but legal and substantial financial commitments have been made, should be covered by existing, and not the proposed, regulations for the reasons given above.
3. Those cases with a mining plan filed but not approved or with an EIS or environmental assessment being prepared but without legal and substantial financial commitments should be sent to the Secretary of the Interior to implement the performance standards. It would be unduly burdensome to require that the procedural requirements of the new regulations be applied when the Secretary has the power under existing procedures to incorporate performance standards in the final approval of the mining plan.

Of course, individual companies in the coal industry will have circumstances, both legal and factual, which are unique. The comments & reasoning are of a general nature and are not intended in any way to give any legal rights any company may have.

II. Preliminary Plan.

Any person desiring a lease, permit, or license for coal development is required to file an application which shall contain a preliminary plan of operation (43 CFR 3041. 1). In the preliminary plan of operation, the applicant must show the proposed location, and the extent of the areas to be used for pits, overburden, and tailings; the location of water sources or other resources which may be used in the proposed operation; a description of the measures proposed to be taken to prevent or control fire, soil erosion, pollution of surface and ground water, damage to fish and wildlife or other natural resources, air and noise pollution and hazards to public health and safety; and the applicant must also spell out the methods to be utilized to meet the performance standards of these regulations, including a narrative statement setting forth his proposed plan, methods, and schedule for diligent operations. (43 CFR 3041. 1-1)

It appears, that in effect, the applicant is required to present a preliminary mining plan to describe his method of operation and how he intends to comply with the performance standards. Yet the Section clearly spells out that the applicant shall not enter upon the land for any operational purpose until he has acquired the lease, the prospecting permit or the exploration license for which he is making application. Entry without authorization would constitute trespass.

Obviously, the data required to submit a meaningful preliminary mining plan cannot be put together by the applicant because he would, of necessity, have to go onto the property and make the preliminary testing. It would be necessary in order to do the preliminary developmental work and exploration to determine such things as ground water location; overburden ratios; the type of overburden; the potential acid or alkaline or other toxic situations which may exist; the extent of topsoil and the potential for revegetation, and many other factors which are determinative of how the operator will plan to mine and reclaim the area in question. Indeed, the soil handling techniques, the revegetation methods and the design of the equipment to accomplish both the mining and the reclamation will all be dependent upon the evaluation of all of the on-site data that will be accumulated through prospecting, exploration and development all of which comes after the acquisition of the lease.

According to the regulations (Section 3041.0-6 (a) and (b)) by the time the particular tracts are ready to be put up for lease, the Bureau of Land Management and the USGS will already have completed an environmental assessment of the area to be mined, as well as the particular tracts involved. Certainly, at this point in time, the Department will have the necessary baseline data on both the area involved and the particular tracts and the evaluation of that data in sufficient detail to determine whether the tract can be mined in accordance with the performance standard required by these regulations. If BLM believes that additional site-specific data should be required in order to make this evaluation, prospecting and exploration work must be permitted prior to leasing. Additional site-specific data may be gathered easily with necessary environmental safeguards spelled out in the terms of a prospecting permit. However, in the case of a

tract put up for competitive bidding, the opportunity to explore would have to be accorded all lease applicants interested in the particular tract. Of course, the existing prospecting permit procedure would not encounter this difficulty.

As now drafted, there is no realistic way that an applicant can obtain the data necessary for a preliminary plan prior to giving him the right of access to go in upon the property and obtain the data through drilling and testing. The development of a preliminary plan on less than adequate data could be extremely speculative and eventually harmful. In Sections 3041.2 and 3041.2-1, BLM clearly intends to use the preliminary plan to determine the bonding requirements and what additional stipulations are required to insure conformance with the performance standards; to identify the tracts requiring special environmental consideration; whether certain lands should be excluded from the lease, permit or license because of special problems and to determine whether an environmental impact statement is required.

In fact, the procedure envisioned in Sections 3041.1 and 3041.2 which sets forth the requirements for the preliminary plan, technical examination and environmental analysis by BLM, appears to be somewhat incongruous with the envisioned procedure in Section 3041.0-6(b) in particular. That Section envisions a detailed analysis of the tract selection system which includes the BLM land use system and requires BLM to evaluate the potential effects of all phases of coal development on the environment including fish and other aquatic resources, wildlife habitat and populations, aesthetics, recreation, cultural and other resources in the affected area.

It would appear that BLM would be able at that time to determine with the necessary degree of specificity, whether the tract under

consideration for leasing could be mined and reclaimed in accordance with the performance standards set forth in these regulations. The interested operator would be free at the public hearings to set forth, from the data base developed by BLM, what problems they think might be encountered or what difficulties could be avoided by taking various actions. The state, the public and other government agencies have the right to come in and submit their views upon these very issues.

Recommendation:

It is NCA's position that the requirement for a preliminary plan and the analysis proposed in these regulations besides being unworkable structurally simply set forth another meaningless step in the decision making level which can only cause further delay and needlessly complicate the effort to prospect or develop the federal leases. Therefore, it is recommended that Sections 3041.1 and 3041.2 be deleted. The same objective can be achieved by determining in the tract selection phase whether, in the first instance, a tract should be put up for lease or for prospecting. As far as protecting the environment for exploration, it is already covered under §111 of the Mineral Leasing Act of 1920 as amended.

III. Unauthorized Delegation of Rulemaking Authority.

Section 3041.0-7(c) provides that prior to the issuance of a permit, lease or license the authorized officer may establish additional and more stringent requirements to meet exceptional and special circumstances. Section 3041.0-6(c) would permit the authorized officer to include in the offering of a tract for lease, permit or license special lease conditions following the technical examination and/or environmental analysis procedures in Section 3041.2-1. These provisions would allow the authorized officer, in consultation with the

mining supervisor, to determine prior to issuance of a lease, permit or license special conditions for additional and more stringent requirements than those specified as the reclamation and performance standards in these regulations.

These Sections both contemplate the creation of absolute power in the authorized officer, both within the framework of the technical examination/environmental analysis report as well as outside of that mechanism, to go beyond the scope of these regulations. Both of these Sections should be deleted. Section 3041.0-6(c) should be deleted along with the preliminary plan mechanism in Section 3041.1 as a needless additional step in the procedural process of these regulations.

More importantly, this Section (§3041.0-6(c)) along with Section 3041.0-7(c), should be deleted because they clearly confer authority that goes beyond the scope of these regulations and, therefore, constitute an unauthorized delegation of unlimited rulemaking authority. The authorized officer would not be bound by the performance standards or the regulations and could set up his own regulations. At his sole discretion he and he alone could establish government policy on an ad hoc basis. These provisions confer rulemaking authority upon the authorized officer in violation of prescribed due process and contrary to the Administrative Procedure Act.

Any authority vested in the authorized officer to meet special conditions or circumstances encountered with respect to a particular lease tract should be limited to the achievement of the specified reclamation and performance standards contained in these regulations.

Recommendation:

Section 3041.0-6(c) should be deleted. A new §3041.0-7(c) should be added to permit the authorized officer to develop special lease conditions to meet particular on-site problems in order to insure compliance with the reclamation and performance standards set out in these regulations. It must be made clear that this authority does not extend to the creation of additional requirements above and beyond those addressed specifically in these regulations. If these Sections are not deleted, the additional requirements should be spelled out in writing prior to offering the tracts for lease, permit or license.

IV. Shutdown Orders.

Section 3041.7 provides, among other things, that the authorized officer of the federal surface management agency (BLM in most instances) may order the immediate cessation of any activity which is being conducted that is not in compliance with the requirements of the lease, permit or license where such activities "threaten immediate, serious, irreparable damage to the environment, or to health and safety of the employees and the public." There is no requirement that the order be in writing, nor does the justification have to be specified. It also provides that the Mining Supervisor shall orally order immediate remedial action, rather than setting it forth in writing.

A cease and desist order is the most drastic civil action that can be taken under our system of law and is exercised only where other remedies of law are shown to be clearly inadequate. The regulations provide for the issuance of noncompliance orders to insure the operator's continued compliance with the rules and regulations and lease conditions. The cease and desist order, which is similar in many respects to a court injunction, is a unique remedy that must be exercised with extreme care and judgment or an operator could needlessly be put out of business.

The only situation or condition for which a cease and desist order may be issued should be limited to cases where immediate and serious irreparable damage to the environment would occur if the condition were allowed to continue and where a non-compliance order would be inadequate to remedy such damage. If the environmental damage is such that it can be repaired in conformance with the standards and lease conditions, the compliance order would be sufficient. It is for this reason that the word "and" should be substituted for "or" from the provision. Only an activity which threatens immediate and serious irreparable environmental harm which cannot be remedied through the use of a compliance order should be subject to a cease and desist order. Even the threat of irreparable harm that is not immediate can be handled through the compliance order. In short, the use of a shutdown order should be restricted to those instances where there is a threat of immediate and serious irreparable damage or harm.

The references in Section 3041.7(b) and (e) to the protection of the health and safety of the employees should be deleted since this would create a direct conflict and overlap with authority which is clearly vested in MESA by the Coal Mine Health and Safety Act and should not be exercised by BLM or USGS. Inclusion of such language in these regulations could only result in confusion and conflicting administrative jurisdiction. Threat of immediate and serious harm to the public should only include damage that could occur off the mining site. Otherwise, the operator would have the impossible burden of protecting against the unauthorized public on mining sites.

Section 3041.7 also provides that the authorized officer of BLM should be empowered with the right to issue cease and desist orders. NCA contends that this power should be vested in the Mining Supervisor

rather than in BLM. The reason for this is that once mining begins, the ability to evaluate what is occurring throughout the mining and reclamation cycle is extremely complicated and requires the mining expertise of USGS.

Innumerable problems have arisen in the past because those not clearly trained in mining techniques and soil handling procedures are often unaware of what is taking place. For example, in many instances the coal industry has been confronted with accusations with respect to our reclamation work when, in fact, what happened to be viewed was the active mining operation and not reclamation work.

This is not to say that the authorized officer of BLM who, of course, is in charge of the surface management of the public domain should be precluded from participating in the mechanism leading to the issuance of cease and desist orders. It is our position that a more effective administrative approach would be one which would permit the authorized BLM officer, if he finds something which he believes might cause irreparable damage or harm, to immediately notify the Mining Supervisor, who, in turn, would be required to make an inspection as soon thereafter as possible. If his inspection verifies the concern of the BLM officer, then a cease and desist order, after consultation with the BLM, could be issued. Furthermore, any cease and desist issue should be in writing and set forth the reasons justifying the issuance thereof and the required remedial action.

Recommendation:

Section 3041.7(b) should be modified to read as follows:

(b) If the authorized officer of the federal surface management agency determines that an operator is conducting activities which

are not in compliance with the requirements of a lease, permit, or license, applicable regulations, or the approved mining plan and such activities threaten immediate and serious irreparable damage to the environment or other natural resources, the authorized officer shall immediately notify the Mining Supervisor. The Mining Supervisor shall then make an immediate inspection of such activities. If upon completion of his inspection and after consultation with the authorized officer, the Mining Supervisor determines that the situation described above exists, then the Mining Supervisor may issue a written order directing the immediate cessation of such activities, which order shall set forth the reason(s) for such action and set forth immediate and specific remedial action.

Section 211.72(a) and (c) should be modified in the same manner in order to permit the mining supervisor to issue the cessation orders for activities which threaten immediate and serious irreparable damage to the environment.

V. Application of State Laws.

The proposed regulations allow the Secretary of Interior to review the laws, regulations, administrative practices and procedures in effect or due to come into effect with respect to reclamation of lands disturbed by surface mining of coal subject to the jurisdiction of a particular state. The Secretary may determine whether such controls could appropriately be applied as federal law to coal operations owned by or subject to the jurisdiction of the United States. (Sections 3041.8 and 211.74)

After such review the Secretary may by order direct that all or part of such state laws, regulations, practices and procedures be

applied as federal law if he determines that such application would do the following:

(1) Effectuate the purposes of the Subpart;

(2) Result in protection of environmental values which is at least as stringent as would otherwise occur under exclusive application of federal control; and

(3) Be consistant with the interest of the United States in the timely and orderly development of its coal resources.

The Secretary of Interior does not have the authority to adopt state law and apply it as federal law to operations on public lands.

In effect, these provisions grant the states jurisdiction over the public lands. Only the United States Congress by statute can delegate jurisdiction over federal lands to the states and even this power is constitutionally limited. This action amounts to enacting legislation which would impose state laws, regulations, administrative practices and procedures as applicable to the public domain and thereby clearly constitute an unlawful usurpation of Congress' legislative powers. It completely turns over the development of the coal reserves on the public lands to the individual states.

The requirement in the proposed regulations that the state laws must provide for protection "at least as stringent as" is vague and indeterminable and could indeed result in unrealistic standards which could prevent the development of coal reserves on the public domain in many areas. The adoption of different state procedures, in whole or in part, could create an administrative nightmare as well as result in the abdication by the Secretary of Interior in whole or in part of his control over the public domain.

Recommendation;

Both of these proposed regulations (30 CFR 211.74 and 43 CFR 3041.8) should be deleted as an unwarranted delegation of authority over the public lands. However, it should be pointed out that the states, along with other public interest groups, may present proposals and recommendations during the tract selection process and land use program. (43 CFR 3051.0-5(i)) The Department will give consideration to the recommendation of the state and other interested parties in determining tract selection, land use plans and those environmental considerations it deems important. It appears that the regulations already provide an adequate framework for the interests and concerns of the states. If a state's standards are adopted, these standards would be included in the land use plan adopted and in the bid offering for the tracts selected for leasing. In no event should the procedural mechanism of the state be incorporated or adopted by the Secretary. This approach would permit the Department to adopt different standards for a particular tract on the basis of the facts presented if those standards are consistent with the interests of the United States in the timely and the orderly development of its coal resources.

VI. Definitions.

The following definitions contained in both Sections 211.2 and 3041.0-6 should be modified as follows:

(a) The term "permit" should be defined as a prospecting permit as provided for in the Mineral Leasing Act of 1920 as amended. The term "permittee" does indicate that it involves a coal prospecting permit (211.2(s) and 3041.0-5(l)).

(b) The definition of "significant valley floor vegetation" should be modified to delete everything after the word "meadows", (Sections 3041.05(s) and 211.2(bb)). Whether vegetation is used for wildlife or recreation is inconsequential since protection is required regardless of the vegetation. The inclusion of these two terms only confuses the issue of environmental protection.

(c) The definition "reclamation" (211.2(z) and 3041.0-5(r) should add the following after the "use": "or equal or better uses that can be reasonably attained consistent with an approved mining plan." This modification is essential to be consistent with the duty of the operator to return the land to an equal or better use as required by these regulations.

(d) The term "maximum extent practicable" as applicable to performance standards and level of control is defined in Sections 3041.0-5(h) and 211.2(p). It would require that degree of compliance which can be achieved with commercially available technology, taking into account the costs of such compliance and all tangible and intangible environmental and other benefits which would be derived therefrom.

This sweeping and overly broad definition gives the lessee no guidelines as to what the regulations here require. An operator simply cannot quantify "the cost of all tangible and intangible environmental and other benefits which would be derived therefrom." In order to make the definition workable, it is necessary to delete all the language after the phrase "commercially available technology."

(e) The definition of valley floors includes channelways and adjacent areas of ephemeral and intermittent streams as well as perennial streams, (3041.0-5(z) and 211.2(dd)) It is NCA's position that ephemeral streams should be omitted from this definition.

Ephemeral streams are above the water table and respond to precipitation rather than springs or seeps. Furthermore, the definition should be limited with respect to intermittent streams since many of these are not that significant to the maintenance of ground water for up-stream or down-stream vegetation. It is our position that the definition should be limited to perennial streams and their significant intermittent tributaries and the definition should be changed accordingly.

VII. Performance Standards.

(1) Sections 211.40(2) and 3041.0-7(b)(2) should read as follows:

> "(2) The operator shall reclaim the land affected pursuant to his approved plan as contemporaneously as practicable with operations, to a stable condition and to equal or better uses that can reasonably be attained consistent with an approved mining plan."

This modification is required in order to insure that the operator will return the land to an equal or better use and is consistent with the definition of "reclamation".

This Section as presently written would require the operator to return the land so it is fully capable of supporting all the uses that it could have supported prior to any mining. This would be an impossible task for the operator to determine what the land could have supported decades before he acquired it. Nor can any parcel of land be landscaped to support all uses. For example, a wildlife refuge would require rugged terrain, and a hay meadow would require relatively flat land. There is no way to shape it so that it could support both uses simultaneously.

(2) Sections 211.40(a) (8) (iv) and 3041.0-7(b)(8)(iv) provide for the protection of valley floors. This provision should be made applicable only to the arid and semi-arid areas west of the 100th meridian and the requirement that these valleys provide a supply of water for other purposes should be limited to a significant supply of water for other purposes for which there is no adequate substitute water source.

The term "resources" is overly broad and fails to take into account that some ground and surface water resources are not essential to the maintenance of upstream and downstream vegetation. The term "resources" should be changed to "systems" which will permit the protection of the quality and quantity of essential water sources.

(3) Sections 3041.0-7(b)(8)(i) and 211.40(a)(8)(i) require the operator to keep water from contacting toxic producing deposits. This requirement fails to recognize the fact that the mere contact of water with toxic pollutants does not necessarily result in toxic water. Oxidation is required in order to create toxic water; therefore, we suggest that the operator be required to avoid acid or other toxic mine drainage by controlling the chemical oxidation of acid or other toxic producing substances by placing them below the permanent water level or burying them below non-acid or non-toxic producing material or by other effective methods.

(4) "If topsoil is of insufficient quantity or poor quality for sustaining vegetation, and if other materials can be shown by the operator to be more suitable for vegetation requirements, then the operator may utilize such other materials which are best able to support vegetation."

The word "materials" is substituted for "strata" because often a mixture of subsurface materials rather than a particular strata can provide the better growth medium and the operator should be required to demonstrate that this material is more suitable for vegetation. (3041.0-7(b)(5))

(5) Sections 3041.0-7(b)(16) and 211.40(h)(16) require native vegetation except in certain instances where a quick cover is required. Restricting the operator to native vegetation could seriously impair improved species. The Soil Conservation Service, for example, lists numerous acceptable vegetation species in the various land areas in the United States and this provision should be modified to permit the operator to use non-native species that also adaptable for the intended post-mining use.

(6) Section 211.40(h)(13) relates to the use of explosives but leaves the matter solely to the discretion of the mining supervisor. Because the use of explosives is presently regulated by state and federal statutes and by various regulatory agencies, giving the mining supervisor complete discretion with respect to blasting will lead only to confusion and ineffective administration. National Coal maintains that this Section should be redrafted so that there are guidelines which insure that the mining supervisor's authority is clearly consistent with existing law.

(7) Section 211.40(h)(3) requires, among other things, that the operator eliminate highwalls and spoil piles and restore the original contour. Some post mining uses, such as the return of the land to a wildlife refuge, could require the retention of highwalls and spoil piles in order to effectuate a rugged terrain which would be suitable for

the type of wildlife in the area. Some mechanism must be created to permit deviations from this standard in order to achieve equal or better uses.

VIII. Miscellaneous.

(1) The lessee is required under Section 211.60(a) to maintain, among other things, current and accurate records showing the prices received for all coal sold, to whom sold, and specified geological data. It also requires that these records and all other records which are pertinent to or related to the lessee's operation be available for examination upon request by the mining supervisor or other authorized officer of the Secretary. Price information is confidential data and the geological information pertaining to leased lands is acquired by the lessees only through considerable expenditures of money and effort. The requirement that all other records which are pertinent to or related to lessee's operation be available for inspection covers everything in the lessee's files concerning the subject operation. There is no justification given as to why this sweeping and indiscriminate authority is required. Furthermore, the Section does not provide any limitation on how the mining supervisor will use the information he has obtained by such examination. It is NCA's position that the mining supervisor should not have access to all of a lessee's records but only to those records which are necessary for the mining supervisor to carry out his responsibilities under the terms of the lease and the applicable regulations. The Section should also make it clear that all information obtained by the mining supervisor, or other authorized officer, under paragraphs (a), (b), and (c) of Section 211.60 will be treated as confidential information.

(2) Section 211.12(b) requires operators of underground mines to show a coal section at each entry face. It is our position that a coal section taken at every 1/4 mile would be more than adequate for the purpose. Requiring a coal section at every entry face could be quite time-consuming and expensive with little if any additional benefit.

(3) Section 211.62(b) provides for a partial bond release upon the completion of backfilling and grading. Since these two items comprise the most costly aspects of the reclamation plan, we believe that it would be appropriate to permit up to 85% (percent) of the compliance bond to be released upon the successful compliance with this Section.

(4) Section 211.40(h)(3) The word "approximate" appears to have been inadvertently omitted from the first sentence in front of the words "original contour."

(5) Section 211.4(a) provides that operations must conform to the orders and instructions issued by the mining supervisor. This Section should be modified to make clear that the orders and instructions issued by the mining supervisor are issued in accordance with these regulations.

(6) Section 211.10(d) permits the mining supervisor to unilaterally change exploration or mining plans after once approved. This authority is too broad and should not be exercised without consultation with the operator. This authority should also be expressly limited to insure conformance with the terms and conditions of the lease, permit or exploration plan.

(7) Section 3041.0-8 relates to use of the surface. The introductory comments in the Notice of Proposed Rulemaking states that facilities directly related to the mining, processing, and

preparation of the coal resource would not require a separate permit. This language is not contained in Section 3041.0-8 and should be included in order to make clear the intent of the provision.

(8) National Coal is concerned about the lack of definition in the proposed regulations and multiple interpretations for the term "area" in the first sentence of Section 3041.0-6(a). Because of the potential misinterpretation or broadening of the term "area", i.e., the Sierra Club v. Morton litigation, it is suggested that the word "area" be limited in geographical extent to a 10-mile radius and possibly one to two counties at the most.

(9) In Section 211.10(a), the mining supervisor should be required to act promptly upon the approval or disapproval of exploration or mining plans. The Section should be revised to provide that the mining supervisor, after consideration of all the comments, shall in writing within 90 days approve or disapprove the plan or indicate what modifications are necessary to conform to the regulations and the terms and conditions of the permit or lease.

(10) The reference in Section 3041.0-7(f) to visual resources brings in subjective criteria which would not be capable of an objective determination. This provision could lead to complicated and protracted litigation and, therefore, should be eliminated.

(11) Section 211.4(f) requires an "adequate" number of overburden cores be taken to check for trace element problems. "The number of holes and analysis will be specified by the mining supervisor." The development of a drilling program for the operation should be the function of the operator and the USGS function should be to review and determine whether the proposed program and the data acquired is sufficient to verify the existence of trace element problems. The

provision as drafted could require the continual core sampling in front of the mining operation. This would be extremely costly and unnecessary because if a toxic trace element situation develops during the operation, it can be monitored and controlled by face sampling and/or blast hole drill sampling. In short, prior to the initiation of the operation, some drilling and core sampling must be undertaken, but after the operation is initiated, the trace element situation can be effectively controlled without core sampling in most instances.

(12) Section 211.3(c)(11) requires the mining supervisor to inspect operations to determine compliance with water and air pollution control regulations. Federal and State administrative agencies regulate these matters and to superimpose the discretion of the mining supervisor will only needlessly complicate and confuse the effective administration and enforcement of such regulations. Water and air pollution control regulations should be left to the appropriate Federal and State agencies.

(13) Section 211.61(c)(1) gives the mining supervisor blanket authority to determine and declare the value of the coal contrary to the formula set out in Subsection (a) above. This provision should be eliminated. The proper accounting of royalties can be calculated under the formula in Subsection (a) of this Section whereby the mining supervisor selects the proper basis upon which royalties will be paid. In the case of advance royalties, computation is based on the estimated value of the coal. Because of the possible difference between estimated value and actual sales price, provisions should be made for the recoupment of royalty payments based on any difference between the actual sales price and the advance royalties during the term of the lease.

(14) Section 211.73 provides for appeals of orders or decisions of the mining supervisor if issued under Section 211.72. There are many critical decisions which the mining supervisor makes which are not specifically covered under Section 211.72; for example, the approval, disapproval, or modification of an exploration or mining plan. It is not clear that the right of appeal covers these critical decisions. Therefore, it should be amended to specify that any approval, disapproval, or modification requirement of exploration and mining plans, determinations or declarations of value, or any orders, notices, or decisions issued under the regulations may be appealed as provided in Part 290 of this Chapter.

Conclusion

For the foregoing reasons, The National Coal Association recommends that the regulations be substantially modified to conform to the above comments and suggestions.

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November 21, 1975

The Honorable Vincent E. McKelvey
Director
U. S. Geological Survey
Reston, Virginia 22070

Mr. Curt Berklund
Director
Bureau of Land Management
U. S. Department of the Interior
Washington, D. C. 20240

Dear Messrs. McKelvey and Berklund:

The American Mining Congress is a national association of United States companies who produce most of the nation's metals, coal and industrial and agricultural minerals. The member companies operate on both public and privately owned lands throughout the nation. The American Mining Congress is thus vitally interested in and concerned about the effects on the minerals industry of the proposed revision of 30 CFR, Parts 211 and 216, and 43 CFR, Parts 23, 3040, and 3041, as published in the Federal Register for September 5, 1975, Vol. 40, No. 173.

In the preamble to the notice of proposed rule making, the Department of Interior requested public comment on two specific issues:

1. The proposed mechanism whereby, at the request of the Governor of a State, the Secretary in his discretion and after certain findings, may adopt State regulations and apply them to Federal lands as Federal law (proposed 30 CFR 211.74).

2. The applicability of the proposed regulations to existing operations and whether or not the proposed regulations should (a) contain separate provisions applicable to existing operations, (b) contain separate effective dates for new and existing operations, and (c) in either event, what period of time for compliance is appropriate.

Continued . . .

With respect to the mechanism which would allow the Secretary to direct that some or all of the existing state laws, regulations, practices, and procedures relating to reclamation be applied by Federal officers within the state as a matter of Federal law, AMC feels it is inappropriate for regulations to attempt to define the parameters of this complex question of Federal-State preemption. It should be noted that under the existing regulations, Title 43 CFR, Section 23.5(b), the following statement appears and relates to general requirements which an applicant for a permit, lease, or contract must meet for the protection of non-mineral resources during the conduct of exploration or mining operations and for the reclamation of lands or waters affected by exploration or mining operations: "The general requirements shall be made known in writing to the applicant before the issuance of a permit or lease or the making of a contract, and upon acceptance thereof by the applicant, shall be incorporated in the permit, lease, or contract." The above quoted provision in the existing regulations would appear to have been incorporated in recognition of the need for the operator to know the obligations imposed upon him before contracting with the government. Unanticipated and unilaterally imposed new conditions and additional obligations later imposed can have a profound effect upon the economics of an operation and resultant contractual obligations with third parties, even to jeopardizing its continued viability.

While Federal regulations should certainly take into account the variations in climate, geology, terrain, and the many other factors relating to specific surface and underground mining sites, as do the state laws, to adopt state law as Federal regulations seems to AMC to be inappropriate. The needed flexibility is achievable through the regulatory and coordination process between Federal and State authorities and may be better achieved without this provision. It is, therefore, recommended that the regulations remain silent on the issue of Federal-State preemption.

With respect to the applicability of the proposed regulations to the existing operations, we note that there is a substantial legal question as to the Secretary's authority to promulgate these regulations as they relate to existing leases, especially in light of the provisions of 30 U.S.C. 188(a). This subsection relates to the forfeiture or cancellation of a lease for noncompliance with provisions of the general regulations "in force at the date of the lease". Due to the significance of the proposed revision, we think that this attempt to impose substantial new requirements upon existing leases and permits would not only be unfair, but also contrary to existing statutory authority. As noted earlier, 23.5(b) of 43 CFR requires that the "general requirements" be made known in writing to the applicant before the issuance of a permit or lease or the making of a contract. It appears to us, that this regulatory instruction to the BLM was included in the earlier regulations in recognition of this statutory, and probable constitutional requirement to ensure that the operator is informed of his rights and/or obligations prior to the consummation of a lease, contract, or permit. Therefore, we believe that an attempt to impose such new requirements upon existing leases, contracts, and permits would not only be unfair, but may also be contrary to existing statutory authority and may present constitutional questions.

We recommend that should these new regulations be promulgated, they should be made applicable only to leases, contracts, and permits issued subsequent to the effective date of the regulations, and that existing operations should continue to be regulated under the existing reclamation regulations of 43 CFR, Part 23.

As a general comment, the mining supervisor is granted far too much discretionary authority. For example, section 211.3(b) of Title 30, CFR, empowers the mining supervisor to "approve, disapprove, or require modification of exploration and mining plans pursuant to this part." By authorizing the mining supervisor to require modification, the mining supervisor is granted discretionary powers far beyond those necessary to assure compliance with the regulations. A more appropriate technique would be to authorize the mining supervisor to notify the applicant as to which aspects of his mining plan do not comply with these regulations. This concern over the granting of excessive discretionary powers is further strengthened by 30 CFR 211.3(c) which empowers the supervisor to "oversee prospecting, exploration, testing, development, mining, preparation, handling, reclamation, and abandonment operations under the regulations of this part." By the use of the word "oversee", it appears to us that the mining supervisor is inappropriately injected into the day-to-day operational decision-making process relating to prospecting, exploration, and mining and to the other operations enumerated above. It seems to us that the mining supervisor's responsibilities ought to be limited to ensuring compliance with these regulations and an approved mining plan.

In addition, 43 CFR, 3041.0-7(d) of the proposed regulations grants to the authorized officer of the surface management agency the authority to propose revisions or supplements to a mining plan to the mining supervisor: "Upon approval of the mining supervisor, such plan may be revised or supplemented pursuant to paragraph 211.10(d) of 30 CFR Part 211", which authorizes the mining supervisor to reasonably revise or supplement an exploration or mining plan at any time. Before such changes are made, the regulations require consultation with the authorized officer of the federal surface management agency, but nowhere is there a requirement for the mining supervisor to consult with the operator. AMC believes that the operator should be entitled to concur in the revision or supplement to the mining plan and that if an order is issued revising or supplementing such mining plan or having a similar effect, the operator should be entitled to the full right of appeal from that order. The approved plan should stand and remain in effect when an appeal is taken to review such order of the supervisor until a final adjudication is made.

The greatly expanded authority of the U.S. Geological Survey in all aspects of coal mining -- including: prospecting, exploration, testing, development, mining, preparation, handling, reclamation, and abandonment operations -- will require substantial additional personnel for their administration, manpower not now available to the U.S.G.S. This lack of manpower will lead to delays thereby deferring the increase in coal production needed to meet the nation's energy requirements in a timely fashion. Consequently, every effort should be made to recruit qualified personnel and to train them as promptly as possible. In addition, we note that in a number of places in the regulation there is provision for the operator

to comply with a variety of requirements already regulated by other agencies under their regulatory programs and responsibilities. These duplications should be eliminated to avoid conflicting requirements and confusion with respect to compliance. Additionally, the relieving of the mining supervisor from enforcing regulatory programs already enforced by other agencies, will help to ease the manpower shortage discussed above.

One additional change, which is of such significance, it deserves comment at this point. Section 211.61 of 30 CFR, purports to alter the basis for the determination of royalty, and as such constitutes a drastic departure from the existing practice. Clearly, much more detail is needed for a thorough understanding of the full impact of the proposed change, which could be very inequitable. Our comments must, of necessity, be very general; but based upon the proposal as presented, we must strongly oppose it. Because of its potential serious impact upon the economic viability of existing coal mining operations, as well as future mining operations, we believe that any revision of the basis for royalty computation should be subject to a separate rule-making procedure, and that public hearings be held. The proposed revision, which would authorize arbitrary evaluations by the mining supervisor, contains overtones of impairing contract rights, and as such, presents a constitutional issue. However, if a separate rule-making procedure is not followed, we recommend that the contract or sales price, less taxes and other royalties, be used as part of the basis for royalty computation.

SECTION-BY-SECTION COMMENTS ON 30 CFR

Section 211.2(a), defining acid or toxic producing deposits, should be amended by striking out the word "may" after the word "processes", and substituting the word "will" therefor. Since this is a definition, either the deposits are acid and toxic producing or they are not.

Section 211.2(b), which is the definition of "affected lands", should be amended by the inclusion of the phrase "subject to a federal lease" after the word "lands" as it appears the second time. This would ensure that the definition relates only to lands under the control of the operator. Since the definition includes the construction of facilities necessary and related to such operation, such as the construction of railroads, county roads, and other facilities necessary to such operations, those lands may not be under the control of the operator. This clarifying amendment is necessary to ensure that the operator is not held responsible for acts upon lands over which he has no control.

In section 211.2(e) it should be made clear that there will be a single "authorized officer" for any lease and for any one mining plan. This would aid in reducing the likelihood of conflicting requirements.

Section 211.2(o), which is the definition of a logical mining unit, should be amended to delete the words "and other resources", as these regulations relate only to coal. Furthermore, there is a question as to the use of this definition since nowhere in the regulations does it provide for the formation of a logical mining unit.

Paragraph 211.2(p) should be amended to read as follows: "'Maximum extent practicable' means, with respect to a performance standard or a level of control, that degree of compliance which can be reasonably achieved with commercially available technology, as determined through a balancing of the feasibility of the technology, the costs of such compliance and loss of recovery of the resource against all tangible and intangible environmental and other benefits which could be derived therefrom, and provided that consideration will be given to special circumstances of particular cases where appropriate." The purpose of this revision is to ensure that since maximum recovery of coal resources, as provided for in section 211.1(b), is one of the purposes of the regulations, the loss thereof must be considered in any meaningful cost benefit analysis.

Section 211.2(r) should be amended to read as follows: "'Mine' means an underground or surface excavation and the surface or underground support facilities that contribute directly or indirectly to coal mining, preparation, and handling, and that lie within the 'area of operations.'" The purpose of this revision is to ensure that support facilities -- such as railroad lines which coal is hauled to some distant point -- outside the "area of operations", and not under the direct control or supervision of the operator, are not construed as being part of the "mine".

Section 211.2(s), which defines reclamation, seems to preclude acceptable uses other than the pre-mining use. This would be contrary to the provisions in the proposed 43 CFR, section 3041.3-7(b)(2), which refer to "equal or better uses that can reasonably be attained", as well as section 3041.3-7(b)(3), which anticipates alternate uses. It is recommended, therefore, that the definition be revised to read as follows: "Reclamation means the process of returning the affected lands to a condition and form consistent with the approved mining plan."

Section 211.2(bb) should be amended to include the phrase "in valley floors" in two places: after the word "operations", and after the word "value". This would ensure that the vegetation defined is that vegetation which actually occurs in the "valley floors".

Section 211.2(cc) should be amended by inserting after the word "surface" the phrase "removed during the mining operations". This change will ensure that the topsoil defined is that topsoil which is removed during the mining, rather than topsoil to be trucked in from another location.

Section 211.2(dd) should be amended by striking the words "or ephemeral". By including the word "ephemeral", the definition of "valley floors" could include essentially every little rivulet which is only responsive to precipitation. Considering the performance standards, inclusion of ephemeral streams seems to be an overkill. Furthermore, some comment should be included to ensure that intermittent streams are at least those which are generally shown by dotted lines on geological topographic maps.

Section 211.3(b) and (c) should be amended to make it clear that the mining supervisor is in receipt of monitoring the mining operation. In this regard, the power to issue a shutdown order should only be exercised by the mining supervisor, and 43 CFR, 3041.7(a) should be modified so that the authorized officer notifies the mining supervisor, rather than issuing the order and then notifying the mining supervisor. The mining supervisor should be the only person permitted to issue such an order.

one more example of excessive discretion granted to the mining supervisor. Once a mining plan is approved, it should not be amended by the mining supervisor without the concurrence of the operator, and if the operator is approved by any order issued which he feels constitutes an amendment or supplement to his mining plan, he should be provided a hearing and a right of appeal.

Section 211.4(e) requires the reporting to the mining supervisor of certain accidents. The types of accidents which must be reported should be limited to those that threaten substantial damage or pollution so that not all minor accidents that can be quickly corrected need to be reported. We suggest adding the word "substantial" after the word "threatening" and after the word "cause".

Section 211.4(f) indicates that the operator will be required to selectively store and replace overburden during the mining and reclamation operations. This is also indicated in section 211.10(c)(5)(iv). It is unrealistic to require the operator to segregate any portion of the overburden other than the topsoil, and the proposed regulation should be amended to indicate that the provision that authorizes the mining supervisor to specify the number of holes and analyses should be eliminated.

Section 211.4(g) is wide open as to the reports which could be or may be required by the mining supervisor. This is unreasonable, and a limitation should be included.

Section 211.5(a) which relates to the holding of data, trade secrets, and commercial or financial information from publication or from public inspection, provides that such information shall last only so long as the permittee or lessee furnishing such data, or his successor or assignee, continue to hold a permit or lease of the lands involved. The operator may continue to hold adjacent ground and may desire confidentiality with respect to information on the ground he has dropped. It is recommended that after the word "lessee" the comma be changed to a period and the remainder of the subsection be deleted.

Section 211.10(c)(2) requires that the mining plan describe the condition of the land covered prior to any mining, including the capability of the land prior to any mining to support alternative uses. The operator should be permitted to describe the area to be mined in the mining plan as he found it, not as it existed perhaps decades before. Additionally, there may be no records as to its condition "prior to any mining".

With respect to 211.10(b) and (c), it should be provided that any elements contained in the preliminary plan which was submitted pursuant of 43 CFR, 3041.1, prior to the issuance of the lease or permit will be approved in the exploration or mining plan.

Section 211.10(c)(2)(ii) seems unreasonable in requiring speculation as to other uses which could be made of the land.

Section 211.3(c) should be modified to delete the word "oversees", and insert in lieu thereof "inspect and approve". As stated earlier in the general comments, the word "oversee" connotes the grant of authority to the mining supervisor to make the day-to-day decisions which are properly in the province of the mine operator.

Section 211.3(c)(2) should be clarified to make sure that the mining supervisor is to enforce these regulations only, because conflicting orders could be issued from different state and federal agencies. (See section 211.3(c)(11) below.) The introduction of the mining supervisor should be limited to enforcement of these regulations which he will, presumably, be competent to enforce.

Section 211.3(c)(8) is confusing as to whether the mining supervisor must obtain the concurrence of the surface administering agency or merely consult with it before approving cessation of operations.

Section 211.3(c)(11) appears to require the mining supervisor to inspect operations to determine compliance with water and air pollution control regulations. These are matters regulated by other federal and state agencies and should not be the responsibility of U.S.G.S.

Section 211.4(a) provides that operations must conform to orders and instructions issued by the mining supervisor without limitation. It should be noted that the present 30 CFR, 211.5 requires conformance with "orders and written notices of the mining supervisor issued in accordance with the regulations and terms of the lease that are not in conflict with the laws of the state in which the leased lands is situated." While flexibility may be desirable, the effect of this section is to create excessively broad discretionary powers to the mining supervisor. The limitation in the present regulations is more appropriate and should be retained.

In section 211.4(e), the phrase "to the maximum extent practicable" should be moved from its present location and placed immediately behind the phrase "the operator shall". This is a clarifying amendment to ensure that the operator is not required to do that which is beyond the "maximum extent practicable".

Also with respect to item (4) in this paragraph, where the operator is the owner of water rights and those water rights are to be utilized in the mining operation or otherwise, why should the regulations deny him the power to bring an action seeking to prohibit the diminution of the normal flow of water. It should be made clear that these regulations are not intended to diminish such other property rights of the operator, but are only to govern his exercise of property rights under a federal lease or permit.

In addition, section 211.4(e) provides that the determination of the mining supervisor shall be final, subject to the right of appeal. "... where any question arises as to the necessity for, or adequacy of, an action to meet the requirements of this paragraph." This causes very grave concern, because when taken in conjunction with the provisions of 211.10(d), which authorizes the mining supervisor to unilaterally change exploration and mining plans, this is

Section 211.10(c)(5)(ix) implies selective spoiling of overburden. It is unrealistic to provide for the segregation of any strata other than the topsoil, and the requirement to selectively replace overburden is unrealistic and should be eliminated.

Section 211.10(d) provides that the mining supervisor may unilaterally change exploration or mining plans. Once a plan is approved, it should not be amended by the mining supervisor without providing for the concurrence of the operator. The purposes as set forth in 211.1(b), should be the criteria for any such determination. In this respect, section 211.72 on adjustment of orders, particularly paragraph (e) thereof, would seem to again give more weight to environmental protection than to concern with timely and orderly production of coal. As we have pointed out earlier, provisions of subsection 211.72(c) place too much discretionary power in the hands of a mining supervisor, do not offer the operator sufficient procedural protection against erroneous or arbitrary shutdown orders by the mining supervisor, nor do they provide an expeditious avenue of relief from such orders. Furthermore, in order to avoid the possible issuance of a shutdown order for trivial damage, the word "or" after the word "serious" should be changed to the conjunctive "and" so that the phrase will read "serious, and irreparable damage to the environment".

With respect to section 211.12(c), which requires a coal section at 10-foot intervals, we recommend deletion of the phrase "a coal section at not less than 10-foot intervals along the highwall", as being not practical. A strip pit two miles long could require in excess of 100 cross-sections.

With respect to section 211.20, the question is raised. "Why should the operator give the government his geologic interpretation and reserve calculations?" These are purely matters of opinion on which reasonable persons may differ. The requirement to show the "exact location of coal outcrops" serves no useful purpose and any such showing should be limited to the "location of known coal outcrops". Further, the proposed regulations do not provide for confidentiality of information supplied under this section, which can and will include important proprietary information. We strongly object to this section, as written, and urge its deletion.

In section 211.30, the words "consistent with the protection and use of other natural resources" should be changed to "consistent with the purposes set forth in section 211.1(b)". This would ensure that this section is in accordance with the purposes as set forth in the Purposes Section of the regulation.

With respect to section 211.32(a), it is recommended that this subsection be eliminated. Many factors may dictate to the mining of a lower seam prior to work on an upper seam. These may include quality of the coal, size of the seam, questions of flooding and water control, and other questions of safety. It goes without saying that questions of safety in underground works should be considered first and a general statement that upper seams will be mined first seems inappropriate. Furthermore, it is not clear by the language that the upper "bed or beds" of coal are commercially available seams.

Section 211.40(a)(2) requires the operator to reclaim the land affected "as contemporaneously as practicable with operations, to a condition at least fully capable of supporting all practicable uses which it was capable of supporting prior to any

exploration or mining, or equal or better uses that can reasonably be obtained." The land disturbed by mining activities will have to be reclaimed pursuant to this requirement to a use equal or better than any use which the land was capable of supporting prior to the exploration or mining. Reclaiming the land to its pre-mining condition or use may not be desirable. Regulations should permit the operator to reclaim the land so that it is suitable for other uses which may not be equal to or better than the pre-mining use if the proposed use is determined to be acceptable and environmentally sound, and a reasonable use for the land within the area.

Section 211.40(a)(3) provides that the operator shall replace the overburden waste materials by backfilling, grading, or other means so as, to the maximum extent practicable, to eliminate highwalls and spoil piles, and to restore the original contour. This appears to conflict with section 211.40(a)(1) and may prevent the maximum economic recovery of the coal reserve and may be undesirable from an environmental standpoint. Additionally, the word "approximate" has apparently been inadvertently omitted from the end of the first sentence of the section just prior to the word "original contour". The proposed regulations have consistently referred to restoring the surface to its "approximate original contour". Further, it appears that the word "where advisable" may have been inadvertently omitted from the second sentence of this section, and we suggest that after the word "compact" and before the comma, the phrase "(where advisable)" be inserted. In addition, we suggest that clause "(ii)" of the last sentence be amended to read as follows: "(ii) that unusual conditions, including but not limited to steeply dipping coal beds, steeply sloping terrain, or multiple seam mining, exist which make backfilling pursuant to this paragraph impractical." This change will assure that "unusual conditions" other than those specifically named in the regulations can be considered as a basis for approval of an alternative grading plan.

The last sentence of section 211.40(a)(5) provides for the segregation of strata other than topsoil. This should be eliminated, as it is unrealistic to require the segregation of any strata other than the topsoil.

Section 211.40(a)(6)(iii) and (v), as broadly stated, prohibits the operator from adversely affecting water resources. This would include the diminution of a water flow for which he may have a lawful water right. The operator having a water right permitting him to legally reduce or otherwise affect the water should be permitted to enjoy his property right. If these regulations, and we believe they may be, are subject to the interpretation that they infringe upon his right to exercise his property right (a water right), a taking issue may be involved. Furthermore, undue concern should not be placed upon insignificant effects, and the section should be appropriately amended.

Section 211.40(a)(6)(iv)(B) should be amended by inserting after the word "channels" the phrase "through erosion". Planned relocation of streams may be desirable as well as channel improvements.

Section 211.40(a)(8) relating to surface disposal of mine wastes provides for "compacted layers". Since this section does not relate to impoundments, there is no justification for compacting layers and it is recommended that the word "compacted" be deleted.

duplicate, with the Mining Supervisor." Using an annual report, showing appropriate data, to keep track of the pace of reclamation would give better control than receiving planting reports at various times throughout the year.

Section 211.71(b) provides that all notices, instructions, and orders shall be construed to have been received if mailed. Where the U.S. Mail system is used, only such notices, instructions, and orders as are sent by registered or certified mail to the superintendent, mine foreman, mine clerk, or higher officials should be construed to be received.

Section 211.72(c) utilizes the phrase "immediate, serious, or irreparable damage to the environment". Compare this with subsection (a) which uses "imminent, serious and irreparable damage to the environment" which does not provide for an order requiring immediate cessation of activities, without notice, for failure to comply with regulations, terms and conditions of the lease, etc. In order to reasonably justify a shutdown order, all three elements -- immediacy, seriousness, and irreparability -- should be present before such an order is issued. That is, the threat to the environment should be immediate -- that is, a normal compliance order could not deal with the problem; it should be serious -- that is, it is not a de minimus or miniscule threat; and it should be irreparable -- that is, it cannot be later corrected. Therefore, we suggest section 211.72(c) be amended to read "immediate, serious, and irreparable damage ...."

Section 211.74(c) provides that if the Secretary has ordered state law to apply to federal leases, he may later rescind or modify that order. What does that do to the operator whose plan has already been approved under the state procedure? We feel that this is one more factor urging that the regulations remain silent with respect to the Federal-State preemption issue. (See our earlier comments on the question of Federal-State preemption.)

SECTION-BY-SECTION COMMENTS WITH RESPECT TO PROPOSED 43 CFR, SUBPART 3041

Section 3041.0-1(b) provides that leases and permits will only be issued where reclamation is "assured". This would deny mineral development where there is any risk with respect to reclamation and would in effect value the surface more highly than the minerals. This seems to violate the basic policy considerations expressed in the introduction to the notice of proposed rule making, in addition to technology changes, and areas where there may be doubt as to the reclaimability of an area may later be known to have a good probability of reclamation success. We recommend the deletion of the words "and assured".

In section 3041.0-4(c), add the words "in consultation with" to the first sentence of this section as follows: "The Bureau of Land Management or other federal surface management agency, in cooperation with the Geological Survey and, in the case of non-Federal surface, in consultation with the surface owner, formulates the requirements to ...".

In section 3041.0-6(f), delete the words "and receive", since a surface owner may have no recommendations on how to "... achieve the purpose of these regulations."

Section 211.40 (a)(13) sets forth the requirements for the use of explosives. Blasting is regulated by other laws and federal and state agencies should not be involved by these regulations.

In section 211.40(a)(14), the mining supervisor should be permitted to approve the retention of any facilities after completion of mining -- not just roads.

Section 211.40(a)(15) might prevent any road from crossing a stream bed. This standard is constantly violated by public highway construction, so why should it be imposed here?

Section 211.40(a)(16) should be modified so that introduced species may be permitted as more than an emergency measure. Introduced species are not undesirable for vegetation. In many cases, a few introduced species which are adapted to the area may be beneficial to the overall reclamation effort and subsequent uses. We recommend deleting the phrase "native to the area".

Section 211.40(a)(17) should be amended to provide that if the surface is privately owned, the surface owner may relieve the operator of his revegetation responsibility if the surface owner desires to reobtain use of the land and the operator is willing. Further, this section should be amended to allow reduction of the minimum period of liability any time it can be demonstrated that revegetation has occurred.

Section 211.40(a)(18) appears to be in conflict with section 211.4 (a)(3). The seemingly contrary requirements of paragraph (18) and paragraph (19) could become a contentious issue. It should be more carefully drawn to avoid such conflict.

Section 211.40(a)(19) requires the operator to protect wildlife from its hazards associated with coal mining. Wildlife would presumably include birds and other uncontrollable species where fences and other protective devices would be impracticable. We recommend that only reasonable protective measures be taken to avoid undue liability.

Section 211.41(e) requires removal of equipment and structures "unless a delay" upon abandonment. In some cases, the surface owner may desire the retention of some facilities, and if the operator and the surface owner agree, the operator ought to be permitted to leave those facilities and be relieved of any further obligation as to that regard.

Section 211.41 should be further amended by the inclusion of a requirement that the Mining Supervisor shall provide the operator with a written statement that the operator has complied fully with all mine closure and abandonment requirements as set forth in the section.

Section 211.61 and section 211.62(a) provide for a new basis for royalty. Our earlier comments with respect to a separate rule-making procedure and public hearings apply, and we would so recommend.

Section 211.62(c)(1) should be amended by deleting the first sentence and substituting therefor the following: "The operator shall file an annual report, in

Section 3041.0-5(a) defines acid or toxic producing deposits as those which "may produce effluents ...". Since this is a definition, the word "may" should be stricken and the word "will" should be substituted therefor. Either the deposits will produce acid, etc., or they will not.

Section 3041.0-5(b), which defines "affected lands", should be amended by inserting the phrase "subject to a federal lease" after the word "lands" and after the second time. Since railroad spurs, county roads and other facilities may be necessary for the mine but are not under the control of the operator. This amendment is necessary to avoid imposing a burden on the operator he is unable to achieve because of acts over which he has no control.

Section 3041.0-5(k) should be amended to read as follows: "'Maximum extent practicable' means, with respect to a performance standard or a level of control, that degree of compliance which can be reasonably achieved with commercially available technology, as determined through a balancing of the feasibility of the technology, the costs of such compliance and loss of recovery of the resource against all tangible and intangible environmental and other benefits which could be derived therefrom, and intangible environmental and other benefits which could be derived therefrom, and provided that consideration will be given to special circumstances of particular coal mines where appropriate." The purpose of this revision is to conform this definition with the definition in section 211.2(gg).

Section 3041.0-5(m) should be amended to read as follows: "'Mine' means an underground or surface excavation, and the surface or underground support facilities that contribute directly or indirectly to coal mining, preparation, and handling, and that lie within the 'area of operations'." The purpose of this revision is to make clear that facilities -- such as the railroad over which coal is hauled to some distant point -- outside the "area of operations", and not under the direct control or supervision of the operator, are not construed as being part of the "mine".

Section 3041.0-5(q) defines overburden as including "all the earth and other materials". We suggest that "other materials" be changed to "other geologic materials" to include vegetative or animal materials.

In section 3041.0-5(v) "reclamation" is defined as being "consistent with ... operations". This would seem to preclude acceptable uses other than the pre-mining use. Section 3041.0-7(b)(2) refers to "equal or better uses that can reasonably be attained", but section 3041.0-7(b)(3) anticipates alternate uses. Reclaiming the land to its pre-mining condition or use may not be desirable. The regulations should permit the operator to reclaim the land so that it is suitable for other uses which may not be "equal to" or "better" than the pre-mining use if the proposed use is determined to be acceptable and environmentally sound, and a reasonable use for the land within the area.

Section 3041.0-5(z) contains the definition of valley floors. It includes the channelways and adjacent areas of ephemeral and intermittent streams as well as perennial streams. This definition therefore includes every stream channel which has unconsolidated material below it.

We suggest that the definition should include perennial streams and significant intermittent streams. Ephemeral streams are above the water table and respond to precipitation rather than springs or seeps. Therefore, they should not be included in this definition.

In section 3041.0-6(a) we are concerned about the lack of definition in the proposed regulations and multiple interpretations for the term "area" in the first sentence of this section because of the significance placed on the term in the Sierra Club v. Morton decision. We suggest that "area" be limited in geographical extent to a 50-mile radius and possibly one to two counties.

In section 3041.0-6(c), add the word "promptly" after the last word of this section.

Section 3041.0-7(b)(1) provides for the maximization of the extraction of the coal resource. In some cases there are thin and uneconomic seams associated with the principal seams. We recommend that after the word "resource" the following phrase be added: "to the extent it is economically feasible at the time of mining".

Section 3041.0-7(b)(3) requiring the elimination of highwalls is not compatible with the criterion in 3041.0-7(b)(1) nor is the provision in 3041.0-7(b)(20), which would also seem to require filling in the final cut. The absolute requirement to "compact" in the 16th line of 3041.0-7(b)(3) should be eliminated. These amendments are necessary to conform these regulations with Part 211 of 30 CFR.

The last sentence of section 3041.0-7(b)(5) would require the segregation of strata other than topsoil. This should be eliminated, as it is unrealistic to require the segregation of any strata other than the topsoil.

Section 3041.0-7(b)(5)(iii) and (v) and 3041.0-7(b)(8)(iv) broadly states that the operator shall not adversely affect water resources. The operator may have a water right permitting him legally to adversely affect the water utilized by other parties. Why should these regulations prohibit his exercise of that right?

In 3041.0-7(b)(9) the requirement of "compacted" layers should be removed.

In 3041.0-7(b)(14) the mining supervisor should be permitted to approve the retention of any facilities after completion of mining -- not just roads.

In 3041.0-7(b)(15), this subsection might prevent any road from crossing a stream bed. This standard is constantly violated in public highway construction so why should it be imposed here?

3041.0-7(b)(16) should be modified so that introduced species may be permitted as more than an interim measure if native species are not adequate for revegetation. In many cases, a few introduced species which are adapted to the area may be beneficial to the overall reclamation effort and subsequent uses. We recommend deleting the phrase "native to the area".

3041.0-7(b)(17) should be amended to provide that if the surface is privately owned, the surface owner may relieve the operator of his revegetation responsibility if the surface owner desires to reobtain use of the land and the operator is willing. Further, this section should be amended to allow reduction of the minimum period of liability any time it can be demonstrated that revegetation has occurred.

3041.0-7(b)(18) is too broadly drawn and would permit anyone to wander through the lease. The operator must have some control over access and in this regard subparagraph (19) seems to contradict subparagraph (18) as well as raising questions as to the operator's right to preclude multiple use by other federal permittees. The operator should be entitled to exclude the general public but may not be able to exclude those holding grazing permits, prospectors, etc. Also, see our comment with regard to section 211.40(a)(18) and (19) of 30 CFR.

Section 3041.0-7(b)(20) should be amended by the inclusion of a requirement that the Mining Supervisor shall provide the operator with a written statement that the operator has complied fully with all mine closure and abandonment requirements as set forth in the section.

Section 3041.0-7(b)(20)(ii) requires removal of equipment and structures "promptly" upon abandonment. In some cases, the surface owner may desire the retention of some facilities, and if the operator and the surface owner agree, the operator ought to be permitted to leave those facilities and be relieved of any further obligation in that regard.

3041.0-7(d) seems to permit unilateral revision or supplementing of exploration and mining plans. See our comment on section 211.10(d) of 30 CFR. Further, in cases of emergencies, the operator should be permitted to deviate from the approved plan to meet the emergency conditions.

3041.0-7(f) relating to visual resources introduces an element which is entirely subjective and not capable of any objective decision. Are old mine tipples and ghost towns ugly or attractive? The provision should be eliminated.

Section 3041.0-7(h) implies a requirement to protect paleontological values in connection with coal mining on the basis of unspecified standards and could have the result of effectively negating a lease if any substantial fossil deposit were discovered in connection with the mining.

Section 3041.0-8(a), at the end of the first sentence, change period to a semicolon and add "provided, however, that activities other than exploration, mining or gaining access to the mineral for mining may be conducted on non-federal surface with the consent of the surface owner". When the federal government does not own the surface, we question the justification and need for Department of Interior control over surface activities other than exploration, mining and gaining access to the mineral for mining when the surface owner has consented to such activity and otherwise applicable federal, state and local laws, rules and regulations have been complied with.

Section 3041.0-8(b) reflects the same confusion as mentioned in our comment on 3041.0-7(b)(18) and (19). Our suggested language in this section is: "Operations under other authorized uses on the same lands shall not unreasonably interfere with or endanger operations under uses authorized under the regulations in this chapter."

Section 3041.1 should be amended by striking out subsection (b) thereof. See our comments on section 3041.1 below.

Section 3041.1-1 states that the preliminary plan required of an applicant shall include such information as the proposed location of surface and underground mine workings, development and extraction facilities, and the location and aerial extent of pit, overburden and tailings areas. Inasmuch as only casual use (no drilling) is permitted until a lease or permit has been issued, there is no legal means for the applicant to acquire this data. The potential environmental impact of alternative types of mining, and locations for pits, overburden areas and facilities should properly be considered during the tract selection stage and at the mining and reclamation plan approval stage, but not at the lease sale stage. Further, this information would be required of all applicants, which we interpret to mean every bidder in a competitive lease sale. How is proprietary information included in a preliminary plan to be protected, especially if competitive bidding is involved? We strongly suggest that section 3041.1-1 be deleted.

Section 3041.2(a) provides that the authorized officer of the Federal Surface Management Agency, with the assistance of the Mining Supervisor, shall make a technical examination and environmental analysis in connection with an application for a coal lease, permit, or license. The technical examination shall include: "(1) an examination of the technical feasibility of the preliminary plan and; (2) an evaluation of the effect of the preliminary plan on other land uses, resources, or programs on or adjacent to the area." It seems questionable whether the authorized officer of the BLM, even with the assistance of the U.S.G.S. Mining Supervisor, can make an assessment of the technical feasibility of the preliminary plan. The matters that must be included in a preliminary plan are set forth in section 3041.1-1. Some of the information that is to be incorporated in the preliminary plan, such as proposed location of surface and subsurface exploration sites and location of development or extraction facilities, require a thorough knowledge of coal mining engineering and practices.

The proposed BLM regulations do not set forth a time limit within which the Agency must act on an application for a coal lease, permit, or license. If an environmental impact statement is required, it may take several years before the lease or permit issues. The regulations should provide some time limit for the technical examination and environmental analysis and a determination as to whether the lease or permit will be granted.

In section 3041.2, add as subsection (c), "The applicant or any potential applicant for a coal lease, permit or license shall be given an opportunity to comment on the TEEA report."

Section 3041.2-1(a) should provide that the TEEA will be formulated to minimize adverse impacts on the environment to the maximum extent practicable.

Section 3041.4(b) should provide that bonds to guarantee reclamation should only cover the amount required to reclaim the area already disturbed and not reclaimed.

Section 3041.5 would require the submission of proprietary information. There must be effective assurances that this information and data will be kept confidential. Public access to and disclosure of this data should be denied in accordance with sections (b)(4) and (9) of the Freedom of Information Act (5 U.S.C. 552), relating to the protection of geological and geophysical information and trade secrets and commercial or financial information. We suggest this section be amended to afford that protection.

Section 3041.6(b) requires the inspection of regraded lands. We recommend that this element be deleted. The Mining Supervisor has the right of inspection at any reasonable time. Further, a regrading procedure is a part of the mining plan. The inherent delay in waiting for an inspection may cause some lands that are ready for topsoiling and revegetation efforts to be left unreclaimed for another six to twelve months. However, if the inspections of regraded lands are deemed necessary, we recommend that the inspectors should be available on request.

We also suggest that the report on the reclamation efforts be submitted with the annual report.

Section 3041.6(c)(1) requires a report be submitted within 30 days following a seeding. We recommend that a 90-day period would be more appropriate. The seeding seasons are usually longer than 30 days and some seeding may still be taking place although a particular planting unit is finished.

In section 3041.7(b) agencies other than U.S.G.S. are given the right to find violations in operations and order cessation. This is contrary to 3041.0-4(b).

Section 3041.7(b) states that if the authorized officer of the Federal Surface Management Agency (BLM) determines that an operator is conducting activities which are not in compliance with the requirements of a lease, permit, or license, applicable regulations, or the approved plan and such activities threaten immediate, serious, or irreparable damage to the environment, resources, health and safety of the employees and the public, the authorized officer may order the immediate cessation of such activities and shall promptly notify the Mining Supervisor. Although this indicates that the operation could be shut down, the section goes on to state that upon such notification, the Mining Supervisor shall order immediate remedial action and issue a notice of non-compliance where appropriate. This section should be amended to make it clear that the authorized officer of the Federal Surface Management Agency cannot unilaterally shut down a coal mining operation without the concurrence of the Mining Supervisor. In addition, subsections (b) and (c) of section 3041.7 should be amended to read "threaten immediate, serious and irreparable damage to the environment...."

At the end of the first sentence, change the period to a semicolon and add "provided, however, that if the alleged non-compliance is corrected immediately upon receipt of the cessation order the cessation order shall be retracted."

Section 3041.7 is much too broadly drawn. The law is clear that a producing lease may be cancelled only by suit filed in a Court of competent jurisdiction. This section gives an administrative officer broad powers, based upon findings which are vaguely defined, indefinite and not objective, to issue an order which might amount to a cancellation of a lease.

In section 3041.7(d), insert after "30 CFR 211.72" the phrase "or to appeal to the Director of the Geological Survey pursuant to 30 CFR Part 290." This change is consistent with section 211.72(a). Also, section 3041.7(d) refers to termination pursuant to 43 CFR 3500, but we find no termination provisions in that part.

With respect to section 3041.8, see our general comments on Federal-State preemption above.

Section 3041.8(c) provides that if the Secretary has ordered state law to apply to federal leases he may later rescind or modify the order. What does that do to the operator whose plan has already been approved under the state procedure?

The American Mining Congress appreciates the opportunity to submit these comments on the proposed revision of 30 CFR, Part 211, 216, and 43 CFR, Part 3161. We urge the careful consideration of the views presented, and again urge the deletion of section 211.61 relating to royalty matters. Due to its potential impact upon the economic viability of coal mining operations, this section should be subject to hearings and thorough analysis both as to effect upon energy availability as well as energy cost, especially in this era of energy shortage.

Sincerely,

J. Allen Overton, Jr.
President

THE CARTER OIL COMPANY

HOUSTON, TEXAS 77001

HARRY PISTOLE

November 21, 1975

POST OFFICE BOX 2180

Oraft Environmental Statement
"Proposed Surface Management of
Federally Owned Coal Resources and
Coal Mining Operating Regulations"
DES 75-53

Mr. Vincent E. McKelvey
Director, U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, VA 22092

Dear Mr. McKelvey:

After a review of the above-referenced Draft Environmental Impact Statement, it is a major concern of The Carter Oil Company that the issue of additional delays caused by the proposed regulations has not been adequately addressed. (Carter's previous comments on potential delays were included in my letter to you dated November 3, 1975).

On page III-28 of the Draft Statement, the first paragraph closes with the statement: "If it takes a prolonged time (over two years) to obtain the data, some production curtailments may occur." Further, in the second paragraph, we read: "Meeting the requirements of the proposed operating and mining standards could create small cost increases indirectly by introducing delay and uncertainty into the development and production phases of mining."

We infer from these sentences that a two-year delay, compared to lead time required under present regulations, is not considered particularly significant. We think this severely understates the cost impact and that a two-year delay in coal production from new federal leases will impose substantial adverse impacts on the national well-being that are not adequately described by the Draft Environmental Statement. Some of the adverse impacts resulting from additional delay that should be more fully described in the statement are cost to coal consumers, continued dependence on foreign energy sources, and effect on national employment caused by delaying several thousand jobs.

First, as to the cost to coal consumers, the second sentence quoted above mentioned "small cost increases." Our analyses show that a two-year regulatory delay in opening a western coal mine could easily add 10 percent to the coal price required to yield a fair return to the developer simply by tying up the investment in coal reserves and front-end development engineering costs for an additional two years with no earnings. Costs added by inflation during the two-year period are in addition. Applicable Bureau of Labor Statistics indices indicate an inflationary component in mine construction costs over the past two-year period of 35 percent. In the final analysis, these delay-induced costs are reflected not only in the cost of the coal, but also in the cost of consumer products such as electricity from coal fueled plants.

Second, several recent studies have been made to project the nation's requirement for western coal, most of which will come from lands subject to the proposed new regulations. One study, by the National Electric Reliability Council issued in July 1975, indicated that western coal consumption by electric utilities should increase from present levels by about 180 million tons per year over the next nine to ten years. Oelays in development--whether caused by regulations or other factors--will impact not only on the production of this coal, but also on the country's dependence on imports, the national balance of payments, and unemployment. Last April, Frank Zarb, FEA Administrator, stated that a loss of only 50 million tons of coal per year would be equivalent to 215 million barrels of oil which would have to be made up primarily from imported oil. Mr. Zarb went on to point out that these additional imports would increase dollar outflows by more than $2.3 billion and cost more than 10,000 jobs.

Third, the delay caused by these new regulations will affect the national unemployment total. The mines and other facilities required to increase coal production from federal lands will create thousands of new jobs. The current level of unemployment in the nation is sufficient reason to highlight this consequence of a substantial delay in new coal production from federal lands.

It is our considered opinion that the impacts mentioned above should be described in the final environmental statement under Chapter III, Probable Impact of the Proposed Action. Proper description of these impacts could show that it is also necessary to consider another alternative to the proposed action in Chapter VIII. That alternative would be to rely on stringent performance standards, bonding requirements sufficient to ensure proper reclamation in the case of nonperformance, and to reduce the redundant and time-consuming data-gathering requirements and review procedures incorporated in the new regulations. The data-gathering and review procedures are the reasons the Oepartment must project a two-year delay compared to current procedures. It should be possible to show that there are ways to achieve the degree of environmental protection set forth in the proposed regulations and also substantially reduce the delay in initiating new coal production from federal lands.

We appreciate the opportunity to comment on the Draft Environmental Statement.

Yours very truly,

Harry Pistole

HP/bac

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ENVIRONMENTAL DEFENSE FUND

1657 Pennsylvania Street
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COMMENTS ON PROPOSED SURFACE MANAGEMENT
OF FEDERALLY OWNED COAL RESOURCES (43 C.F.R. Part 3041)
AND COAL MINING OPERATING REGULATIONS (30 C.F.R. Part 211)
OF THE U. S. DEPARTMENT OF THE INTERIOR

REQUEST FOR PUBLIC HEARINGS

Although a draft Environmental Impact Statement (DES 75-53) has been issued concerning the proposed Department of Interior regulations governing federal coal mining, to our knowledge, no public hearings have been scheduled on this important and controversial subject. There can be no doubt as to the importance and controversy associated with the subject of controlling coal strip mining in this country. One need look only at the history of the federal coal strip mine legislation and at the federal coal leasing issue to realize that the promulgation of new regulations governing coal strip mining on federal lands is an event of major significance. It is, therefore, entirely inconsistent with NEPA procedures and requirements not to have scheduled public hearings on this draft EIS.

It is clear from the Guidelines for Preparation of Environmental Impact Statements of the Council on Environmental Quality, (Section 1500.7(d)) that the Department of Interior has been remiss. The C.E.Q. guidelines state:

> "In deciding whether a public hearing is appropriate, an agency should consider: (1) The magnitude of the proposal in terms of economic costs, the geographic area involved, and the uniqueness or size of commitment of the resources involved; (2) The degree of interest in the proposal, as evidenced by requests from the public and from federal, state and local authorities that a hearing be held; (3) The complexity of the issue and the likelihood that the information will be presented at the hearing which will be of assistance to the agency in fulfilling its responsibilities under the Act; and (4) The extent to which public involvement already has been achieved through other means, such as earlier public hearings, meetings with citizen representatives, and/or written comments on the proposed action." (Section 1500.7(d))

On the basis of the first consideration alone, a public hearing is indeed appropriate. Lest there be any doubt about the "degree of interest" in the public sector, we hereby underline our interest by officially requesting a public hearing on this draft Environmental Impact Statement and on the proposed regulations themselves. A complete written record should be made of such public hearing, for the benefit of the agency and for the public.

EIS DISTRIBUTION

It is also apparent that the distribution of the draft EIS on these regulations was neither widespread nor timely. It would have been logical to distribute this EIS to all groups, individuals, agencies, and companies which have been active either in the federal coal strip mine legislation, or who have demonstrated an interest in federal coal leasing, as expressed, for example, by commenting on the draft programmatic EIS on the federal coal leasing program. In anticipation of public hearings on this EIS on the mining regulations, we would recommend that comprehensive distribution of this document be undertaken.

THESE REGULATIONS ARE PREMATURE

The promulgation of these regulations is entirely premature, due to the repeated refusal of the Ford Administration to sign the moderate federal strip mine bill passed by the Congress. Such a nationwide bill is long overdue, and promulgation of regulations governing federal lands will continue to be premature until coal lands nationwide are protected at least to the level of the minimum standards established in the Congressional bill. Even if these Department of Interior regulations were adequate, which they are not, they would be no substitute for much needed strip mine controls on all lands, federal and non-federal alike.

THE ADMINISTRATION HAS RETREATED FURTHER FROM SUPPORT OF STRIP MINE CONTROLS

Indeed, the severe weakness of these regulations signals a new retreat on the part of the Ford Administration - away even further from environmentally sound extraction of coal resources. The introductory explanation in the Federal Register notice of September 5, 1975, implies that these regulations were designed to solve the "problems" the President perceived in H.R.25, the federal strip mine bill. Significantly, however, these regulations

go far beyond the President's desires to weakan H.R.25 at the time of the second veto. These draft regulations are even weaker than the draft regulations promulgated by the Department of Interior last January. As the latest expression of Administration policy on coal strip mine controls, these draft regulations make it painfully obvious that <u>no</u> meaningful regulation is deemed acceptable.

NO PERFORMANCE STANDARDS

The whole notion of minimum performance standards for coal mining has been abandoned in the current draft. The provisions which are intended to fit the description "standards" are modified either by the phrase "to tha maximum extent practicable," or by the ability of the Mining Supervisor to waive the requirement, or both. In effect, whan combined with thesa enormous loopholes, the "regulations" are nothing more than words on a paga.

The goal of such regulations as these ought to be to assure that strip mining does not occur except where reclamation of the affected land is attainable and assured within a reasonable length of time. These regulations are not designed to achieve that goal. In addition to the pervasive loopholes, reclamation is not required to proceed concurrently with the mining operation; the operator's liability period is designed to invite unsuccessful reclamation; there is no procedure for identifying and protecting lands which are unsuitable for mining; there are no provisions to govern mining on steep slopes; and even the "lowest common denominator" in reclamation - backfilling and grading so that high walls, spoil piles, and depressions are aliminatad - has been emasculatad in this newest version of the Department's strip mine regulations.

PROCEDURES DEFICIENT

These draft regulations also lack procedural provisions essential to effective and fair control of strip mining operations. Provisions for public participation are minimal, not even including public hearings on major actions such as lease tract selections, mining plan approvals and bond release. Inspection procedures are not adequately specifiad; there are no clear procedures for permit approval or denial, such as the federal strip mina bill would have required; the operator does not seem to carry the burden of proof; and the Department does not seem to be responsible for written findings associated with permit approval or denial or with bond release. And the proper role of tha Environmental Protection Agency has been completely ignored in thase draft regulations.

INADEQUACY OF THE ENVIRONMENTAL IMPACT STATEMENT

Although the regulations themselves seem to have been carafully drafted to be extremely weak, the environmental impact statement appears to have been hastily drawn up. It falls far short of an adequate analysis of the environmental impacts of these proposed regulations, and a consideration of the alternatives to these regulations. Indeed, it was drafted so quickly that it appears not even to have been proofread. The "Alternatives" section is particularly worthy of comment in that in and of itself it constitutes complete disregard of NEPA. The discussion of each alternative, from "No Action" to "Let State Mining Laws Govern Strip Mining on Federal Lands," is simplistic, unsubstantiated, inaccurate, contradictory, and in some cases, ridiculous. For example, the discussion of the alternative favored by Congress and others, including most environmental organizations, "Enact Federal Legislation Controlling Surface Mining of Coal" is reproduced in full below:

> "<u>Enact Fedaral Legislation Controlling Surface Mining of Coal</u>. Legislation controlling surface mining of coal on public and private land could have the same impact on mining of Fadarally-owned coal as the proposed regulations would have. There could be individual requirements of a Federal surface mining law that would be either more or less stringent than the raguirements of the proposed regulations. For example, certain bills proposed in Congress in recent years have called for such measures as prohibition of mining on steep-sloped terrain and in arid or semi-arid regions where rainfall is less than a minimal amount, such as 10 inches, or improved more specific raquirments (sic) for handling overburned (sic) and constrasting (sic) impoundments. Although it would not be anticipated that limitations on steep-slope mining would have a great impact on mining of Federal coal, the minimal precipitation requirements could have a significant impact on mining in the West depending upon how stringently the minimal precipitation requirements were set. The impact of a strict minimal pracipitation requirement would be to raduce both the

> amount of land disturbed by mining and the amount of coal available for public and industrial consumption. The results sought to be achieved by the other cited provisions of proposed legislation and reachable under they (sic) proposal regulations, and the advantage of the more flexible approach represented by the regulations are above.
> Another featura of proposed legislation has been tha levying of a royalty on coal oparators based on the tonnages reproduced. The royalties collected would be placed in a Reclamation Fund set up to raclaim abandonad pre-law surface mined lands. Such a royalty would tend to increase the cost of coal to public utilitias and the consumer as operators would try to recoup their axpenses. Even so, the royalty would provide funding to reclaim damaged and abandoned lands that have continued to be aesthetically unpleasing and sources of sediment and pollution over the years." (EIS, pp. VIII-7, 8)

This "analysis" is, unfortunately, typical of the "analysis" of the other alternatives "considered" in this EIS. There ara unsubstantiated allegations that stricter standards would "reduce the amount of coal available for use by industry and the public" (p. VIII-3), that "more stringent requirements could discourage mining of Federally-ownad coal. This would be particularly true for smaller-scale mine operations and larger mining companies would have an advantage" (p. VIII-3), that under the January regulations which Mining Supervisors are now using (the "No Action" alternative) that "proper revegatation and regrading of disturbed areas probably would not be as readily insured" (p. VIII-2), that with the imposition of "absolute" requirements, "thare could be environmental advantages to the imposition of absolute, specific requirements" (p. VIII-4), and, finally "it is felt that the environmental impacts of the alternative provisions considered would not be significantly different from those of the proposed regulations" (p. VIII-5).

On the basis of this "Alternatives" section alone, the environmental impact statement must be rejected. The regulations themselves make it clear that the Department is not interestad in sound controls over coal mining on fcderal lands, and the EIS reconfirms this fact.

At a minimum, one would think that the authors of the EIS would have compared the provisions of the regulations to the provisions of tha federal strip mine bill which was vetoed (H.R.25). This would not be difficult, in that the proposed regulations were written in an attempt to suparficially resembla the federal bill.

The Administration has never made a convincing case that the federal strip mine bill should not pass, and this environmental impact statement does nothing to bolster their case.

SPECIFIC COMMENTS ON PROCEDURES

<u>Written Findings</u>. Nowhere in the regulations are firm procedures for permit approval or denial and bond release set out clearly and adaguately. In the case of permit approval or denial and bond release, the Department should be required to make certain findings in writing, as a precedent to granting or denying a permit or releasing a bond. These written findings should be specific. In the case of a permit application as a basis for approval, the Dapartment must find, in addition to obtaining concurrence of the Environmental Protection Agency:

- that reclamation is attainable and assured within a reasonable time;
- that water resources will not be polluted or diminished;
- that for each species of plant proposed in the reclamation plan that viabla seeds are available in quantity sufficient to achieve the revegatation plan specified by the applicant;
- that lands within the mining unit or lease area on which reclamation is not likely to ba attained have been omitted from the permit area; and
- other specific findings appropriate to the permit under consideration.

In the case of bond release, the Department, as a <u>basis</u> for bond release, in addition to obtaining the concurrence <u>of the</u> Environmental Protection Agency, must find in writing that:

- the mined area is fully reclaimed in accordance with the mining plan;
- that the area has withstood the climatic extreme of drought;

- that the mined area is not contributing suspended solids to surface water;

- that the mined area is not contributing to air or water pollution;

- that the proposed post-mining land use has been achieved; and

- other specific findings appropriate to the specific mining plan.

EPA concurrence should be required for all permits, leases, licenses, bond amounts and bond releases. Indeed, it should be noted that the EPA is probably a more appropriate agency to administer strip mine controls over federal coal than is the Department of Interior. EPA's comments on these regulations, dated November 6, 1975, demonstrate forcefully that agency's commitment to sound mining practices. EPA has been completely left out of these regulations as drafted.

Public Participation. Just as a sound procedure for permits and bond releases needs to be set out in these regulations, so does a sound system of public participation. Public notice should be comprehensive, through newspapers, the Federal Register, and notification of state and local officials should be provided at the following stages, at a minimum: lease tract selections, applications for lease, mining plan applications, application for bond release or bond adjustment. In addition, environmental impact assessments, technical examinations and other reports should be publicized and made available for public comment. In all cases, public comment should be allowed a period of a minimum of 90 days, and, on request, a public hearing should be held. In most cases, leases, mining plans and bond releases should be preceded by public hearings. In all cases, there should be an opportunity for a public hearing.

Designation of Lands Unsuitable for Mining. An overall procedure for designating lands unsuitable for mining should be instituted at the earliest possible opportunity. This should not, except as a last resort, be confined to determining which areas in a mining plan application should be designated unsuitable. Those areas where reclamation is unlikely to be attained or cannot be assured, or where other values such as land which is an integral part of an agricultural operation, critical wildlife habitat, scenic or historical area, etc., should be identified before leases are issued and before mining plan applications are received. Early designation of these areas will avoid later costly adjustments for applicants whose lease areas may not have been

investigated for special values or special problems which would cause the land to be unsuitable for mining.

Such analysis would also indicate if only certain types of mining (such as underground) would be allowed.

Timetable for Applying Regulations. Although we feel that the promulgation of these regulations, even if they were not as weak as they are, is premature, we feel strongly that if they are instituted, existing operations should be brought into compliance at the earliest possible opportunity, but no more than 180 days from the date of promulgation. (Note: the promulgation of these regulations does not in any way bolster the Department's arguments that federal coal leasing ought to be renewed. Although adequate protection from strip mining should be a prerequisite to further leasing, in addition, the need for this further leasing should be demonstrated before further public lands are transferred to private hands.)

SPECIFIC COMMENTS ON PARTS 3040 AND 211

Introduction. Following are specific criticisms of the draft regulations. An attempt was not made to discuss every deficiency. This would have entailed drafting an entirely new set of regulations, as the Environmental Protection Agency has done, and provided to the Department of Interior.

In general, comments made on Part 3040 apply to Part 211, and vice versa. The following comments are intended to avoid excessive repetitiveness and to be representative rather than exhaustive.

The single most significant improvement which could be made in these regulations, apart from passage of the Congressional strip mine bill, would be to delete the phrase "to the maximum extent practicable" and to eliminate the ubiquitous procedure wherein the Departmental official can waive specific provisions.

Part 3040-Environmental and Safety; Subpart 3041 Surface Management - Federal Coal Leasehold

§3041.0-1(b) It is essential that reclamation take place concurrently with the mining operation, yet this provision states that reclamation "will be undertaken as contemporaneously as practicable with mineral development." (emphasis added) This terminology is a typical loophole throughout the regulations. It should simply be stated that reclamation should take place contemporaneously or concurrently with mining.

§3041.0-5(a) "Acid and toxic producing deposits" should not be confined to deposits which actually "produce effluents." First, effluents are to be controlled under our water pollution laws, and second, many acid and toxic materials may be harmful simply because they inhibit plant growth, but not necessarily because of effluents produced.

(b) "Affected lands" should include all access roads and corridors.

(c) "Approximate original contour" was defined in the January draft much more comprehensively than the current weak version which does not even require the elimination of high walls. The January definition should be used in place of this version.

(v) This definition of "reclamation" as returned to "a stable condition and form" is a good example of the Administration's retreat from at least grudging support of minimal strip mine controls. In January, "reclamation" was defined as

> "the process of land, air, and water treatment that restricts and controls water degradation, air pollution, damage to aquatic or wildlife habitat, flooding erosion, and other harmful effects resulting from exploration, mineral development, mining, on-site processing operations or waste disposal so that the affected area, including where appropriate, areas adjacent to the mining site are restored to a stable condition capable of supporting the uses which they were capable of supporting prior to exploration, mining or processing operations, or an equal or better economic or public use suitable to the locality."

(x) "Significant valley floor vegetation" should include native vegetation as well as crops, forests or meadows.

§3041.0-6(a) When an area is initially considered for coal development, not only should the authorized officer make an environmental assessment of the potential effect of such development, but also should analyze the alternatives for the area, and the alternatives for coal production or other energy.

(b) Public hearings should be mandatory. The Environmental Protection Agency should be consulted with when an area is being considered for coal development, and EPA's concurrence should be required for any lease, permit or license.

(d) The Endangered Species Act should also be taken into account.

§3041.0-7(b)(1) In order to make this provision meaningful, the operator should be required to supply a map and cross-section diagram showing the coal seams on the property down to a depth of 1,500 feet, together with justifications for determining which seams will be mined, and which will not be. The Department should then require maximum recovery.

(2) Here again, reclamation should proceed contemporaneously, not "as contemporaneously as practicable."

(3) This provision, which describes the grading "requirements," is completely meaningless. It combines the two major loopholes which pervade these regulations: "to the maximum extent practicable," and provision for exemption from the requirement. It is transparently obvious that this provision would not require the elimination of highwalls and spoil piles, even though these are minimal reclamation practices.

(6)(iii) This provision should be deleted, in that no discharges, whether they "reasonably degrade" or "unreasonably degrade" the water, should be allowed.

(8)(ii) Here again, the phrase "to the maximum extent practicable" negates the provisions which follow.

(iv) This provision, though it deals with an extremely important problem, uses the loophole "to the maximum extent practicable," and suggests destructive measures as "solutions" to the problem of water disturbance from mining. Rather than suggesting "relocating and maintaining the grading of streams," the provision should require avoidance of mining in areas where the quality or quantity of water would be damaged by the mining operation.

(12)(ii) Here again, occurs the phrase "to the maximum extent practicable," thereby nullifying what should be a requirement to prevent air and water pollution and spontaneous ignition due to solid waste disposal. This is another weakening of the January regulations.

(14) Here again, the phrase "to the maximum extent practicable," nullifies an important provision.

(17) The period of liability of the operator is an extremely important subject. The entire procedure set up in this provision is based on liability extending from the date of the first year of planting rather than the last year of planting, irrigation, fertilizer, etc. It is only after the artificial reclamation procedures are discontinued that the success or failure of reclamation can be judged. Therefore, the liability of the operator should be measured from the date when the last of the "treatments" have been made. Especially in the arid and semi-arid west, the period of liability should be a minimum of ten years from the date of last planting or irrigation or fertiliser. This may not be long enough, however, because the true test of reclamation success is a drought. If no drought has been encountered in the ten-year liability period, the liability should be extended until a drought is observed. Hence, there should be a provision for extending the liability, and no provision for lessening the liability. A short liability period coupled with a provision for shortening it further, as drafted in these regulations, can more than likely happen and will be saddled with large acreages of unsuccessful reclamation.

§3041.1-1(e)(2) The narrative in the preliminary plans should include a description of the use and destination of the coal, the proposed rate of mining, and the alternatives considered, both in terms of coal supply and in terms of the end use of the coal proposed to be mined.

§3041.2-1 The "technical examination/environmental analysis" report should include provision for designating areas unsuitable for mining, for reasons such as slide prevention, erosion control, water pollution prevention, preservation of unique or significant habitat or especially productive areas, scenic values, historical resources, etc. In addition, this report should be published, distributed and made available for public inspection and comment, with a minimum comment period of 90 days.

§3041.3(a) This provision should state that a lease, permit or license may not be denied an applicant or offeror because of the forfeiture of a bond if the affected lands under his previous lease, permit, or license have subsequently been reclaimed at the applicant's expense. If a bond has been forfeited and the operator has not reclaimed the subject land, permits should be denied.

§3041.4(a) This bond-setting provision is extremely vague. It should be stated that the bond shall be set in an amount sufficient to have the reclamation plan achieved by a third party.

(b) In setting the bond, the authorized officer should have an estimate made by a qualified third party as to the cost of achieving the reclamation plan. In addition, this section should contain a provision that states that any lag in achieving a reclamation plan would be grounds for forfeiture of performance bonds. This is important to insure concurrent, timely reclamation.

§3041.5 Provision for public notice should be more stringent, including notice in the Federal Register, notice in a newspaper of general circulation in the county and state, and the public should have a minimum of 90 days in which to comment on the application.

§3041.6(a)(2) and (3) For each of these provisions, a statement of the cost of reclamation achieved or to be achieved should be included.

(b) The operator should make a grading and backfilling report within 10 days of completion. The Mining Supervisor should also have a set time (30 days, for example) within which to respond and inspect the property.

(d)(2) There should be comprehensive public notice and an opportunity for public hearings at the point of cessation or abandonment of an operation. In addition, the Environmental Protection Agency should participate in the inspections, and concur with the decision that the liability period be terminated, before any bond is released.

§3041.7(c) This provision does not describe what the Mining Supervisor's "remedial action" should be, nor does it set a time limit during which such action should be taken. This provision should require immediate notification orally and in writing of the violation, and no more than 10 days should be allowed to correct a violation.

(d) Failure of the operator to take action in accordance with a written notice of noncompliance should result in forfeiture of bond.

§3041.8 This section should simply require compliance with all state laws.

Part 211 Coal Mining Operating Regulations. This Part is similar and in many respects identical to Part 3040, especially with respect to the ubiquitous use of the term "to the maximum extent practicable." An attempt is made here not to be repetitive with previous comments; in general, comments made on either Part can and should be applied to the other.

§211.2(o) "Logical mining unit" does not appear to be a useful term, especially as defined here, where it is not specified that an LMU must be a compact piece of land; no indication is given of the size of the operation which is considered "logical"; and no reason is given to believe that intervening non-federal lands will be subject to the terms of the mining plan, however, "logical" this might seem. In addition, notably absent in this "definitions" section is a definition of "logical agricultural unit." An LAU might be a more useful unit around which to base planning in the West.

§211.3(c)(1) Inspections should take place at least twice a month, rather than quarterly, as indicated in this provision. It would be impossible to enforce effectively any strip mine regulations, even the non-substantive ones in this draft, without inspecting the mines much more frequently than quarterly. The inspections should be irregular, unannounced, and by a variety of different inspectors. The importance of frequency cannot be overstressed. Violations or mistakes of an uncorrectable nature, if detected early, can save the operator much wasted time and money. Infrequent inspections might allow an operator to carry on an unacceptable activity for many months, only to have to undo over many more months the violation.

§211.4(c) Terms such as "maximum extent practicable," "as contemporaneously as practicable" and "good housekeeping practices" make this otherwise important provision meaningless.

(d) The Environmental Protection Agency, not the Mining Supervisor, should determine the necessary water quality monitoring and water quality control techniques.

§211.5(a) The operator should not be allowed to determine on its own which information it wishes to keep confidential. These regulations should themselves specify exactly what materials are proprietary, and all other materials should be available for public inspection.

(b) There should be an opportunity for public hearing on every mining plan, and a minimum period of 90 days for public comment. In addition, the notice provisions should be more extensive.

§211.10(a) "Casual use" should be defined; exploration and mining plans "consistent with" and "responsive to" the requirements of the lease, permit or license is too vague to be interpreted. Here again, the phrase "as contemporaneously as practicable" occurs.

(b)(3)(iv) "Measures to be taken for surface reclamation which shall take into account . . ." is too vague.

(c)(3) This provision allows the operator to make the decision on the land use following reclamation, and requires the operator only to describe "any consideration" given to making the surface mining reclamation operation consistent with applicable state and local land use plans and programs. This is not sufficient. Not only should the "consideration" be required, but the proposed land use should have to be consistent with state and local land use plans and programs.

(e) There should be no circumstance under which a partial plan would be acceptable. Particularly as described here, this provision is nothing more than another major loophole in these regulations. This would allow an operator, on the basis of "unknown factors," to avoid filing a complete mining plan before commencing an operation.

§211.40 As noted in comments on the reclamation and performance standards in Part 3040, the liberal use of loopholes makes these provisions meaningless. They should be completely rewritten, deleting the term "to the maximum extent practicable," eliminating the ability of the Mining Supervisor or other official to waive requirements, and eliminating the loopholes which in effect negates many provisions, as long as the variance activity is "authorized in the approved mining plan." On the contrary, performance standards should be used as criteria for approving the mining plan. The mining plan should not be used as a means of avoiding these standards.

Submitted by: Katherine Fletcher
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November 24, 1975

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JAMES W. SHAW
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November 5, 1975

Director, Bureau of Land Management
Department of Interior
Washington, D. C. 20240

Dear Sir:

We have reviewed the proposed regulations published September 5, 1975 concerning 30 CFR Part 211, 43 CFR Part 23 and 43 CFR Part 3041 and wish to offer comments which we hope will assist you in arriving at final regulations. Our comments will be divided into two areas; one of general comments on the direction and intent of the proposed regulations and one of specific comments to particular subareas.

The Secretary of the Interior has statutory responsibility for leasing publicly owned coal. To accomplish this task in an orderly fashion, the Secretary has delegated portions of his responsibility to various agencies and bureaus within the Department of the Interior. While this delegation has, perhaps, developed an efficient coal leasing procedure, it has clouded the simple fact that the issuance and development of a coal lease is a single process carried out in the typical case, by a single company. These regulations, by continuing to address coal development in a fragmentary manner, will lead to costly and unnecessary duplication of effort. It is the Secretary of the Interior who is ultimately responsible for the selection of lands to be leased, the development of lease specifications, the approval of mining plans, and the monitoring of mining and reclamation activities. Nowhere else is this duplication more evident than in the area of environmental evaluation.

In the process of developing Federal coal reserves, the Secretary is subject to a number of legal constraints. One of the most significant of these, clearly, is the National Environmental Policy Act of 1969 (NEPA). NEPA requires the consideration of environmental values in all activities and the preparation of environmental impact statements covering actions which significantly affect the quality of the human environment.

In carrying out the mandates of NEPA for coal leasing, the Department of the Interior must decide upon the point in the decision-making process at which a decision must be made whether or not to prepare an EIS. It is our view that a specific point in the process of federal coal development can and should be designated in the regulations as the point in the process most sensitive to a decision concerning development impacts. At that point, for those coal areas where development of a certain type will constitute a significant impact, an EIS should be prepared. The proposed regulations do not contemplate such a single, specific point. On the contrary, they imply that a series of impact statements may be necessary. It can readily be inferred from a reading of the proposed regulations that as many as four impact statements might discuss a particular action. One of these is the programmatic EIS (already complete). The regulations seem to suggest that a second EIS might be required in connection with the proposed issuance of a particular lease and that a third EIS might be required covering the lessee's mining plan following lease issuance. (A fourth EIS covering the management framework plan of BLM in an area which is desirable for coal development also seems possible.) The NEPA process was not established simply to generate environmental impact statements. The process of developing Federal coal should be analyzed to define the single most sensitive point at which an EIS will be prepared, if warranted. This approach would not preclude careful environmental planning and strict environmental stipulations at every phase; it would merely put NEPA in its proper perspective.

It would appear that the most logical point in the coal development process at which to write an EIS would be at a point immediately prior to bidding and lease issuance. The EIS should be written with an assumed type of mining in mind. If an area were to be deemed appropriate for leasing following the environmental evaluation, the decision to lease would be based on a particular type in mining (i.e., open pit, strip, in-situ, underground, etc.) with certain general stipulations understood to apply. The final appraisal of the technical detail of the actual mining plan submitted by the lessee would then merely be an administrative action.

The second general policy comment we wish to make concerns the implications of inclusion of private lands in a "logical mining unit". The authorities cited as conferring authority on the Secretary to propose these regulations (30 USC 181-287, 30 USC 351-359, 5 USC 301, and

42 USC 4321-4345) apply strictly to Federal lands, and the proposed regulations themselves state that they are to "govern operations for . . . coal under coal leases, licenses and permits issued for federally owned coal . . .". However, under the definition of a "logical mining unit" (Part 211.2(o)) private lands (already covered by state jurisdiction) are to be brought under the control of the Mining Supervisor. A mining plan must cover all operations in the logical mining unit. This would place the Mining Supervisory in the position of controlling private lands, over which he has no jurisdiction. We would have no practical problem with the idea that a federal lessee intending to mine private lands in conjunction with his federal lease lands would be required to include a discussion of how he intends to mine on private lands (mineral and surface) in his mining plan; but the thought that by the mere stroke of the regulatory pen the Mining Supervisor could, for example, dictate how many core samples must be analyzed on the private lands, whether minor changes could be made in the mining plan on the private sections without prior federal approval, etc., does not seem legal or proper. Further, the proposed performance standards, although stating that they apply only to federal lands, have several references to the mining plan. These references could not properly be interpreted to mean that the Mining Supervisor can determine the details of allowable operation on the private lands in the mining unit. In general, because the performance standards are designed to require operations consistent with good mining practices, there will be no difference between operations authorized in federal and non-federal lands. This comment addresses those occasions when a difference of position might exist between the Mining Supervisor and the authority regulating the private lands. The Mining Supervisor should have no jurisdiction on private lands except where actions on the private lands directly influence the recovery of federal coal.

The final general policy comment we wish to make concerns the apparent expansion of BLM (and F.S. or BIA) authorizations in the proposed regulations. Part 3041.7(b) gives federal surface management agencies the authority to shut down mining operations under conditions similar to those that allow the Mining Supervisor to temporarily halt operations. The USGS, through the Mining Supervisor, monitors mining activities, rather than the BLM, because of the unique experience and expertise within the Geological Survey. This expertise is not present in surface management agencies. It would appear to us that the delegation of such authorities to surface management agencies is giving them authorities beyond their technical competenes and expertise. We would suggest

that this delegation of authority be modified to allow the surface management agency, with the verbal concurrence of the Mining Supervisor, to temporarily halt operations, if conditions as authorized warrant.

We wish, in addition, to offer the following more specific comments:

211.3(c)(11) Water and Air Quality. Water and air quality is presently regulated by other Federal agencies and various state agencies under the provisions of the Clean Air Act and the Federal Water Pollution Control Act Amendments of 1972. The Mining Supervisor does not have the staff or expertise to properly evaluate these areas thus providing unnecessary and ineffective duplication. More proper language might be: "Inspect operations to determine compliance with the approved mining or exploration plans relative to air and water quality protection."

211.3(c)(13) Reclamation bonds. No direct reference is made to bonds held by the state. Where states have adequate mined land reclamation requirements with bonding provisions, these bonds should be considered by the USGS when they determine overall bond adequacy.

211.4(d) The requirements stated in this section are too broad. The method used to determine "necessary" data should be discussed. Only data actually necessary to determine procedures should be required.

211.10(a) The term promptly should be defined as a specific number of days at a maximum. As discussed above, the relationship of NEPA to this decision should also be made clear.

211.13(b) If the Mining Supervisor believes a map submitted to be in error, he should first request the operator to check the map. If the operator re-certifies he believes the map is not in error, then the Mining Supervisor should be allowed to have an independent survey conducted.

211.21 Core and test holes. The discussion of converting holes to water wells completely ignores state authorities in this area and is misleading in that it suggests to the reader that the Mining Supervisor's authority is final.

211.74 A state mined land reclamation program applies directly to all operations in the state, regardless of coal ownership. To require a state to submit this program to the Federal government, to be reviewed when it already clearly applies, serves no useful purpose. Where a state program is judged to be adequate, the Federal government should remove itself from the picture entirely and let the state run the program and regulate the activities without any Federal involvement.

3041.0-5(b) "Affected lands". This definition may include private lands which, because of use of "affected lands" later in the regulations, results in the use of nonexistent authorities. The definition should be . . ."means the lands under lease, permit, or license affected or to be affected. . .".

3041.0-6(c) This statement, as discussed above in the general comments, may be incorrect. Since there is a single point at which an EIS should be prepared, additional thought should be given to the question as to whether this is the correct point in the process.

3041.1 The preliminary plan, prior to any drilling or other evaluation, will, of necessity, be very general. If the area has non-federal surface, an applicant may have had no access to the site. Consideration must be given to the circumstances present when reviewing a preliminary plan; some situations will allow a detailed preliminary plan while other situations will dictate a very general plan.

3041.4 This discussion completely ignores bonds posted with the state. Where states have adequate mined land reclamation requirements with bonding requirements, the Federal government should not require duplicate bonds.

Very truly yours,

James W. Moorman

common cause
2030 M STREET, N.W., WASHINGTON, D. C. 20036
John W. Gardner, Chairman (202) 833-1200

November 21, 1975

Director, Bureau of Land Management
Department of Interior
Washington, D. C. 20240

Director, U. S. Geological Survey
Reston, Virginia 22092

RE: Comment on Proposed Coal Mining Operating Regulations
40 FR 41122

Common Cause appreciates this opportunity to comment on the proposed regulations to govern coal mining operations and the associated leasing procedures.

Common Cause is a national membership organization with over 285,000 members in the fifty states and the District of Columbia. It is active in promoting measures designed to ensure open, accountable and efficient government. As part of the general program set by its National Governing Board, Common Cause has taken an active part in legislative and administrative efforts to develop a comprehensive national energy policy. Common Cause recognizes the necessity for the development and utilization of new energy sources, but strongly believes that such activity must be taken only when accompanied by meaningful environmental protections.

Common Cause believes that the problems raised by an expanded

strip mining program, both on and off federal lands, can best be solved by comprehensive legislation along the lines of H. R. 25, which was vetoed by the President. In addition, the Mineral Lands Leasing Act of 1920 desperately needs amendment and revision as proposed in S. 391, H. R. 6721, and H. R. 10580. However, the Department of Interior has made clear that it intends to proceed with a coal leasing program whether or not new legislation is passed. Given the importance of the matter under consideration, Common Cause is compelled to comment on the proposed regulations and suggest such ameliorative changes as are proper under the existing statutory authorities. Our comments should in no way be taken to indicate a rejection of the proposals embodied in H. R. 25, H. R. 6721 and H. R. 10580. They represent our judgment as to the best policy possible under existing law.

In preparing these comments, we have based our assessment of the proposed regulations on two criteria:

1. Will the regulations provide adequate protection of the environment?

2. Will the regulations encourage diligent development of our coal resources?

If there is no new federal legislation on reclamation standards or leasing procedures, these regulations, when finalized, will constitute the final government action necessary to undertake a vastly expanded federal coal leasing program centered in the western United States. Absent new legislation, these regulations will

also have an impact on the one million acres which have already been leased as part of the federal coal leasing program. This land is located almost entirely in eleven western states and will, in all likelihood, be developed by surface mining methods which have the potential for widespread environmental destruction.

Previous leasing programs, under the authority granted the Department of Interior by the Mineral Lands Leasing Act of 1920, have not been administered so as to provide either needed resource development or protection of the environment. Some of the failures in this area can be laid to the lack of appropriately designed rules and regulations to govern the coal leasing program and some stem from flaws in the Mineral Lands Leasing Act itself; but most of the blame must be assigned to incorrect policy decisions and a disinclination to enforce even the current, inadequate regulations.

The proposed regulations represent, in certain limited areas, an improvement over past policies. Some provisions, notably proposed 30 CFR 211.74 allowing application of state laws and regulations as federal law where they are at least as protective of the environment, are particularly welcome. But when viewed in the context of an expanded leasing program, the regulations are incomplete and vague. Important factors in a meaningful program of land and resource development are overlooked, e.g. the treatment of existing lessees and criteria for diligent development; other seemingly precise and effective regulations are subject to vague qualifications and discretionary waiver. There are no adequate

procedures for determining what land should be declared off limits to leasing because of the impossibility of adequate reclamation. The regulations skirt the crucial issues associated with water use, and this deficiency is mirrored in the distressingly cursory review of that subject found in the environmental impact statement.

The inability of the EIS to confront the issues raised by the resumption of the federal coal leasing program under the procedures devised in the proposed regulations is a major disappointment. The draft document made public on October 1, 1975, is little more than a conclusionary statement that the proposed regulations will be effective. In particular, the alternative of stronger regulations is scarcely discussed.

In the absence of a meaningful environmental impact analysis which confronts and evaluates the inevitable trade-offs present in any decision to develop previously undeveloped land, our analysis of the proposed regulations must be more abstract and general than we would have wished. Rather than engaging in a line-by-line critique of the proposed regulations, Common Cause will focus its comments on six critical areas where the proposal needs either supplementation or a major change. Actions along the lines suggested would, in our opinion, represent important steps forward in insuring productive and responsible development of federal coal resources.

I. The Application of the Regulation to Existing Leases

The preface to the regulations notes that the proposal does not address the application of the regulations to existing leases and requests comment on this issue.

The Council on Economic Priorities, in its study Leased and Lost, reported that existing coal leases already cover nearly 1,000,000 acres and, further, that relatively little development has occurred in 89% of these leases. Most of these leases contain environmental standards significantly less protective than those now proposed.

Given the amount of land involved, it would be inappropriate not to apply reclamation standards to protect these lands as soon as possible. Otherwise, the admitted expense of reclamation on newly leased land will encourage widespread development of existing leases with concomitant environmental damage.

Common Cause believes that 30 CFR 211 should be applied immediately to all previously leased tracts which are not currently in production. There is no reason to delay application of the standards where no mining activity has been undertaken.

The reclamation regulations should be applied to currently operating mines as soon as possible, but no later than 180 days after they become effective for new mines.

The application of 43 CFR 3041 to existing leases raises problems associated with retroactivity. Common Cause suggests two courses of action which would insure that as many leaseholds as

possible are subject to the planning process and TS/EA required by 43 CFR 3041;

1. All lease "adjustments" should be made contingent on complying with Subpart 3041.

2. The Department of Interior should take vigorous action to terminate existing leases where noncompliance or failure to develop are present.

To implement item 1 above we suggest that 30 CFR 3041.0-6 (a) be renumbered 43 CFR 3041.0-6 (a) (1) and a new section 43 CFR 3041.0-6 (a) (2) be added to read:

> (a) (2) If an area covered by an existing lease has never been subject to the procedures of this Subpart, no adjustment of the lease shall be permitted nor any operation beyond the primary term of the lease until such time as the procedures of this Subpart have been complied with, Provided that an applicant for a lease adjustment who has complied with all requirements of this Subpart may secure continuance of the lease, on such terms as the Director finds appropriate, without the land being made subject to competitive bidding.

The corresponding section of 43 CFR Part 3500 must be revised to reflect these changes. Common Cause suggests a new subsection, 43 CFR 3522.2-2 entitled "Adjustments to Coal Leases":

> If an area covered by an existing lease has never been subject to the procedure of 43 CFR Subpart 3041 relating to land use planning, adjustment of the lease will be undertaken only after the provisions of thatSubpart have been complied with.

These sections will guarantee that, within twenty years, all federal coal development will take place on land which has been subject to land use planning as well as the proposed reclamation standards.

II. A Clearer Definition of Diligent Development

The Mineral Lands Leasing Act states that "Leases shall be for indeterminate periods upon condition of diligent development and continued operation of the mine or mines, except when such operation shall be interrupted by strikes, the elements or casualties not attributable to to the lessee..." But the next sentence reads, "The Secretary of the Interior may, if in his judgment the public interest will be subserved thereby, in lieu of the provisions herein contained requiring continuous operation of the mine or mines, provide in the lease for the payment of an advance royalty upon a minimum number of tons of coal." 30 U.S.C.§20/

One result of these seemingly contradictory commands has been the evolution of the policy of non-development of federal coal resources documented in Leased and Lost.

There are 680,000 acres under BLM management; 430,000 of these acres have been categorized as "never produced and no plans to" according to a preliminary Bureau analysis. Reserves associated with these leases are 6,485.50 million tons recoverable by surface methods and 3,195.78 million tons recoverable by underground methods. This is 60% of all federal coal reserves under lease, an amount sixteen times greater than the total quantity of coal mined from all sources in 1974.

Of the one hundred ninety-six leases issued in the past ten years, one hundred thirty-nine are categorized as "never produced and no plans to." Only ten leases issued in the past ten years are currently in production.

The newer leases account for 98% of all leases in the "never produced and no plans to" category. In other words, the major leasing activities of the last fifteen years have not resulted in new production. Instead, over 400,000 acres of valuable coal reserves have been locked up and allowed to sit idle.

The Department of Interior has never, by regulation, defined diligent development or promulgated regulations for the enforcement of sanctions against operators who do not develop leaseholds. A definitional regulation was proposed by the Department on December 11, 1974, (39 FR 43229) but was never finalized. While the proposed definition was an improvement over the existing void, it lacked clarity and failed to provide any meaningful deadlines on delay.

The currently proposed regulations again neglect diligent development. The term is not contained in the definitional section of either 43 CFR 3041 or 30 CFR 211; the sole mention is found in 43 CFR 3041.1-1 (a) (2) which states that the preliminary plan shall contain:

> A narrative statement setting forth his /the applicant for a lease/ plan, methods and schedule for diligent operations.

This limited reference to the principle of diligent development is inadequate. While some flexibility in defining diligent development is useful, open-ended discretion is not appropriate. Common Cause suggests that the following language replace the passage cited above:

> If a decision is made to offer tracts for coal leases, permits or licenses, the authorized officer shall, following the procedures in §3041.2-1 of this Chapter, develop and include in such offer terms and conditions to require the undertaking of substantial exploration or continuous mining operations within three years of the grant of the lease, license or permit.

Two new definitional sections should be added, 43 CFR 3041.0-5 (a) (a):

> "Inactive lease" means any lease so classified because (i) the operator has failed to comply with the provisions of a lease required by §3041.0-6 (f) of this Chapter or (ii) any lease classified as inactive by a Mining Supervisor pursuant to his authority under 30 CFR 211.40-1 (c)

and a new section 43 CFR 3041.0-5 (b) (b):

> "Continuous mining operation" means extraction, processing and marketing of coal in commercial quantities from the logical mining unit without interruptions totaling more than six months in any calendar year, subject to the exceptions contained in 30 U.S.C. 207.

The federal coal leasing program has never been distinguished by an adequate enforcement effort. While the Mineral Lands Leasing Act requires that leases not in diligent development be cancelled unless some special finding can be made by the Secretary to justify their continuation, no lease has ever been cancelled for failure to develop.

Nearly one million acres of land have been leased under the federal coal leasing program, but only sixty-four leases are currently under development on approximately 11% of the total land area under lease. Regulations alone cannot remedy this obvious failure to enforce responsibilities placed on the Department by the law, but specific and direct regulatory provisions can facili-

> (2) A narrative statement setting forth his proposed plan, methods and schedule for diligent development, including precise plans for undertaking substantial exploration or beginning continuous mining operations within three years of the grant of lease, license or permit.

If an operator is not willing to make this commitment, then it is in the national interest for the land to remain available for other would-be miners or for the non-developing applicant to lease at a later date when that commitment can be made.

The preliminary plan, of course, is only an offer of the prospective lessee. It may, for a number of reasons be unacceptable, and, even if accepted, the proposed regulations do not specify how any plan for development becomes a part of the lease. Common Cause suggests several changes to guarantee placement of diligent development requirements in the lease. The technical examination and environmental analysis must include an analysis of the proposed diligent development plan. Common Cause recommends the following two changes in 43 CFR 3041.2-1:

1. Strike the word "and" appearing before 43 CFR 3041.2-1 (a) (4); and

2. Change the period at the end of 43 CFR 3041.2-1 (a) (4) to a comma and add "and (5) require diligent development, which shall mean the undertaking of substantial exploration or beginning of continuous mining operations within three years of the grant of a lease, license or permit.

With diligent development now occupying a definite status in both the preliminary plan and the TS/EA, we should then insure that standards are placed in the lease by adding a new paragraph 43 CFR 3041.0-6 (f):

tate enforcement actions when they are undertaken. Common Cause suggests the following changes to improve the existing regulatory provisions and to make the duty of diligent development crystal clear. A new paragraph 43 CFR 3041.7 (c):

> Failure of the operator to comply with those provisions of the lease, permit or license required by §3041.0-6 (f) of this Chapter concerning diligent development will result in cancellation of the lease, permit or license in accordance with the provisions of Subpart 3500 of Title 43.

To conform this to the existing regulatory format, the following changes must be made in Subpart 3500 of Title 43. Addition of a definition for diligent development at 43 CFR 3500.0-5 (d):

> "Diligent development" means the undertaking of substantial exploration or continuous mining operating within three years of the grant of a lease license or permit, except that for leases, licenses and permits granted before the effective date of 43 CFR 211, the three-year period shall begin on that date.

A definition of continuous mining operations at 43 CFR 3500.0-5 (e):

> "Continuous mining operation" means extraction, processing and marketing of coal in commercial quantities from the logical mining unit without interruptions totaling more than six months in any calendar year, subject to the exceptions contained in 30 U.S.C. 207.

And a section to assure that the status of existing leases is scrutinized in light of the new regulations, at 43 CFR 3522.2-1 (a):

> Cont. Adjustments in leases shall be made at the time of the twenty-year review to embrace the standards set forth in 43 CFR 3041.0-7 and be subject to requirements with respect to diligent development and continuous operation /proposed by Common Cause as 30 CFR 211.40-1 (e) 7. When mining operations have not been undertaken by the time of the 20-year review and it is determined that it would be impossible to comply with the standards set forth in 43 CFR 3031.0-7 on some or all of the land covered by the lease, the lease shall be cancelled or the acreage reduced to eliminate that portion of the land which cannot be reclaimed.

These changes, if subject to vigorous enforcement, will deal with cases of failure to undertake diligent development or maintain continuous mining operations on new leases and on leases which have been adjusted per our suggested 43 CFR 3041.0-6 (a) (2).

Changes in Subpart 3041 will not deal immediately with the current massive failure to develop those lands already leased for coal mining. Therefore, the performance standards found in the proposed 30 CFR Subpart 211 should also be revised to specify the meaning of the term "diligent development" with respect to conditions of performance in or on currently operating mining sites. The inclusion of provisions for the enforcement of the diligent development requirement in proposed 30 CFR Subpart 211 would fulfill two separate functions:

1. It would set a standard for diligent development which could be applied to existing leases.

2. It would allow enforcement of the diligent development requirement by General Coal Mining Orders as well as by the lease cancellation mechanism.

Common Cause suggests the following series of changes in 30 CFR 211. A definition of diligent development 30 CFR 211.40-1 (a):

> Diligent development. An operator shall be considered to be engaged in diligent development if (i) continuous mining operations have been undertaken or (ii) a plan to commence continuous mining operations within three years has been approved by the authorized officer.

A definition of continuous mining operation, identical to that found in Subpart 3041, to be 30 CFR 211.40-1 (b):

> Continuous mining operation. An operator shall be considered to be undertaking continuous mining operation when extraction, processing and marketing of coal in commercial quantities from the logical mining unit has occurred without interruptions totaling more than six months in any calendar year, subject to the exceptions contained in 30 U.S.C. 207.

A new classification for undeveloped leases 30 CFR 211.40-1 (c):

> Inactive leases. The Mining Supervisor shall have the authority to classify any lease not being diligently developed in accordance with paragraph (a) as an "inactive lease."

An enforcement mechanism, 30 CFR 211.72 (b):

> If the Mining Supervisor determines that an operator is not diligently developing a lease, he shall classify the lease as inactive. The Mining Supervisor shall serve a notice of noncompliance upon the operator by delivering in person to him or his agent or by certified or registered mail addressed to the operator at his last home address. Failure of the operator to take action in accordance with the notice of noncompliance or to appeal to the Director pursuant to Part 290 of this Chapter shall be grounds for recommendation by the Mining Supervisor of action for cancellation of the lease, permit or license and forfeiture of the required bond to the extent necessary to complete unfinished reclamation.

Proposed sections 30 CFR 211.72 (b) and 211.72 (c) are renumbered 211.72 (c) and 211.72 (d) respectively.

Common Cause believes that the promulgation of these suggested regulations, or similar proposals, and their enforcement is a critical element in any new federal coal leasing program. They will provide some assurance that leasing actually leads to mining. They will guard against the possibility that leaseholders who are diversified energy corporations will keep federal coal out of production to gain some economic advantage for competing sources of energy or competing coal resources under their control. And by freeing up currently undeveloped coal lands and requiring development of

all leases, a situation will be created in which minimum amounts of lands will have to be leased and in which lands on which coal mining is environmentally least harmful will, when leased, be developed, thereby foreclosing the necessity of exposing other land to mining.

III. Procedures for Declaring Land Unsuitable for Mining

The preface to the proposed regulations states "Under the proposed regulations, leases, permits and licenses for coal would be issued and plans of operation approved only where reclamation of the affected lands, pursuant to the standards set forth is attainable..." However, no section of the proposed regulations expressly authorizes either the Bureau of Land Management or the Geological Survey to remove land from the leasing program on the grounds that the land cannot be adequately reclaimed.

Identically worded provisions, 43 CFR 3041.0-7(b)(3)(ii) and 23 CFR 211.40 (a)(3)(ii), allow the operator to refrain from restoring the land to its original contours where "unusual conditions, such as steeply dipping coal beds or multiple seam mining exist which make backfilling pursuant to this paragraph impractical." Furthermore, while the regulations are replete with precise standards for reclamation, the operative portion of the regulations requires compliance only "to the maximum extent practicable", 30 CFR 211.4(c) and 43 CFR 3041.0-7(b)(3). That term is defined as follows, "with respect to a performance standard or level of control, that degree of compliance which can be achieved with commercially available technology taking into account the costs of such compliance and all tangible and intangible environmental and economic or other benefits which would be derived therefrom."

This leaves open the possibility that land may be leased which cannot be reclaimed and that mining will result in permanent environmental damage. While new leasing on this land may be prevented by discretionary action, it is not at all clear that 30 CFR 211 would prevent mining on land already leased which could not

feasibly be reclaimed. In any event the discretionary nature of the decision to withhold is not reassuring.

Common Cause believes that a mechanism must be created by which any interested party may petition to withdraw land from new leasing or prevent further mining on existing operations where the land cannot be feasibly reclaimed and failure to reclaim will result in serious environmental damage. Such a mechanism must provide for the presentation of factual allegations and an adjudication of the facts, though a trial-type hearing is not necessary. This mechanism would provide for citizen input into the leasing process, would allay significant fears about the adverse effects of surface mining and provide for resolution of factual issues by an expert administrative body.

§3041.3-2 Basis for denial of lease, permit or license based on unsuitability of affected land.

(a) Any person may petition the Bureau of Land Management to withdraw lands from a coal leasing program on the grounds that reclamation to the maximum extent possible or, if proposed terms of a lease have been made public, the reclamation required by the lease would not be sufficient to avoid
(1) soil erosion; (2) pollution of air;
(3) pollution of surface or ground water;
(4) serious diminution of the normal flow of water; (5) permanent damage to vegetative growth, crops or timber; (6) injury or destruction of fish and wildlife and their habitat, or (7) creation of unsafe or hazardous conditions
which would cause significant environmental damage or an unreasonable risk to health and safety

(b) Any such petition must contain a specific description of the land involved and the potential risks, as well as prima facie evidence that the risks alleged are probable and that reclamation as proposed or to the maximum extent practicable, if no proposed terms exist, will not reduce these risks.

(c) If land which has not yet been leased is involved a petition may be filed (i) at any time if no application for a lease has yet been made or (ii) within thirty

days of completed publication of notice where an application has been made.

(d) A valid and timely filed petition shall stay any grant of a lease, permit or license on the lands specified. Late-filed petitions shall be referred to the appropriate Mining Supervisor and treated as petitions under 43 CFR 211.40-2.

(e) Any interested party may respond or join with the petition and both petitioner and respondent shall be given an opportunity to present evidence and examine submissions made by other parties. A public hearing may be granted by the Bureau, but, in any case, all materials shall be made available for public inspection wherever public notice is required by 43 CFR 3041.5.

(f) If the petitioner demonstrates by the preponderance of the evidence that serious environmental damage or substantial risk to health and safety will occur then no lease, permit or license shall issue, except that where petitioner shows that the danger will be present under proposed terms of a lease but not under more stringent terms, the Bureau may order inclusion of more stringent terms and grant the application.

(g) Appeal from any final Bureau decision shall be taken in accord with Chapter 7 of Title 5 of the United States Code.

A similar addition to 30 CRF 211 is needed to deal with unsuitable land on existing leases or land where the danger is not apparent until after a new lease has been granted under 43 CFR 3041. The mere fact that a lease exists is no justification for allowing environmentally detrimental mining. A new section 30 CFR 211.40-2 is suggested.

§211.40-2 Land Unsuitable for Mining

(a) Any person may petition the Mining Supervisor to order an operator to cease operation or continue only under changed reclamation standards where it is alleged that reclamation to the maximum extent practicable or that actually being undertaken is not sufficient to avoid
(1) soil erosion; (2) pollution of air;
(3) pollution of surface or ground water;
(4) serious diminution of the normal flow of water; (5) permanent damage to vegetative growth, crops or timber; (6) injury or

destruction of fish and wildlife and their habitat; or (7) creation of unsafe or hazardous conditions which would cause significant environmental damage or an unreasonable risk to health and safety.

(b) Any such petition must contain a specific description of the land involved and the potential risks, as well as prima facie evidence that the risks alleged are probable or occurring and the reclamation, as currently undertaken or to the maximum extent practicable, will not or has not reduced these risks.

(c) A petition may be filed at any time.

(d) A valid petition will stay any new mining on land classified as "inactive." Current mining operations shall be subject to immediate cessation only where in the judgment of the Mining Supervisor continued operation threatens immediate, serious or irreparable damage to the environment, in which case the Supervisor shall take action under 30 CRF 211.72(d) [30 CFR 211.72(c) in the regulations as proposed].

(e) Any interested party may respond or join with the petitioner and both petitioner and respondent shall be given an opportunity to present evidence and examine submissions made by other parties. A public hearing may be granted by the Mining Supervisor, but, in any case, all materials shall be made available for public inspection and public notice given in all places where public notice is required by 30 CFR 211.5(b).

(f) If the petitioner demonstrates by the preponderance of the evidence that serious environmental damage or substantial risk to health and safety will occur, then the Mining Supervisor shall issue an order to cease mining operations, except that where petitioner shows the danger will be present only under the present practices of the operator but not under more stringent regulations, the Mining Supervisor shall issue an order conditioning future operation on practices which will eliminate the environmental damage or risk to safety and health.

(g) Appeal from any final determination by the Geological Survey shall be taken in accord with Chapter 7 of Title 5 of the United States Code.

The lengthy additions proposed above are designed to deal with the most serious issue raised by the plan to expand coal leasing, the fears of irreparable environmental damage. The procedure described above will allow for factual determination of the issue on a site-specific basis.

Beyond this, we think that the Department should give serious thought to revising its definition of "maximum extent practicable" to ensure that it does not become a license for overriding environmental concerns. The present definition is totally without substantive content and, seemingly, sets no limits on the discretion which may be exercised in determining what reclamation standards should be relaxed.

In light of the fact that the known federal coal reserves are well in excess of our national coal needs for some centuries to come, we can see no justification for allowing a relaxation of the reasonable reclamation standards proposed in Subpart 211. An effort must be made to channel initiel coal development into those areas where the least risk to the environment is present.

IV. Further Criteria for New Leasing

The proposed regulations rightly place an emphasis on the pre-leasing planning and analysis process as the best method to determine the appropriate use of land for potential leasing, to incorporate environmental safeguards, and insure diligent development.

In addition to the changes suggested above with respect to specifying the definition of diligent development and providing a process for declaring land unsuitable for mining, Common Cause suggests two further changes in the pre-leasing stage:

1. The evaluation required to be made by 43 CFR 3041.0-6(b) should include representatives of all federal and state agencies who have statutory responsibility for enforcing environmental standards relating to mining.

2. No new leases should be granted to any person, partnership or corporation which currently operates an inactive coal lease.

The first point would require that all state and federal authorities who have responsibility for enforcing environmental measures (particularly air and water standards) relating to a mining operation be consulted at the earliest possible date to give their assessment of the environmental impact of the proposed operations.

The Clean Air and Water Pollution Control Acts, both of which apply to mining operations, mandate site-specific and general pollution standards. Many states have similar laws.

For this reason, it is necessary to have input from those agencies with enforcement responsibilities and general environmental expertise from the beginning of the leasing process.

The language of 43 CFR 3041.0-6(b) does not preclude this input, but makes it discretionary. The language nowhere

specifically mentions consideration of existing environmental standards. Common Cause suggests that a second paragraph be added to 43 CFR 3041.0-6(b) which would read:

> The officer shall consult with all Federal or state agencies having the authority to enforce clean air and water pollution standards on the affected lands to determine whether the planned coal development would lead to a violation of any existing federal or state standards. The recommendations of these agencies, if any, shall be made public and shall be considered in any environmental impact statement prepared pursuant to paragraph (c).

The second Common Cause proposal would provide another mechanism to spur development. It is obvious that many lease-holders are "sitting on" leases, either for purposes of speculation or to hold down production by others who might develop the land. While we have already proposed new rules on diligent development to combat this problem, we recognize that difficulties may exist in enforcing such rules and terminating a lease. We propose that the new leasing mechanism itself be used to encourage development or abandonment of "inactive" leases. A new subsection 43 CFR 3041.3-1 is proposed:

> §3041.3-1 Denial of lease due to failure to develop other leases.
>
> (a) No lease, permit or license to conduct coal exploratory or extractive operations will be granted any operator who currently possesses a lease classified as "inactive" for failure to maintain diligent development.
>
> (b) Any operator described in paragraph (a) may regain eligibility by:
>
> (i) Notifying the authorized officer of his intention to relinquish an inactive lease or
>
> (ii) Submitting to the appropriate mining supervisor a bona fide plan for diligent development
>
> for each lease classified as inactive.

> (c) If an operator has been granted a license after taking the action specified in paragraph (b)(ii), failure to fulfill the development plan (unless caused by factors beyond his control including acts of God and substantial changes in the price offered for coal) shall result in cancellation of both leases.
>
> (d) Where an operator has given a notice of intent to relinquish in order to be eligible for a new lease, license or permit, such notice shall not become effective until grant of the new lease, license or permit.

Under this proposal, an operator would be prohibited from leasing new land if old leases were not developed, but the operator would be given the opportunity to seek new leases by either undertaking to develop land already held or relinquishing old leases. This would mean that new leases were only granted to those developing land already held. It would also free up land currently under lease and not being developed.

The Mineral Lands Leasing Act contemplates development, not speculation. Those holding leasing rights should be required to use them or abandon them.

V. The Water Issue

The draft environmental impact statement on the proposed regulations notes that surface mining might lower the local water table, have a detrimental effect on aquifers and made revegetation impossible in arid or semi-arid areas. Draft EIS, III-21,22. In addition, suface mining poses definite risks of water pollution and water diversion.

The National Academy of Sciences report Rehabilitation Potential of Western Coal Lands found that, in areas receiving less than 10 inches of rainfall a year, revegetation of any kind "may not occur for centuries." Approximately 40% of western coal lands fit into this category.

The proposed regulations set out a system of rules for dealing with water problems at 43 CFR 3041.07(b)(8), 43 CFR 3041.1-1(b), and 30 CFR 211.40(a)(8), but at no point do the regulations state definitely those conditions which will lead to a decision not to lease or to cancel a lease because of water problems. The environmental impact statement is similarly vague, stating only "such protection would be expected to include the prohibition of mining in some areas, where on a case-by-case basis the sequences of review involving leasing or plan approval disclose that such essential resources would be jeopardized to an unaccountable degree." Draft EIS at III-21, emphasis added.

A program of expanded coal leasing necessitates a concern with the question of water. Not only does the mining industry require large amounts of water for processing, subject to possible contamination, but the physical process of strip mining poses a direct threat to the overall water system. The geological alterations

resulting from surface mining can have a major effect on the immediate water system as well as regional water networks. The function of coal seams as aquafers and underground pathways for water is endangered by strip mining. Safeguards must be taken to insure that ecosystems are protected from these detrimental effects. Specific measures must be outlined designating standards and requirements with respect to water. Included in these regulations should be explicit demands for water planning to insure post-mining environmental stability.

Water rights are another important area which has been neglected. Considering the water demands the mining industry can make, especially when conversion occurs at the mine site, the Department of Interior must set guidelines on water rights. Avoidance of legal confusion will be possible only if the regulations are clarified beforehand. Uses of existing water supplies must be directly connected to the water planning procedures discussed above.

Common Cause suggests that proposed sections 43 CFR 3041.07(b)(8) and 30 CFR 211.40(a)(8) be withdrawn and the Department of Interior develop new regulations which will have specific reference to annual rainfall, soil type, local water sources, the geographical configuration of the subsurface, runoff patterns and other relevant factors which determine whether reclamation is possible, and whether there will be significant diversion of water from previous uses.

The failure of either the proposed regulations or the draft environmental impact statement to deal with these questions and suggest a mechanism to assess water use problems makes it inappropriate for Common Cause to comment specifically on possible standards. In these circumstances, we think it best for the Department to first draft its own, more definitive regulations. The hortatory statements found in the regulations and the environmental impact statement are devoid of substance and provide no adequate protection of important environmental values.

VI. The Private Surface Owner

In 1968, the Public Land Law Review Commission reported that the federal government retained subsurface mineral rights in over 62 million acres of land under non-federal surface ownership. The Commission stated flatly that "Present law is totally inadequate to provide proper consideration of the legitimate interests of surface owners." It recommended "enactment of statutory guidelines under which the Secretary of Interior would establish regulations providing that no mineral activity is permitted without his approval and without the assurance of appropriate compensation for affected surface resources, values and uses." No such statutory guidelines have been enacted.

The proposed regulations, at 43 CFR 3041.0-4(c), provide that the surface owner be consulted in the planning stage when the Bureau of Land Management and the United States Geological Survey formulate lease requirements. While consultation is an improvement over present practice in which only a limited number of private surface owners are even warned of impending leases, see 43 CFR 3501.2-6(b), the right to be consulted is no substitute for either the right to have a decisive say in the formulation of the lease or to receive adequate compensation for loss of the use or enjoyment of the surface during mining operations and reclamation. While the bonds required by 43 CFR Subpart 3504 may be used to complete reclamation left undone, they are in no way available to the private surface owner as compensation for any other loss.

Common Cause believes that the proposal of the Public Land Law

Review Commission is essentially sound. There must be a new law providing for adequate compensation to the surface owner for interruption of enjoyment and use of the surface caused by mining operations. Until that time, Common Cause urges the Department to establish, by regulation, a policy disallowing the grant of a lease in any instance in which a surface owner objects to the terms of the lease or to the compensation offered by the mining operator.

It should be noted that the proposed regulations contain a provision, 43 CFR 3041.0-4(d), which allows any Federal agency administering the surface to veto a proposed plan and prevent leasing and mining. Until such a time as a statutory provision for just compensation to the surface owner is enacted, it is only fair to extend this right to the private surface owner who may face substantial economic loss or deprivation of the use of a homestead or farmland.

CONCLUSION

If this nation is to place greater reliance on coal as an energy source, major and systematic changes are necessary in the federal coal leasing program. Common Cause believes that the best method to achieve such changes is by means of comprehensive legislation which addresses the problems of surface mining on federal and private lands and which revises the Mineral Lands Leasing Act of 1920.

Common Cause's comments on the proposed regulations point out some changes which should be made within the context of existing laws. This does not obviate the need for the new legislative framework mentioned above. Nor will improved regulations lessen the Department's responsibility to see that adequate enforcement efforts are maintained.

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COMMENTS

OF THE

NATURAL RESOURCES DEFENSE COUNCIL, INC. ("NRDC")

AND THE SIERRA CLUB

ON

(A) PROPOSED REVISIONS IN THE REGULATIONS GOVERNING COAL MINING OPERATIONS (30 C.F.R., PART 211)

AND SURFACE MANAGEMENT OF FEDERAL COAL RESOURCES (PROPOSED 43 C.F.R. PART 3041)

AND

(B) THE ENVIRONMENTAL IMPACT STATEMENT ACCOMPANYING THESE PROPOSED REVISIONS (DES 75-53)

PREPARED BY

JOHN D. LESHY, ESQ.

NOVEMBER 21, 1975

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I. INTRODUCTION

At the outset, we wish to make four general observations about the proposed regulations. First, the program represents an all-out retreat by the Department of the Interior from stringent regulation of the serious adverse environmental effects of coal mining. As will be noted in more detail below, in many respects these regulations are significantly weaker than (a) the surface mining reclamation bill vetoed by the President earlier this year; (b) the Administration's own surface mining reclamation bill introduced in Congress earlier this year; and (c) the prior proposed revision of these same regulations published in January of this year.[1/] We agree totally with EPA Administrator Train in his cover letter enclosing EPA's comments: "[I]mplementation of the proposed regulations could allow serious environmental degradation."

It is obvious that public opinion in the country favors strong controls on surface mining, as demonstrated by the narrow failure of Congress to override the President's veto of the strip mining bill. These regulations run directly counter to the prevailing sentiment. For example, defining reclamation requirements by a loosely defined notion of "maximum extent practicable" could allow such abuses as high walls and open pits rather than restoration of the original contour, inadequate waste disposal, inadequate control of polluting discharges, and seriously insufficient reclamation. It is ironic that

1/ 40 Fed. Reg. 4428 (January 30, 1975).

the Administration -- which objected to the Congressional proposal as being too general, subject to conflicting interpretations and susceptible to litigation-inspired delays -- now proposes guidelines phrased so loosely.

Second, both the regulations and the accompanying environmental impact statement (EIS) demonstrate all too clearly the Department's lack of a coherent program for management of the federal coal resource. This is the third proposed revision of 30 C.F.R. Part 211 in three years.[2/] This is the second proposed revision of 43 C.F.R. Part 23 in two years.[3/] Especially since none of the previous proposals were accompanied by an EIS, it would be reasonable to expect the draft EIS issued along with the latest proposal to compare it with previous ones. It does not.[4/] The confusion is exacerbated by the fact that these regulations expressly deal with the process of coal leasing -- including tract selection and prelease planning and environmental assessment -- as well as post-leasing mining operations.[5/] Yet there is no explanation

2/ See 38 Fed. Reg. 10686 (April 30, 1973); 40 Fed. Reg. 4428 (January 30, 1975).

3/ See Appendix D to the draft EIS on the Federal Coal Leasing Program, May 1974. While that EIS contained proposed revisions in these regulations, no attempt was made in it to discuss their environmental impact.

4/ Indeed, 196 of the 298 pages of the draft EIS on these regulations are lifted nearly verbatim from the final EIS on the coal leasing program issued in September 1975. Compare, for example, Chapter II of the draft EIS on the coal regulations with Chapter 2 of the final coal leasing program EIS.

5/ See, e.g., proposed 43 C.F.R. § 3041.0-6.

of the relationship, if any, between this EIS and these regulations and the federal coal leasing program and program EIS. All told, the decision to separate the federal program to regulate coal development from the federal coal leasing program is a mysterious one. It appears to contradict common sense and, significantly, is not explained.

Third, although the regulation dealing with enforcement of state law in mining federal coal is described as allowing "continuation of existing practice" which will "satisfy both state and federal interests,"[6/] in fact what is proposed is a major change from the present scheme. Whereas now the standard federal coal lease requires the operator to comply with state law at all times, the Department proposes to have the Secretary of the Interior decide when it is appropriate to apply state law, on the basis of his judgment whether it would be "consistent" with the federal interest in "timely" and orderly development of the federal coal resource. It is apparent that this significant change is proposed in response to the passage of tougher reclamation laws in several western states. It is bad policy to propose such a weakening and it is irresponsible to attempt to disguise the significance of the change by stating it allows continuation of present practice.. It is noteworthy that the accompanying EIS does not even compare the proposal to the present practice.

Fourth, it is also ironic that these regulations will

6/ 40 Fed. Reg. 41123 (September 5, 1975).

ultimately not serve the Administration's purpose of accelerating development of western coal resources. As EPA Administrator Train noted in his October 21, 1975 speech to the National Coal Association, the best way to accelerate national coal production is to come to grips with its environmental impacts and not ignore them. All-out promotion of a "business-as-usual" approach will only polarize public opinion and mire the Department's plans for rapid western coal development only more deeply in controversy and, inevitably, confusion and delay. For reasons we have amply set forth elsewhere, both NRDC and the Sierra Club have serious misgivings about a crash program to develop western coal; nevertheless, we agree with Administrator Train that "the only way to break through the current atmosphere of suspicion, uncertainty, and confrontation" is to adopt "strong control, planning and other measures to offset and avoid the adverse environmental, social and cultural impacts" of coal development.

Given the inadequacy of the proposed regulations, the accompanying draft EIS and the final coal leasing program EIS,[7/] the best course would seem to scrap all these efforts and start over. This suggestion is not made lightly. We realize that a considerable amount of effort has been spent in preparation of regulations, and we derive no pleasure from suggesting that it has been ill-spent. However, we see no acceptable

7/ The adequacy of that EIS is being challenged in NRDC v. Hughes, C.A. No. 75-1749 (filed October 21, 1975).

alternative to starting over again, with substantial revisions and a new draft EIS.

Incidentally, while we devote a separate section below to the EIS, our comments on the regulations should be viewed as comments on the EIS as well. Therefore, we request discussion of, and detailed responses to, our comments in the new EIS that is required.

II. ADOPTION OF OTHER COMMENTS

We have studied the very thoughtful comments of Senators Haskell, Jackson and Metcelf on these regulations. (Letter of October 4, 1975 to Acting Secretary Frizzell, hereafter, 'Senators' letter'.) They identify seven major shortcomings of the regulations, as follows:

> "1. Elimination of certain environmentally-significant features in the proposed regulations published by the Department on January 30, 1973.
>
> 2. Failure to place the burden of proof of reclamation capability upon the operator and failure to require written findings of such capability by the approving agency.
>
> 3. Failure to assign authority for final sign-off of the mining plan to the land management agency.
>
> 4. Inadequacy of provisions for public participation in and review of key decisions.
>
> 5. Absence of environmental protection performance standards.
>
> 6. Far too much discretion allowed to the Mining Supervisor.

> 7. Ambiguities relating to reclamation of jointly-affected private lands."

We agree totally and adopt these comments as our own. In the interest of brevity, we will not belabor these points in what follows, except to point out particular examples or additional shortcomings not discussed in the Senators' letter.

Moreover, we just received a copy of EPA's extensive comments and suggested alternative language. Administrator Train's letter transmitting these comments identifies four areas of "major concern" as follows:

> "1. [P]erformance standards as currently proposed could result in inadequate reclamation of strip-mined lands. This is because the proposed regulations relax certain performance and reclamation standards and provide a variance procedure to the approximate original contour based on the concept that the operator shall reclaim to the maximum extent practicable.
>
> 2. [T]he proposed regulations do not provide explicit environmental criteria for designating, within lease tracts, lands unsuitable for mining [and thus they may allow mining] in areas where the land cannot be reclaimed or where lands are an integral part of an agricultural or ranching operation.
>
> 3. [R]egulation of surface mining on Federal and private lands underlain with Federal coal within any state should in no event be less strict that that required by the laws of that state. To permit the Federal government to pursue a more relaxed policy on its own land would undermine legitimate efforts of the States to regulate surface mining . . . [and would] promote suspicion and distrust rather than . . . mutual confidence and partnership. . . .
>
> 4. [There is] lack of adequate provision for public participation . . . [including] inadequate provision for public hearings in lease tract selection and mining plan approval."

While we cannot endorse all EPA's specific suggestions regarding alternative language without careful examination of them, in general we believe that the Department should pay serious attention to EPA's views. That agency has primary federal responsibility for prevention of air and water pollution threatened by coal mining operations, has specific statutory responsibility under the Clean Air Act to become involved in the NEPA process, and has been active in coal mining reclamation research and analysis.[8/] We believe that a major shortcoming of the proposed regulations is their failure to refer to, define, or establish a mechanism for coordination with respect to, EPA's jurisdiction and responsibilities under the Clean Air and Clean Water Acts -- including the NPDES permit system, effluent guidelines, new source performance standards, § 208 areawide land use planning requirements, and § 404 requirements for water impoundments. EPA's suggestions in these particular areas of interface should receive near-total deference from the Department.

III. DETAILED REVIEW OF THE REGULATIONS

A. Relationship Between Part 211 and Part 3041

We question the need for continued extensive overlap and repetition in these two sets of regulations. If the performance standards were incorporated by reference in one set

or the other, it would save paper and make the standards exactly the same. As it is now, there are many minor but annoying differences between the two sets as well as some more substantial differences which could become significant.[9/] The preamble says the language of these two sections is identical (40 Fed. Reg. 41124) but a quick review found no less than forty differences between the two. Many are minor and possibly explained by sloppiness, but some are major enough not to result from inadvertence. After three attempts, such differences should have been resolved and eliminated.

Another difference between the two is in the respective statements of purpose and policy; i.e., § 3041.0-1 and § 211.1 should be made consistent, and both should set out in the strongest possible terms that compliance will be strictly required and that these regulations will be interpreted and administered in accordance with the broad objectives of NEPA and its implementing regulations and Executive Orders.

B. Pre-Leasing Steps (43 C.F.R. Part 3041.0-6)

The Department should integrate this section with the requirements of the EMARS system. How and why is an area "initially considered" for coal development? How is the need for development determined? What is the "affected area" -- curiously, it is not defined in the regulations while "affected

8/ See, e.g., Environmental Protection in Surface Mining of Coal, EPA Report 670/2-74-093 (October 1974).

9/ Compare, e.g., first sentences of § 211.40(a)(3) and § 3041.0-7(b)(3); compare § 211.40(a)(14) with § 3041.0-7(b)(14); also, § 3041.0-7(a) is omitted from § 211.40.

lands" and "area of development" are.

Most importantly, these pre-leasing steps should include an assessment of whether the performance standards can be met on this land, and the potential land uses of ths site after mining and reclamation. No express environmental criteria are provided for determining what land is unsuitable for mining. In short, the section sets up a pre-leasing procedure which is sssentially without content; these are no substantive guidelines to assist in deciding whether and when to lease. Such guidelines should be formally established in these regulations.

Similarly, subsection (c) refers to the possible need for an EIS on any "decision" made pursuant to subsections (a) and (b), yet it is not obvious what decisions are contemplated by those subsections. There is reference to empty procedures -- consultation, coordination, and consideration -- without ever revealing what the purpose of such activity is. This kind of "we have a [secret] plan for coal development" -- "trust us" -- reasoning has been endemic in the Department's coal leasing program almost since the day in 1973 when Secretary Morton announced plans to develop such a program. Sooner or later that plan must be put on the table, and the relevant considerations spelled out for all to see. This part must, in other words, flesh out and provide guidelines for attaining the objective set out in § 3041.0-1(b); namely, that coal leases and permits should be authorized "only where reclamation of the affected lands to the standards set forth herein is attainable and assured. . . ."

We recommend complete revision of this section, referring specifically to the BLM's management framework planning system, or the multiple use planning processes used by other land management agencies. It would not, in fact, be inappropriate for the EMARS regulations themselves, if they in fact exist, to be set out in this subpart. And at least in the accompanying EIS there should be a discussion of issues like whether there should be a limit on the amount of mining that can take place in, for example, a watershed so that no watershed is put under undue pressure. Given the nation's vast coal resources, we have the opportunity to define and enforce "carrying capacity"-regulations which will ensure that no one locale will be sacrificed totally to all-out mining.

There should also be specific reference to and incorporation of EIS procedures in this section, to better guide the decision whether an EIS is required at any point in the decision-making process. This is particularly important because so far the Department has avoided indicating where in the leasing decisionmaking process an EIS is most appropriately prepared. We recommend adoption of a specific prohibition against any federal leasing in any area until management framework plans have been developed, and compliance with NEPA with respect thereto has been achieved.

We further recommend that the application and preliminary plan requirements now covered in § 3041.1 and § 3041.1-1 be moved up to become part of, or immediately follow, the permit, lease and license planning procedures. Logically these

requirements are closely related to the planning procedures. Again, more detail must be provided in the planning regulations to assist the authorized officer in deciding how to evaluate and when to use the information contained in the preliminary plan. As proposed, the regulations laudably require advance information from the proposed lessee or permittee, but disclose very little -- beyond the two sentences in § 3041.2 -- about how such information will be used.

C. Consultation and Coordination

The BLM as well as the USGS should have authority over mining plan and abandonment approval. We agree with the Senators' letter (p. 4) that this is a land management decision, and should not be decided by the USGS Mining Supervisor.

Second, the regulations would effect an important change in existing practice by eliminating the veto power other land surface managing agencies now have. This would be reduced to a mere consultation and coordination role, with nothing preventing the USGS from overriding, for example, the Forest Service's recommendations. We recommend retention of the veto power, and the power to impose environmental terms and conditions in leases and mining plans, in the land management agency. This is for the same reason as heretofore stated -- namely, since the land managing agency has ultimate responsibility for pre- and post-mining land use, it must have responsibility for basic decisions about stipulations to protect that land resource.

We also recommend that the USGS and the BLM be required to consult with the surface owner before approving any exploration or mining plan, termination of a bond or part thereof, or abandonment of operations. As proposed, consultation with the surface owner is required only prior to lease or permit issuance, (§ 3041.0-4(f)) and prior to bond termination (§ 3041.6(d)(3)) but not for anything else (see § 3041.0-4(d)). Moreover, even when the surface owner is to be "consulted," the Mining Supervisor is free to ignore his advice. At least the Mining Supervisor should be required to give reasons (in writing) why he is rejecting the advice if that is his decision. Furthermore, the Supervisor should be required to pass on the surface owner's recommendations to the authorized officer, even where he recommends the opposite, so that the authorized officer is apprised of the surface owner's position before making a decision. This exclusion of the surface owner from the process of making decisions which vitally affect his interest parallels the broader exclusion of the general public from these decisions, discussed in more detail below.

The regulations are silent regarding coordination with state and local land use planning agencies. Both in the pre-leasing process and in the actual regulation of mining activities, the federal agencies should have a continuing responsibility to stay in close contact with state and local agencies.

The regulations exclude EPA from any role in the leasing or mining regulatory process. This is a serious mistake, for reasons noted above (p. 7). EPA should be given

substantial concurrent authority or at least must be consulted in almost every area of the process, including lease tract selections, formulation of lease and permit stipulations, exploration and mining plan approval, approval of termination or abandonment of operations and bond amounts and termination. And, of course, EPA concurrence must be obtained specifically on the adequacy of various plans to ensure compliance with applicable air and water quality standards and the Clean Air and Clean Water Acts. The failure of the regulations to require even this -- indeed the failure to even mention EPA -- is a disturbing indication that the Department is very reluctant to open up its enforcement process to anyone -- whether it be states, local governments, Capitol Hill, other federal agencies or the general public.

D. Definitions

The definition of approximate original contour is a serious weakening of previously proposed regulations. In contrast to the January 1975 proposals (§ 211.2(v)), it does not expressly require elimination of spoil piles or high walls. Significantly, no explanation for this retreat is offered in either the preamble or the accompanying EIS. High walls and spoil piles have become two of the most visible symbols of environmental degradation connected with mining. Deletion of an express requirement for their elimination demonstrates to all the world the unfortunate direction in which the Interior Department is proceeding.

"To the maximum extent practicable" is to us a completely unsatisfactory standard by which to measure reclamation performance. Founded on extremely vague notions of economic feasibility, the definition is, unhappily, even more loosely drawn. While maximum extent practicable would seem to suggest the best one can reasonably do, the definition contained in § 3041.0-5(k) does not require the best. It refers to "that degree of compliance which can be achieved. . . ." and not "the highest degree. . . ." This definition basically reads the word "maximum" out of the concept.

Moreover, the concept of "practicability," while superficially reasonable, has the effect of reading out of the regulations the objective, set forth in the preamble, that leases will not be issued and mining will not occur where reclamation is not attainable and assured. (40 Fed. Reg. 41122).

Who has the burden of showing that compliance costs would be disproportionate to the amount of environmental and other benefits? If only a few cows, antelope and ranchers are displaced, does this standard mean no reclamation is required?

Considering the broad privilege from disclosing important financial information which the regulations contain,10/ (which information bears heavily on the question of practicability), the application of this standard is totally insulated from public review. Since what is practicable according to the definition is what is in some vague sense profitable or financially

10/ See, e.g., 30 C.F.R. § 211.5.

feasible, an honest application of the standard requires an examination of the economic as well as environmental costs and profits involved in different levels of reclamation performance. But the Department will, presumably, refuse to disclose "commercial or financial information" which the operator identifies as privileged or confidential.11/ Thus a classic Catch-22 is created, whereby total discretion is given to the USGS to require whatever reclamation seems appropriate. Since the concept is a common thread running throughout these regulations, its effect makes it perhaps the single most serious shortcoming in the whole schema.

E. Performance Standards

The most egregious flaws in the performance standards have been highlighted in the Senators' letter, to which we fully subscribe. In addition, we believe that § 3041.0-7(a) should make the provisions of the exploration and mining plans binding on the operator, as a lease or contract term. Since remedies for violations of the lease terms may be in some cases different from remedies for violations of the plans themselves, it is reasonable to bind the operator to the approved plan as closely as possible.

Specific comments on the specific standards follow:

First, it is curious indeed, in light of the problems posed by

11/ Like indiscriminate use of the "top secret" classification, this provision will undoubtedly result in operators classifying everything not expressly required to be disclosed as privileged or confidential.

the "maximum extent practicable" standard, that the Department would propose a straightforward "maximum extraction of coal" standard in § 3041.0-7(b)(1). An explanation should be given in the EIS for the different standards.

We also have the same objection to the "as contemporaneously as practicable" standard of § 3041.0-7(b)(2) as we registered to the "maximum extent practicable" requirement discussed above. Reclamation of the affected land should simply be required "concurrent with the ongoing mining." All scientific evidence suggests this is best calculated to succeed.

We also question how the priority of post-mining uses will be determined. (See, e.g., §§ 3041.0-7(b)(2) and -7(b)(3)(i) referring to "equal or better uses.") Will such uses be evaluated on a case-by-case basis, or will the Mining Supervisor receive some instructions on comparative uses? If the latter, this should be discussed in the preamble and the EIS.

The exceptions for the approximate original contour standard discussed in subsection (b)(3) seem to be inconsistent with the initial policy statement that leases will be issued only where reclamation is attainable and assured. If backfilling is made "impracticable" by "unusual conditions," the question becomes, why was the land leased in the first place? Isn't the whole point of the pre-lease planning procedures to identify such conditions at the outset; i.e., to flag areas in which complete reclamation may be difficult or impossible? Can't "unusual conditions" be found on virtually any mine site? Can't the need for multiple seam mining be identified before

mining begins, and the plan adjusted accordingly? Does multiple seam mining always make backfilling impractical? If not, how is it determined what is impractical?

Inclusion of this kind of exception suggests that the Department will not take seriously its obligation to identify such lands before leasing. We would suggest that a provision be included in the lease itself that where post-lease examination reveals serious reclamation problems, the lease may be terminated if reclamation cannot be assured. Only in this way will the operator and the Department have the incentive to investigate fully before leasing. Otherwise, the Department only invites requests for modification on the ground of "impracticability" whenever there is the least difficulty in meeting whatever standards are established.

The section on stabilization of spoil piles (subsection (b)(4)) should require a minimum height and slope and place a specific limit on maximum height and slope. It should also contain specific planting guidelines for both the short- and long-term.

The operator should not be given sole authority to decide whether to segregate or save topsoil (subsection (b)(5)). He should bear the burden of satisfying the Mining Supervisor that it is of insufficient quantity or quality, and that other strata are more suitable. The Supervisor should be required to make specific written findings to that effect, before the operator can be allowed to discard or bury the topsoil.

The provision of effluent discharges from impoundments (subsection (b)(6)(iii)) is completely unsatisfactory. All mining discharges should meet the effluent standards and water quality standards set for the receiving stream by state and federal agencies. The concept of "not unreasonably degrading" water quality is an extremely slippery one, and totally inconsistent with existing water quality regulatory laws.

The standards fall considerably short of the mark in providing protection for fish and wildlife. The subsection on permanent impoundments ((b)(6)) should require compliance with the Fish and Wildlife Coordination Act. The subsection on fish and wildlife ((f)) requires the operator to employ such measures "as are deemed necessary" to protect fish and wildlife and their habitat, but unfortunately does not say who "deems" what to be necessary. It should be made the responsibility of the authorized officer; otherwise the requirement is illusory. This section should also refer to the Department's and the operator's duties under the Endangered Species Act. The regulations as a whole omit any mention of this important and obviously applicable Act.12/

While there is reference to comparative measurement of suspended solids in runoff and stream flow before and

12/ The EIS states that protection of rare and endangered species from the impacts of coal development "is provided in other regulations. . . ." (p. III-10) These "other regulations", whatever they are, should be incorporated by express reference in these regulations, especially so that the operator will know what his duties are under the regulations.

during mining (§ 8(1)(ii)(A)), this should be considerably tightened. What is a proper "period" for measurement? When is pre-mining measurement required? We recommend that the proposed mining plan include such measurement. (§ 211.10)

Subsection (b)(15) would allow access roads to be constructed in streams except when the normal flow of water would be "seriously altered". This is completely unsatisfactory, especially since alteration may have nothing to do with degradation. We recommend a flat prohibition on such roads in streams.

We also recommend that the provision allowing waiver of the five-year minimum period for revegetation liability -- (b)(17) -- be deleted. All available scientific evidence is that revegetation is uncertain for a period of several years even under the best of conditions. Reducing the period of liability from five to four or three years would seem to offer the operator only a tiny advantage, against which must be balanced the substantial uncertainty about any revegetation effort, particularly in the west.

F. Power Plants and Other Industrial Facilities

The regulations expressly provide that any use of the federal lands for "a power generation plant or a commercial or industrial facility" will be authorized "under a separate permit." (§ 3041.0-8) There is a substantial question whether the most important federal land management agencies, the BLM and the Forest Service, have the authority to issue such permits. The Forest Service's multiple use act alone may not

authorize the issuance of permits for huge power plants and the BLM has no statutory Organic Act. The use of now somewhat infamous "special land use permits" (SLUP's) to allow controversial developments on public lands -- developments either prohibited or not expressly authorized by other acts -- can no longer be so easily tolerated after the decision in the Alaska pipeline case, Wilderness Society v. Morton, 479 F.2d 842 (D.C. Cir. 1973), holding illegal the SLUP issued for the pipeline right-of-way in excess of the statutory width limitation. We therefore request a full discussion of this issue in the new EIS. Moreover, what are the standards against which such a permit application will be measured? Are separate regulations being prepared to govern those permits? Is there any attempt here to bypass state laws on energy facility siting? This section obviously raises many more questions than it answers, and requires considerable discussion.

G. Technical Examination/Environmental Analysis

The requirement in § 3041.2-1 -- that the TREA report must substantiate a finding that either (a) a specific area within applied-for lands should be excluded from a lease or permit; or (b) that an EIS be prepared on a lease or permit -- is both unwise and probably at least partly illegal. There is certainly no language in NEPA which would justify a strong presumption against determining that a proposed action requires an EIS. This approach simply relieves the operator of his burden of proof of demonstrating the possibility of

satisfactory reclamation, and skews the Department's approach to NEPA heavily in the direction of non-compliance. The presumption is simply a signal to field personnel that recommending exclusion of land from an application, or recommending preparation of an EIS, is not looked on with favor from above. Either the presumption should be reversed, by requiring findings whenever the recommendation is that no land is to be excluded or no EIS prepared; or, findings should be required in every case regardless of the recommendation.

H. Basis for Denial of A Lease or Permit (§ 3041.3)

It should be added to this section that applications will be denied to all operators who have been found guilty of operating in violation of these regulations, lease stipulations, or a mining or exploration plan more than, say, twice. Violations of effluent and stream standards should also require denial of new permits or leases, at least if the violations were gross or repeated. Additional grounds for denial should be specified, including where the land cannot be reclaimed, if state agencies give a negative recommendation, or if land use plans would be violated.

Denial of future applications is the most effective enforcement incentive available, and therefore it should be made mandatory rather than permissive ("may be deemed" should be changed to "shall be deemed"). Moreover, the language needs to be tightened in two other respects. First, the provision waiving default if the land is reclaimed without cost should

be revised to include without cost to state or local as well as the federal government. Second, there should be a proviso allowing the corporate veil to be pierced in certain circumstances, to prevent unscrupulous operators from reincorporating and attempting to qualify for new leases or permits as new corporate entities.

I. Bonds (§ 3041.4)

The provision on bonds is seriously deficient. It does not require the bond to be in an amount sufficient to satisfy the reclamation requirements of an approved mining plan.[13/] It does not require an independent assessment of the costs of reclamation. It does not require increase in the bond when reclamation costs rise above initial estimates, as they inevitably often will. Reclamation is the primary thrust of the entire regulatory program. To allow it to be defeated by a slipshod, casual bonding provision which encourages borderline operators to default is simply a bad policy. Bonds for such operations are an accepted part of commercial life -- a normal cost of doing business. Nothing less than a strong requirement here -- requiring a bond in an amount at all times equal to the cost of a third party coming in to reclaim the land -- is acceptable.

13/ Some language in Section 211.3(13) is seemingly inconsistent with § 3041.4, since it suggests that the amount of bond should be adequate. It is rather loosely worded, however, and should be set forth separately rather than being buried in the general section on the Mining Supervisor's duties.

J. Public Notice and Availability (§ 3041.5 & § 211.5)

We fully subscribe to the statement in the Senators' letter that the most effective way to keep an administrative agency diligent and lawful is to expose its decisions to public review. We support their suggestion that public hearings be required regarding lease tract selection and mining plan approval. Moreover, while it is stated that mining plans and lease applications are available for public review, no mention is made of the critical PERA or the various reports required (§§ 3041.6 and 211.62). Both of these should expressly be made subject to public review and copying.

In a sense it is ridiculous to continue the policy of only grudgingly making such materials available for inspection and copying. The Freedom of Information Act, as recently amended, clearly makes such material available, and interest runs high for information about many of these mining proposals. These regulations should be made consistent with that law, so that field personnel and the public know their rights and responsibilities -- especially given the short time limits within which Departmental personnel must now respond to such requests.

Public notice of an opportunity for comment should also be required for receipt of a lease application, preliminary plan, notice of mining plan, proposed revisions and modifications in the exploration and mining plans, (see § 211.10(d)) and notice of cessation of mining operation and bond release. Furthermore, the authorized officer or the Mining Supervisor,

where appropriate, should be required to respond in writing to important substantive issues raised by comments from the public or other governmental agencies.

K. Reports

All reports should be forwarded to the appropriate state agency as a matter of course.

Moreover, the revegetation report should require some kind of analysis of how successful revegetation has been and whether it is self-sustaining. More detail should be provided as to when revegetative growth is "satisfactory". (See § 3041.6(ii)(2))

L. General Coal Mining Orders (§ 211.3(12))

This provision is rather confusing. The EIS says that the purpose of such an order is to "provide flexibility under the different conditions experienced in different parts of the country." (pp. 27-38) This seems like a potentially valuable device. While all reclamation is critically site-specific, some useful general prescriptions can be formulated based on certain conditions of soils, topography, climate and hydrology. The problem we have with this definition is that no standards are established defining when such orders are appropriate, no guidelines are provided for what they should contain, no apparent limits are set on their scope, no provision is made for their force at law, and no hint is given of their relationship to these regulations, lease and permit stipulations, and exploration or mining plan provisions. These questions must be

answered if such General Coal Mining Orders can be meaningfully used.[14]

M. Inspection of Operations (§ 211.3(b)(1))

This subsection should make clear that state personnel are allowed to inspect as well as federal. And, as noted above, state officials should receive the required reports. The denial of access for inspection to either state or federal inspectors should be grounds for automatic suspension of the lease or permit.

N. Partial Plans (§ 211.10(e))

The provision for partial plans is unconscionably vague. It would seem likely that operators will often plead ignorence about their future development plans. The submission of a partial plan with subsequent continuing modification could quickly become the rule, unless the Department acts firmly to require the submission in advance of complete plans, based on best available information, except in very unusual circumstances.

The problem is simply that partial plans allow the operator to obtain a substential foothold and build up a momentum for further operations in an area, before the full impact of the development can be appreciated. Once the

14/ The EIS is of no help here. While noting that the potential for successful revegation is site-specific, it states the conclusion that "the regulations permit the latitude needed to accomplish this objective." (p. III-17)

capitel investment has been made, personnel hired and ground broken, it will be very difficult for the Mining Supervisor or the authorized officer to halt the operations no matter how environmentally disastrous it turns out to be.

The standard in § 211.10(e) is so loose as to be illusory -- it allows a partial plan to be submitted whenever a plan for the entire operation is dependent on "unknown factors" which cannot or will not be determined except during the progress of operations. Obviously, there will always be "unknown factors" in any large-scale mining operation; the threshold should be set much higher than this. The best solution would be simply to prohibit partial plans outright, and require more exploration, study or research to resolve whatever crucial unknown factors exist, before mining can commence.

O. Deep Mining

The regulation of deep mining is seriously defective in not providing for a post-mining sealing program under stringent government supervision. Review of a proposed sealing operation cannot be meaningfully conducted at the time of opening since the projected life of the mine may be very long. Therefore the final sealing and flooding, where appropriate, must be carefully controlled. In deep mines, this may in fact be the most crucial aspect of controlling environmental degradation.

Moreover, the regulations should require the treatment

of all effluents that arise in conjunction with a deep mine. Fugitive water must be treated by the operator regardless of whether its source is in the mine or not. Moreover, if water has to be pumped out of an adjacent mine for safety reasons the operator still should be required to treat the discharge, since if the mining operation in question did not exist there would be no discharge.

IV. APPLICABILITY OF STATE LAW (§§ 3041.8 and 211.74)

The policy regarding application of state law is described in the preamble as "allowing continuation" of the present practice of requiring operators under federal leases to comply with state and local law. 40 Fed. Reg. 41123. We believe that is an extremely misleading description. Present practice is to insert a term in the lease which requires compliance with state and local law at all times.[15] The proposal is to require compliance with state law not only whenever the Governor requests it (a reasonable provision) but also only when it would "effectuate the purposes of [the regulations]" and would be "consistent" with the federal interest in "timely" and "orderly" development of its coal resources.

15/ The EIS states that present policy is to require compliance with state standards when such application "is not inconsistent with federal law or regulations." (p. I-23) That statement is, to the best of the writer's knowledge, wrong. Most if not all outstanding federal leases require the lessee to comply with state law as a matter of course.

Thus, the only reason to change present practice is to allow operators to escape compliance with state law in certain circumstances when the Secretary of the Interior finds it is "consistent" with the federal interest. This means the federal government assumes ultimate authority for the rate of coal development in the states.

It is apparent that this change is proposed in response to the passage of tougher reclamation laws in several states. These laws are more stringent, and more protective of the environment, than this administration can countenance. By providing for a federal override of state law where "consistent" with federal policy, the Department is simply saying to the states: "You may adopt strip mining and reclamation stands as strict as, but no more strict than, these proposed standards." The net effect over current practice, then, is a weakening of regulation in certain circumstances.[16]

We recommend simply that the operator be required to comply with all state laws pertaining to mining land reclamation, air and water quality, wildlife protection, etc. The only possible federal interest which could justify overriding state law would be when a state absolutely prohibited mining. That, however, has never seriously been considered by any state,

16/ This is so despite the fact that the state standards must be "at least as stringent" as these federal regulations prevent deferral to notoriously inadequate state laws. States like Montana with generally tougher laws then these regulations could be excluded entirely from regulation of mining under federal lease, if the Secretary finds its law is "inconsistent" with the federal interest.

and clearly could be dealt with in the extremely unlikely event it ever arises.

There are troubling ambiguities in the proposed regulations apart from the basic policy question discussed above. The preamble says that deferral is possible to state procedures as well as substantive standards. Will the federal government require annual permits in states like Montana that have such a system? What standards will apply to the Secretary's decision on procedures? Will they be the same as for substantive state law?

Do state law provisions "with respect to reclamation of lands disturbed by surface mining" (§ 3041.8(a)) include provisions dealing with air and water pollution, wildlife habitat protection, and local zoning laws? What about state law provisions on bonds -- including amounts, procedures for adjustment and termination, and determination of non-compliance? Much more discussion and detail about the operation of this deferral mechanism is required.

Does the fact that the state law will be applied as federal law by federal officers (§ 3041.8(b)) mean that state enforcement personnel will not in any way be involved? Will the responsible state agency have no right to inspect or to issue enforcement orders? It would seem very clumsy for federal officers to have sole responsibility for applying and judging compliance with state law, since they will be unfamiliar with the enforcement practices and standards applied by state officers. At minimum there should be some joint enforcement,

with right of state inspection and review. It should be carefully noted that here too the Department proposes a retreat from current practice, since now state officers have final responsibility for enforcing state law, under the terms of federal leases.

The proposed deferral mechanism apparently applies to the surface over federal coal deposits regardless of whether the surface is privately or federally owned. This should be clarified, particularly since the Department's power to preempt state law is much more dubious in the private surface situation. If states decide to continue to assert regulatory authority over these lands, direct confrontation in the courts will result. Thus while this scheme is heralded by the Department as a triumph of comity between state and federal governments under our federal system, in reality it sows seeds of confrontation and distrust which could lead to even more uncertainty and delay in development of western coal.

A final troubling aspect here is alluded to in the Senators' letter (p. 8). This is the situation where a logical mining unit encompasses both federal and private surface and/or federal and private coal, and the state has less strict procedures than the federal. Here the extreme latitude of the performance standards, especially that requiring consideration of "practicality" and "cost" means that the authorized officer could well find that compliance with less strict state standards on the adjacent private lands would be the maximum "practicable" on federal lands. This could mean the near-automatic application

of less stringent state standards on federal lands. We fully support the Senators' recommendation that a specific prohibition be adopted against this; i.e., to the effect that less stringent state standards will never apply to mining federal coal.

V. APPLICABILITY TO EXISTING OPERATIONS AND LEASES

The preamble expressly leaves unresolved the method and timing of the applicability of these regulations to existing leases. We of course support their complete applicability to existing leases and operations as soon as possible, without exception. Nevertheless, in their present form these proposals are completely unsatisfactory. We would favor a delay in their promulgation, and consequently a delay in their application to ongoing operations, if there was the hope that they will be significantly strengthened by a process of revision and republication in draft form for comment.

When strengthened and put in final form, we recommend that the regulations expressly require compliance from all lessees and permittees as follows:

(1) All permittees and lessees who have not yet submitted exploration or mining plans for approval shall submit a preliminary development plan within 180 days.17/

17/ The applicability of these regulations to existing operations should be made consistent with whatever diligent development regulations are finally adopted by the Department. See 39 Fed. Reg. 43229 (December 11, 1974).

(2) All permittees and licensees who are conducting exploration and mining activities shall submit new or revised exploration or mining plans in accordance with these regulations within 180 days. Where such plans already exist, modification in the plans shall be submitted, in writing, where necessary to meet new requirements, within 90 days. Each operator should be required to submit either a modification of an existing plan, or a "negative declaration" to the effect that no modification is required because the existing plan fully meets all the new requirements. The negative declaration shall be supported by written reasons, and shall be carefully reviewed by the authorized officer. If the latter disagrees and finds that a modification or a new plan is required, he shall notify the operator promptly (in no event more than 90 days from receipt of the negative declaration). The operator shall file the required modification or new plan within 90 days of such notice. Thereafter the Supervisor and authorized officer should have 90 days to approve or reject the modification. No exploration or mining can take place after this second 90-day period except pursuant to an approved plan which fully meets all the requirements of the new regulations.

VI. RELATIONSHIP TO OTHER FACETS OF COAL MANAGEMENT PROGRAM

The Department's persistence in relying on a piecemeal approach to devising a coal management policy is as confusing as it is unwise. Rather than attempt to set forth, at one

time, a coherent policy and framework for making important leasing and management decisions, the Department continues to pursue the various pieces of the puzzle in a completely independent fashion. We have already suggested that the proposal be more fully coordinated with the proposed diligence requirements and the EMARS system. Moreover, more detailed reference should be made to the logical mining unit concept, to the BLM's Management Framework Planning System, and to the previous versions of these regulations. And the Department has for nearly a year promised to promulgate regulations attempting to define "commercial quantities" as that term is used in 30 U.S.C. § 201(b). All of these initiatives interlock; no single one can be fully understood or its impacts fully appreciated without reference to the others. We thus strongly urge that new proposed regulations be issued along with the new draft proposal for diligence, and all the other proposals that are planned as part of the development of a coal management program.[18/]

Another development which should have been, but was not, referred to or discussed either in these regulations or in the EIS is the new proposed coal lease form. Its terms, both general and specific, could play an important role in

18/ The proposed diligence regulations, among others, were not accompanied by an EIS, even though their promulgation could well be a major federal action significantly affecting the environment. Other Departmental proposals could likewise require compliance with NEPA. It therefore would be more efficient, as well as more logical, to include consideration of all these initiatives in one overview EIS on the federal coal management program.

determining how these regulations are implemented.

VII. COMMENTS ADDRESSED SPECIFICALLY TO THE EIS

We have already referred to several instances in which the EIS fails to discuss some significant aspect of these regulations which could be important from an environmental protection standpoint. More generally, we believe the EIS is of exceedingly poor quality. Nearly two-thirds "boiler-plate" (padded with material lifted verbatim out of the coal leasing programmatic EIS), the document contains almost no analysis, no discussion of alternatives, and no basis on which the environmental impacts of these regulations can be fully assessed.

Unfortunately, like many other impact statements issued by the Interior Department, this one was obviously prepared completely separate and apart from the decisionmaking process. The sparse information and superficial analysis it does contain will be of no help to Departmental decisionmakers formulating coal policy, and indeed it is apparent that it is not intended to be helpful. Such a callous approach to the NEPA requirements is, frankly, shocking.

Judging from the content of this EIS, one can understand why some Interior Department officials regard NEPA with skepticism. They are in fact often correct in concluding that NEPA has not proved of value to the Department in making decisions. By confining the EIS to (a) paraphrases of the regulations themselves, which add almost nothing to the Federal

Register announcement (Chapter 1), (b) boiler-plate data on minute components of the environment over much of the country (Chapter 11), and (c) self-serving platitudes about how flexible, pragmatic and wonderful these regulations are (Chapter III-VIII), the Department has chosen deliberately to reduce NEPA's role to a mere charade. Where hard analyses and objective discussion is called for, the EIS reads like a speech.

For example, while these proposals were being formulated, one could reasonably assume that many specific regulations were drafted, and discarded or modified, that consideration was given to regulating activities that were not regulated in the final proposal, that consideration was given to not regulating activities that were finally proposed to be regulated, and that altogether different regulatory approaches or schemes were discussed.

In this connection, the court's opinion in Ely v. Velde is instructive:

> "The statutory requirement of a 'detailed statement . . . on the environmental impact of the proposed action' places a heavy burden on the [Department]. To enable a court to ascertain whether there has been a genuine, not a perfunctory compliance with NEPA, the [Department] will be required to explicate fully its course of inquiry, its analysis and its reasoning. 451 F.2d 1130 (4th Cir. 1971) (emphasis added).

It would have been particularly valuable to compare (a) earlier drafts of this proposal, (b) the previous officially released proposed revisions of these regulations, and (c) the regulations now in effect (including an analysis of field

experience with them) with the proposals currently under consideration. It would also have been extremely useful to compare the procedures and standards in the proposal with those in H.R. 25, the bill vetoed by President Ford. The Department and this Administration obviously feel very strongly that their proposal is sounder and wiser than the regulatory scheme supported by a large majority in Congress. One would therefore expect the Department to leap at the opportunity to compare their costs, benefits and overall impact on the environment and on society. Unfortunately, no comparison is attempted, other than the useless 300-word discussion on pp. VIII-7-8.

Perhaps most maddening is the failure to compare the relative impact of this proposal versus H.R. 25 on coal production. In the course of the debate on that bill, the Department produced detailed figures on the loss of coal production, jobs and effect on oil imports which it claimed would have resulted had H.R. 25 been signed. Yet in the EIS on its own proposal, the Department fails to develop such figures, instead trotting out the tired old excuse for avoiding analysis; namely,

> "identification and precise quantifications of the impact of the proposed regulations, will depend upon the particular, site-specific considerations relevant to each lease or operations plan. . . they are not, therefore, readily quantifiable at

this time." EIS, p. V-4.[19]

How can the Department expect its coal management program to have any credibility whatsoever when it refuses to be consistent in its impact analysis? Administration spokespersons rushed to Capitol Hill with so-called "facts" and "figures" predicting drastic results if the surface mining bill were passed, yet the Department now says it has prepared its own program with no firm idea what the quantifiable impact on coal production will be, other than to note that, in general, there will be "some unemployment and dislocation," and "some degradation of local economic structures as a result of possible closing of small or marginal mining operations." (p. V-1)

We believe it is a legal requirement that this EIS include a side-by-side display of the current proposal and previous proposals, comparing procedures, standards (including language at key points), treatment of specific issues like the state law and private surface questions, and impacts on operators, on surface owners, on different components of the physical environment, on jobs, on energy, and on coal production.

19/ While the EIS estimates that adoption of these regulations would cost mine operators from 1.5 to 3 million dollars in the first two years, no basis is given for this assertion, and there is no estimate whatsoever with respect to production. (p. VII-1) Moreover, the EIS states that the "incremental reclamation costs for operators on Federal and Indian lands during 1977 would be about $9 million" (p. VII-2). This statement is meaningless without more information. Is that with or without the new proposed standards? What is the cost per acre? Per ton? Does it include application of state law under existing lease terms?

Another specific shortcoming in the EIS is its failure to attempt to quantify the increased administrative and enforcement expenses, including additional manpower required, of USGS and the surface management agencies. The EIS notes that some undetermined increase will be required, including "expenditure of additional Federal funds to expand and upgrade existing field operations and to seek qualified enforcement personnel." (pp. III-28, VII-1)

The failure to quantify this impact is noteworthy for three reasons. First, it is in stark contrast to the Department's willingness to quantify such impacts for H.R. 25, as noted above. Second, such quantification will be necessary sooner or later, as the Department will be required to justify to OMB and to Congress the need for additional appropriations to implement these regulations. It is irresponsible to publish this proposal without some idea of its cost to the Department. Third, refusal to quantify is in stark contrast to the analysis of the administrative costs and personnel requirements for administering state surface mining reclamation laws. (See p. VIII-10 through 15 and Appendix 3). The Department's assiduous efforts to present data on state enforcement while at the same time refusing to do the same analysis for its own efforts is mysterious, to say the least. Such data for federal enforcement agencies should be included in the new EIS.

The EIS is also inconsistent both internally and with the regulations at several points. For example, it says initially that the regulations will apply to existing leases and

pending lease applications (pp. I-1; III-2); later it says the proposal "might apply" to outstanding leases (p. V-4); whereas the preamble to the Federal Register announcement states that the question has not yet been decided.

A good illustration of the lack of analysis is that the EIS, in its very brief discussion of the environmental impacts of these regulations, does not allude to the problem of determining when a state regulation will "result in protection of environmental values which is at least as stringent as would otherwise occur under exclusive application of state controls." § 3041.8(b)(2) (emphasis added). In the alternatives section of the EIS, on the other hand, there is a short discussion of the alternative of automatically applying state law to federal lands. That discussion notes that "[r]esolution of questions of relative degrees of stringency could, however, produce extended periods of uncertainty as to whether or to what degree state versus Federal standards would govern." (EIS, pp. VIII-14-15) The clear implication is that one negative aspect of the Department's proposal on the application of state law is that it might lead to such "extended periods of uncertainty." Unfortunately, the EIS does not treat this as a negative aspect, but instead views it as a reason for avoiding automatic application of state law. A fuller discussion of this issue is sorely needed. How would the Secretary determine whether the "at least as stringent" test has been met; e.g., will he make findings on this issue?

VIII. CONCLUSION

We believe that the Department's first priority now should be to prepare a new draft environmental impact statement which will fully and objectively discuss the various alternative regulatory approaches, schemes, and provisions, and contain a careful weighing of the costs and benefits of each. This should be accomplished, and the draft EIS circulated publicly and comments obtained, before the Department proceeds to consider how the proposed regulations should be revised. NEPA requires the Department to disclose its reasoning by requiring it to consider all reasonable alternatives, before setting its proposal in concrete. The only way we can see to accomplish that now is by preparing and publishing another draft EIS.

We believe our comments, together with those of the three Senators and EPA, provide a substantial basis on which to proceed with a new EIS. Additionally, we urge that serious consideration be given to the suggestion we set forth above (p. 33) that the new EIS be broadened to consider the environmental impacts of all the initiatives now underway within the Department (including but not limited to EMARS, diligence regulations, a new coal lease form and "commercial quantities" definition) which bear on implementation of a federal coal management program.

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COMMENTS ON THE PROPOSED REVISIONS OF SURFACE MANAGEMENT OF FEDERALLY OWNED COAL RESOURCES (43 C.F.R. Part 3041) AND REGULATIONS GOVERNING FEDERAL COAL MINING OPERATIONS (30 C.F.R. Part 211) AND THE ENVIRONMENTAL IMPACT STATEMENT ACCOMPANYING THESE PROPOSED REGULATIONS (DES 75-53) OF THE U.S. DEPARTMENT OF INTERIOR

Prepared by

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Environmental Policy Center

25 November 1975

GENERAL COMMENTS ON THE PROPOSED REGULATIONS AND DRAFT EIS

1) The timing of promulgation of draft EIS and accompanying proposed regs is obviously intended to undermine efforts in Congress to enact both the Federal strip mine bill and the Coal Leasing Amendments Act of 1975.

2) The impact of these regs, however, has been to help establish further documentation that (a) Federal surface mining legislation is absolutely necessary, as is the coal leasing legislations, (b) that the Department of Interior is less competent to implement such legislation than the Environmental Protection Agency, and (c) that the continued lack of specificity in the proposed regs (January and September 1975) documents perfectly the necessity for the degree of specificity contained in the vetoed strip mine bill, (H.R. 25), which the Administration said was neither necessary nor appropriate as the Interior Department would amplify in its regulations the necessary specificity.

3) The fact that the September 1975 proposed regulations are significantly weaker than the January 1975 proposed regulations and the February 1975 letter to Congress from the President requesting certain "critical" and "important" changes in the Federal strip mine bill (H.R.25) indicates that the Interior Department's position on strip mine regulation is a constantly changing one, and that complete compliance on the part of Congress with the President's requested changes in the legislation would probably not have satisfied the Administration's quenchless thirst to gut all meaningful provisions of the legislation.

4) The Environmental Protection Agency, which has in less time drafted a more thorough and competent set of proposed regulations than the Department of Interior after several attempts, remains conspicuously absent from any references in the proposed regs. In fact, although EPA has undisputed primary Federal authority over air and water quality, there is not a single reference to the agency in the proposed regs. (The proposed regs would also eliminate the current consultation and concurrence role of certain agencies such as the Forest Service.) As a minimum, EPA's legitimate areas of jurisdiction should be given full recognition in the subsequent set of regulations, with mandatory EPA concurrence prior to lease tract selections, issuance of leases, approval of mining and reclamation permits, and bond release, specifically with respect to the relationship of these activities to The Federal Water Pollution Control Act (79 Stat. 903), as amended (33 U.S.C. 1151-1175), the Clean Air Act as amended (42U.S.C. 1857 et seq.), and the Solid Waste Disposal Act (42 U.S.C. 3251-

5) Perhaps the most striking feature of the draft EIS and accompanying proposed regulations is the shaping of a national coal policy by the Department of Interior which would cause unnecessary damage to:

> the eastern and midwestern coal industry, through the promotion of the weakest possible regulations for Federal coal development in the west; which contain the nations most inferior grades of coal and hurt the [illegible] labor intensive Eastern coal industry, which [illegible] 82 billion tons of low-sulfur high btu coal close to the consuming markets;

GENERAL COMMENTS - continued

- the health and safety of miners, specifically as provided in the outrageous and irresponsible provision allowing strip mining operations to encroach within 200 feet of active deep mines, at a time when there is ample evidence in Appalachia that blasting from strip mines has caused damage to the roof support systems of deep mines;
- agriculture, through lack of protection of logical agricultural units (LAU's), alluvial valley floors, hydrologic balance, and the failure to require that prior to approval of a permit, the operator demonstrate that viable seeds in sufficient quantities will be available to achieve the proposed revegetation plan;
- private property rights, through the failure of the Interior Department to uphold the rights of private surface owners over Federal coal to exercise "written consent" prior to further Federal coal leasing and strip mining, consistent with the rights afforded surface owners under the various Homestead Acts;
- the rights of States to require surface mining standards more stringent than those of the Federal government, on State and private coal lands without such standards being deemed "inconsistent" with the proposed Federal regulations;
- Indian tribal rights and resources, through the proposed revocation of 30 CFR Part 216, without specific provisions to protect Indian tribal rights in the new proposed 30 CFR Part 211;
- public participation, through the elimination of adequate procedures for public notice and public hearings prior to key decisions such as lease tract selections, issuance of leases, approval of mining and reclamation plans, and bond release; and
- land and water resources, through the proposal of regulations which would require "reclamation" only where convenient to the operator and which would not even require elimination of highwalls, maintenance of the hydrologic balance, protection of alluvial valley floors, or protection against increased water pollution resulting from surface coal mining.

COMMENTS ON THE INADEQUACY OF THE EIS

One of the most distinctive features of the EIS (DES 75-53) is its close resemblance to the coal leasing programmatic EIS. Indeed, this EIS is so unresponsive to an analysis and discussion of the impact of the proposed regulations (43 C.F.R. Part 3041 and 30 C.F.R. Part 211), that it appears to have been assembled without specific instructions as to which Interior Department proposed action it would accompany.

A sampling of the undefined terms, omissions, and misleading statements which characterize this EIS are as follows:

Probable Impact of the Proposed Action (Chapter III):

The statement is made that "Fifty-eight percent of the acreage disturbed through 1974 has been reclaimed; ultimately all lands mined under these proposed regulations will be rehabilitated." (Page III-1) While this statement refers to strip mining in western states, it does not define what constitutes "reclamation," makes no distinction between "reclamation" and "rehabilitation," and does not document the figure "fifty-eight percent." Since the proposed regulations do not require complete elimination of "highwalls" and "spoil piles," protection of the "hydrologic balance," or meaningful long-term revegetation, the statement that fifty-eight percent of western strip mined lands have been reclaimed is misleading based on Interior's concept of what constitutes reclamation.

While the EIS allows, on Page III-7, that the most noticeable impact of the proposed regulations will be experienced by those states "where regulations either do not exist or where regulations are less stringent or inadequate compared to the proposed Federal regulations," there is no clarification that more stringent state laws may be construed under the proposed regulations to be not "consistent" with the interests of the United States or "timely" with orderly coal development, thus allowing the real possibility that more stringent state standards, such as those of Montana may be totally superceded by the proposed regulations. In addition, no mention is made in the EIS that with the development of "logical mining units," it is possible that less stringent standards on surrounding non-Federal lands may be allowed to be homogenized into the standards to be applied to the "logical mining unit," thus, in fact, allowing for situtations where less stringent non-Federal standards will probably be allowed to prevail on Federal coal lands. There is the additional possibility that where a state law or regulation has no counterpart in the proposed regulations for Federal lands, that such state provisions, particularly with respect to protections of water resources, may be determined to be not "consistent" with the interests of the United States, thus negating their application on "logical mining units" and on Federal lands.

The EIS, on Page III-8, states that the "most serious potential effect in this regard could be the possible closing of marginal producers who cannot afford the additional expense of data gathering and analysis necessary in preparation of these plans." No definition is given as to what constitutes a "marginal producer," nor is a distinction made between the notion of the small strip mine operator in the east versus what is considered to be a small operator in the west. In any event, the EIS fails to mention that the gathering of data and preparation of plans is an essential function for the mine operator just in order to extract the coal, and that those informational requirements accompanying the application plan in H.R. 25, or in the much weaker proposed regulations, would need to be assembled anyway in the process of preparing for mining.

The EIS is completely silent as to the impact of these proposed regulations for western Federal coal lands on future development of the eastern, non-Federal coal industry. The EIS fails to discuss the fact that the Interior Department is embarking on a policy to stimulate the extraction of the nation's

lowest grade coals, through assurances of long-term contracts using some of the weakest mining and reclamation standards in the nation. There is no question that such a policy will have a major adverse impact on further stimulation of the eastern low sulfur, high Btu coal industry.

Finally, the EIS surprisingly avoids the opportunity to compare the impacts anticipated from the proposed regulations with those projected by the Administration earlier this year with respect to the vetoed strip mine bill, H.R. 25. This rather glaring omission comes as no surprise, but, will most adversely affect the opponents of a strong strip mine bill because the Department's silence further clarifies the lack of documentation of the impacts projected by the Department with respect to H.R. 25.

Fish and Wildlife Resources

The EIS is silent with respect to one of the most obvious and significant adverse impacts strip mining will have on fish and wildlife resources in the western states, namely the complete destruction of fish and wildlife habitat during the life of the mining operations, which typically will range from 20-40 years in duration. Even if reclamation could be achieved, the long-term interruption in the food supply and habitat of fish and wildlife caused by the mining is totally ignored by the EIS. Given the fact that Wyoming, for example, is second only to Alaska in its wildlife population and is scheduled for massive Federal coal development, if Interior is successful in implementing its plans, the impact of long-term interruptions to fish and wildlife habitat at specific mine sites and associated off-site areas will have a monumental adverse impact upon the survival of large fish and wildlife communities. The EIS is glib in its treatment of such problems, such as the statement "It is anticipated that these wildlife resources will be favorably affected by the proposed strengthened regulations, although the degree of positive impact is not quantifiable."

In another instance, on Page III-10, the EIS claims that "The regulatory actions proposed herein are expected to enhance land reclamation efforts generally by speeding up soil replacement and revegetation appropriate to the original wildlife types." This statement could only be called misleading even if it is in limited reference to "land reclamation efforts" of abandoned strip mined areas. Given the fact that the proposed regulations do not require that reclamation be conducted "concurrently" with the mining, but only "as contemporaneously as possible," and again, only to the "maximum extent practicable," the above claim that the proposed regulations will "enhance" reclamation efforts borders on the facetious. Furthermore, the rejection of key provisions in H.R. 25, by the Interior Department, such as the mandatory elimination of "highwalls" and "spoil piles," and liability periods that extend for ten years after the termination of irrigation and fertilization, and the fact that no priority is given in the proposed regulations to revegetation plans that will encourage exact replacement of habitats as they existed prior to strip mining.

Topography and Drainage

The following statement in the EIS, on Page III-11, clearly reflects [illegible] to the significance of the [illegible] that "highwalls" and "spoil piles" be eliminated.

"Aesthetically displeasing land forms (i.e. prominent and hazardous spoil piles, highwalls) and undesirable changes in drainage patterns may stem from mining activity conducted without adequate environmental controls."

There is no question that highwalls, of which there are more than 20,000 miles remaining in Appalachia alone, are unsightly. But, the Interior Department is deliberately ignoring the central problem caused by highwalls and spoil piles when in its EIS it casually refers to them as an aesthetic problem. Highwalls and spoil piles are key sources of water pollution, landslides and massive erosion, as a result of both area and contour strip mining. Highwalls, when allowed to remain in whole or part, continue to erode until they reach their angle of repose for that particular slope, soil composition and exposure.

The EIS is particularly alarming in its presumption that not only will highwalls not be eliminated, but, that massive erosion can be expected to be a probable impact of these proposed regulations, both on-site and off-site. The EIS, on Page III-II, states that:

"Unstable spoil material dumped downslope from mining sites may become waterlogged, causing slides which may obstruct stream channels, endanger lives, damage property, or destroy vegetative cover needed for slope stability."

The EIS, on the one hand, openly anticipates western contour strip mining with rather extraordinary environmental damages and threats to public health and safety, while the proposed regulations, on the other hand, give no specific recognition to contour strip mining or the particular problem which can be associated with it. The proposed regulations, in contrast to the EIS, fail to anticipate any western contour strip mining, and ignore the special provisions in the vetoed strip mine bill, H.R. 25, to avoid the problems associated with contour strip mining mentioned in the EIS, by failing to incorporate the tested and economically viable standard of "no spoil on the downslope" except for the initial cut.

Another major problem with the EIS treatment of "Topography and Drainage" is the statement, on Page III-II, that "Normal drainages will be restored to the maximum extent practicable." Obviously, the term "maximum extent practicable" serves as a euphemism for another term, "at the convenience of the operator." Since the proposed regulations do not require elimination of "highwalls" and "spoil piles", except at the convenience of the operator, the expectation in the EIS that "normal drainage patterns will be restored" is indeed an empty prediction. Furthermore, if highwalls are allowed to remain, as final cuts next to water impoundments (which is always the method preferred by strip mine operators), then the prediction in the EIS that such impoundments "could be utilized for recreation, wildlife, livestock and agriculture" is really misleading as

the impoundments will obviously be inaccessible for such post-mining uses. The "beneficial" uses of such impoundments, as predicted in the EIS, is, therefore, highly questionable.

Soils and Vegetation

The Interior Department's commitment to return strip mined lands to self-sustaining successful vegetation is clouded by the deliberate departure from the provisions in H.R. 25, which requires a liability period in western states of ten years, beginning with the termination of irrigation, fertilization, and other forms of artificial assistance. The proposed regulations contain a liability period of ten years, but the commencement of the liability period is the original planting date. Since it is quite likely that irrigation and fertilization may be required for several years after the first planting, the actual liability period set forth in the proposed regulations could be as short as one or two years.

The ten-year liability period in H.R. 25 is, in fact, an inadequate time period to test the ability of the vegetation to sustain itself through periods of extreme climatic conditions which occur in cyclical patterns in the western coal states. Some estimates of total recovery time for vegetation after strip mining have been in the range of 50 to 100 years. As a minimum, both the proposed regulations and strip mine bill, as finally enacted, should require a liability period of not less than 25 years in these western states.

Water Resources

This section of Chapter III is descriptive more than it is analytical of the impacts of the proposed regulations on water resources. Since the proposed regulations do not even require maintenance and protection of the "hydrologic balance", as it existed prior to strip mining, and allow mining through alluvial valley floors and stream channels, the EIS is completely inadequate in its description of most likely water resource impacts resulting from the proposed regulations.

Resource Conservation

Most significantly, the proposed regulations and EIS fail to analyze prior to leasing and strip mining the impact of the proposed strip mining on the ability to recover the even greater deep mine reserves at a later date. The term "optimum resource recovery" is used, but, it appears to be limited in content to either strip mining or deep mining, without considering how one form of extraction impacts upon the other. While it is often argued that shallow deep mining of western coal reserves has created subsidence, mainly because the room-and-pillar method was used, the EIS fails to consider the impact of massive strip mining of thick western seams on later extraction of those coal reserves which can only be recovered by deep mining. This is particularly important if the Department is concerned with "optimum

REQUEST FOR PUBLIC HEARINGS AND BROADER EIS DISTRIBUTION

The Department of Interior's latest draft Environmental Impact Statement (DES 75-53), accompanying proposed surface management regulations of Federally owned coal resources (43 C.F.R. 3041) and proposed Federal coal mining regulations (30 C.F.R. Part 211) can be viewed only as an attempt by the Department of Interior, in the wake of two vetoes within six months, to circumvent the legislative process, and undercut the four-and-a-half year public debate in Congress over strip mine legislation.

The timing of these proposed regulations is particularly inappropriate as the Coal Leasing Amendments Act of 1975, which amends for coal the Mineral Leasing Act of 1920, is working its way through Congress, and the promulgation of these substantially weaker regulations is an obvious attempt to appear to obviate the need for such legislation (S. 391 and H.R. 6721), while preparing to lift the current moratorium on Federal coal leasing.

Both the timing and the content of the draft EIS and the proposed regulations have stimulated further controversy, ironically adding pressure for enactment of the vetoed Federal strip mine bill.

Even if the proposed regulations were completely re-written so as to reflect the standards and procedures of the vetoed strip mine bill, as we recommend be done, they remain limited in that they apply only to Federal coal lands, and their promulgation in the absence of a Federal strip mine law would further contribute to widely divergent regulations on adjacent properties.

A recent report to the Federal Trade Commission (October 1975) further underscores the highly controversial circumstances under which these regulations are being proposed. The Bureau of Competition and the Bureau of Economics in their report to the FTC entitled "Federal Energy Land Policy: Efficiency, Revenue, and Competition," observed that:

"Additional uncertainty stems from the possible enactment of strip mining legislation...Until some such bill is finally enacted or decisively rejected, companies will be unsure about how they can mine coal and what it will cost.

If the moratorium (on coal leasing) is lifted before the legislative uncertainties are resolved the number of bidders and price received for Federally-owned coal could be significantly affected."

Pursuant to the Guidelines for Preparation of Environmental Impact Statements of the Council on Environmental Quality (Section 1500.7(d)), it appears obvious that public hearings by the Department of Interior on the draft Environmental Impact Statement (DES 75-53) are both necessary and in order. The Council on Environmental Quality guidelines provide that:

resource recovery" as the ratio of deep to strippable coal reserves in the western states, as in the eastern and midwestern states, ranges from 3:1 to 10:1 deep to strip.

It is also unfortunate that the EIS limits its discussion of deep mine extraction to the room-and-pillar" method, without an analysis of alternative deep mining methods, such as long and short-wall mining and variations that might be applicable to deep mine recovery of thick coal seams.

Land Use

While considerable pre-occupation is given to the term "logical mining unit" in the proposed regulations, the EIS is silent as to the impact of LMU's on land use in these strip mined areas. No consideration is given in the EIS to the impact of the proposed regulations and development of LMU's on "logical agricultural units."

Health and Safety

While the EIS states, on Page III-30, that provisions pertaining to the health and safety of miners have been deleted from the proposed regulations, as they are covered by the Coal Mine Health and Safety Act of 1969, the EIS is gravely irresponsible in failing to discuss honestly the hazards of allowing strip mining to come within 200 feet of active deep mines, as proposed in the regulations. The minimum distance of 500 feet established in H.R. 25 should be expanded to 1000 feet, and subsequent regulations by Interior should also expand this distance to 1000 feet as a minimum.

"In deciding whether a public hearing is appropriate, an agency should consider:

> (1) The magnitude of the proposal in terms of economic costs, the geographic area involved, and the uniqueness of size of commitment of the resources involved;
>
> (2) The degree of interest in the proposal, as evidenced by requests from the public and from federal, state, and local authorities that a hearing be held;
>
> (3) The complexity of the issue and the likelihood that the information will be presented at the hearing which will be of assistance to the agency in fulfilling its responsibilities under the Act; and
>
> (4) The extent to which public involvement already has been achieved through other means, such as earlier public hearings, meetings with citizen representatives, and/or written comments on the proposed action."

In making this formal request for public hearings on the draft environmental impact statement (DES 75-53), the Environmental Policy Center urges the Dept. of Interior to provide adequate public notice, if such hearings occur, and to make available to a larger constituency of agricultural and citizen groups in the areas affected by these proposed regulations and the draft EIS. Obviously, all affected Indian tribes should be encouraged to participate in these public hearings.

COMMENTS ON NOTICE OF PROPOSED RULEMAKING

RELATIONSHIP BETWEEN PARTS 3041 AND 211

Most striking, other than the meticulous drafting of deficiencies, omissions and loopholes in procedures and standards contained in Parts 3041 and 211 of the proposed Federal coal regulations, is the cumbersome administrative relationship between the two sets of proposed regulations. Even the statements of purpose and policy have been drafted so as to be inconsistent with one another. If for no other reason than to minimize the possibilities of litigation, it would be in the interest of the Interior Department, as well as to the public and the coal industry, to streamline into a new and single Part these two rather inconsistent Parts 3041 and 211.

NEED FOR INDEPENDENT REGULATORY OFFICE

It is recognized that although the Environmental Protection Agency, through its thorough, though not entirely adequate, set of comments on the proposed Federal coal regulations, has demonstrated its competence to become the primary Federal enforcement authority for the regulation of Federal coal development, it is also recognized that in subsequent sets of proposed coal regulations [illegible] to voluntarily yield to EPA its present prime domain over Federal coal jurisdiction.

Interior's continuing failure to discriminate administratively between development and regulatory functions will only serve to provide excellent documentation for the need to remove entirely from Interior's jurisdiction responsibilities for promulgation and enforcement of Federal coal regulations. Interior would be acting in its own best interest, while upgrading the integrity of the administration of Federal coal regulations, by establishing a separate Office of Surface Mining Reclamation and Enforcement, independent of promotional coal development responsibilities, as provided for in detail in Section 201, of H.R. 25, the vetoed strip mine bill.

Creation of an office within the Department of Interior, independent of a coal promotion mandate, would not obviate the need for subsequent proposed coal regulations to require EPA and Department of Agriculture concurrence prior to lease tract selections; approval of applications for leases, mining and reclamation plans; and applications for bond adjustments and bond releases.

INDIAN LANDS

While the Notice of Proposed Rulemaking states that "the new proposed 30 CFR 211 would govern operation on Indian lands administered by the Department of Interior, and 30 CFR Part 216 is again accordingly proposed to be revoked," Part 211 contains no specific procedures for an orderly relationship between the Department of Interior and Indian tribes.

Indeed, the conspicuous absence of the right of "written consent" for all surface owners other than the Federal government overlying Federal coal suggests further that Indian tribes will have no meaningful control, and perhaps not even adequate public notice and opportunity for consultation, over coal development on Indian lands administered by the Interior Department. This omission can only be construed as a deliberate attempt by the Interior Department to usurp control over coal development on Indian lands. Such bad-faith initiatives by the Department will serve to undermine an accelerated program for Federal coal development.

FEDERAL-STATE RELATIONSHIPS IN IMPLEMENTATION

The Notice of Proposed Rulemaking purports that the proposed regulations provide for a "mechanism" that would "satisfy both Federal and State interests." While Secretary Kleppe has made several public statements to the effect that the Interior Department would allow more stringent state laws to apply to the regulation of Federal coal development within those states, the Notice of Proposed Rulemaking suggests enough ambiguities to contradict the Secretary's statements. The Notice of Rulemaking describes the balancing mechanism as follows:

> "This mechanism would allow the Secretary of the Interior to direct that most or all of the existing State laws, regulations, and practices, and procedures of a State relating to reclamation be applied by Federal officers within that State as a matter of Federal law. Such discretion may be exercised at the request of the Governor, if the Secretary, upon review of that State's regulations, determines that such application would
>
> (a) Effectuate the purpose of the proposed regulations;
>
> (b) Afford protection of the environmental values which would be at least as stringent as would occur under otherwise applicable Federal standards; and (emphasis added)
>
> (c) Would be consistent with the interest of the United States in the timely and orderly development of its coal resources."

In other words, the proposed regulations do not establish a mechanism to balance Federal-state authority, but, rather establish a mechanism whereby the Federal government can pre-empt State laws and regulations by simply finding that all three conditions set forth in (a), (b), and (c) do not exist. The most obvious mechanism to allow Interior to supercede more stringent state laws regulating surface coal mining, would be to make the finding in (c) that the more stringent state laws are not "consistent with the interest of the United States in the timely and orderly development of its coal resources."

Unless it is indeed the intent of the Department of Interior in parts 3041.8 and 211.74 to supercede state laws and authority, where the states have enacted laws and regulations more stringent than the proposed regulations, the Interior Department should clarify in subsequent proposed regulations that more stringent state statutes and regulations shall not be construed to be inconsistent with the interest of the United States.

This clarification of Federal-State authorities is not new to the debate over Federal surface coal mining enforcement. Section 505(a) of H.R. 25 first states that:

> "(a) No State law or regulation in effect on the date of enactment of this Act, or which may become effective thereafter, shall be superceded by any provision of this Act or any regulation issued pursuant thereto, except insofar as such State law or regulation is inconsistent with the provisions of this Act."

Section 505(b) of H.R. 25 next provides the clarification that is conspicuously absent from the proposed Interior regulations:

> "(b) Any provision of any State law or regulation in effect upon the date of enactment of this Act, or which may become effective thereafter, for more stringent land use and environmental controls and regulations of surface coal mining and reclamation operations than do the provisions of this Act or any regulation issued pursuant thereto shall not in any manner be inconsistent with this Act. Any provision of any State law or regulation in effect on the date of enactment of this Act, or which may become effective thereafter, which provides for the control and regulation of surface impact and reclamation operations for which no provision is contained in this Act shall not be construed to be inconsistent with this Act."
> (emphasis added).

If Secretary Kleppe's publicly stated position that Interior would be willing to apply more stringent state laws and regulations to Federal coal lands within those states certain with is the full authority of the Department, then subsequent proposed regulations should incorporate Section 505 (a) and (b) of H.R. 25, substituting the proposed regulations for "this Act." In addition, the Department needs to clarify that in no cases shall state standards less stringent than the Federal regulations be applicable to Federal coal lands.

SPECIFIC PROCEDURAL INADEQUACIES

PERMIT APPROVAL OR DENIAL. Failure of the proposed regulations to clearly place upon the coal operator the burden of proof of demonstrating that reclamation, according to the approved mining and reclamation plan, can and will be achieved prior to issuance of the permit reveals the Department as a poor caretaker of our natural resources and an inept businessman. Based on the proposed regulations, one can only conclude that the Interior Department places no importance on the value of strip mined lands or that it is impossibly inconvenient to enter into legal agreements with coal operators to assure reclamation is correctly achieved. The proposed regulations fail to specify those elements that constitute reclamation and what evidence must be demonstrated by the coal operator that reclamation will be achieved prior to any issuance of permits.

Section 510 of the watered strip mine bill (H.R. 25) sets forth very specifically those areas of burden of proof that must be assumed and fulfilled by an operator prior to coal removal. Regulatory authorities, which are more prone political pressure from the coal-industry industry to issue permits, and the public are protected in Section 510 of H.R. 25:

> a) that any adverse impacts upon land and water resources will be limited to the permit area (thus, prohibiting off-site damage which is permitted under the proposed regulations), and will be temporary rather than permanent in its impact upon the area;
>
> b) that the mining operation will not adversely impact upon the hydrologic balance of the mine site and nearby off-site areas, with hydrologic balance defined as set forth in Section 307(b)(11) of H.R. 25;
>
> c) that the permit area does not include any lands which have been set aside or are under consideration for designation as unsuitable for surface coal mining, as set forth in Section 522 of H.R. 25, with a requirement that the Interior Department initiate an immediate review of the eligibility of such lands prior to issuance of further leases or surface mining permits;
>
> d) that the proposed surface mining operation is not located within and will not adversely affect alluvial valley floors, and that the proposed mining operation will not adversely affect the quality or quantity of water flowing into said alluvial valley floors (alluvial valley floors being defined as "those valley floors underlain by unconsolidated stream laid deposits where farming can be practiced in the form of irrigated, flood irrigated or naturally subirrigated hay meadows, croplands or pasture lands");
>
> e) that the proposed mining and reclamation plan is not located within and will not adversely affect a logical agricultural unit (LAU) (logical agricultural unit being defined as "an area of agricultural land that has been or can be developed as an efficient, and economically viable agricultural unit, with adequate hay meadows, pasture lands, and crop lands and a hydrologic balance sufficient and stable so as to support that particular logical agricultural unit");
>
> f) that all reclamation requirements will be achieved, including restoration of "approximate original contour", defined so as to include the requirements that "all highwalls, spoil piles, and abandonment be "eliminated" except that water impoundments may be permitted where the regulatory authority determines that they are in compliance with Section 413(b)(2) of H.R. 25.
>
> g) that all reclamation requirements will be achieved, including restoration of "approximate original contour", defined so as to include the requirements that "all highwalls, spoil piles, and abandonment be "eliminated" except that water impoundments may be permitted where the regulatory authority determines that they are in compliance with Section 413(b)(2) of H.R. 25.

by the additional requirement that the appropriate legal authority to approve a permit does not exist unless the regulatory authority has fulfilled its obligations to make certain positive findings in writing that the reclamation will be achieved.

A vast improvement in the definition of terms and specification of what constitutes reclamation in the proposed regulations would not circumvent the essential element of a meaningful burden of proof on the operator to demonstrate that reclamation will be achieved prior to issuance of a permit.

Specifically, the proposed regulations should incorporate from Section 510 the requirement that:

> "(b) No permit, revision, or renewal application shall be approved unless the application affirmatively demonstrates that the regulatory authority finds in writing on the basis of the information set forth in the application or from information otherwise available which will be documented in the approval, and made available to the applicant that ..."

The list of positive findings that must be made in writing by the Department of Interior prior to issuance of any mining and reclamation permits, revisions, or renewals, must include the following:

> 1) written concurrence with the positive findings by the Environmental Protection Agency, the Department of Agriculture;
>
> 2) written concurrence by the State in which the Federal coal is located that the implementation of the mining and reclamation plan will not be less stringent than that State's current reclamation laws and regulations;
>
> 3) written concurrence by the Indian tribe whose surface lands or coal reserves will be affected by the proposed mining and reclamation plan;
>
> 4) written concurrence by the surface owner, where the owner of the surface over the federal coal is other than the Federal government (the written concurrence of such surface owners should be obtained prior to any leasing of federal coal under the surface for the purposes of strip mining);
>
> 5) demonstrated evidence that the mining and reclamation plan, as approved, can and will be achieved, and that the standards for such reclamation can be stated within a specific timeframe not terminating the reclamation plan;
>
> 12) that the reclamation plan identifies those specific species, in quantity and as proposed arrangement of plant communities, so as to achieve the proposed post-mining land use, with evidence documented from seed suppliers that viable seeds in sufficient quantities of such species will be available to achieve the revegetation plan as proposed by the applicant and approved by the regulatory authority;
>
> 13) that the applicant is not in current violation of existing State and Federal surface coal mining laws and regulations;
>
> 14) that the proposed surface coal mining operation will not pre-empt extraction of deep mineable coal reserves on or near the proposed mine site;
>
> 15) that the Interior Department has complied with public notice and public hearings procedures as set forth in Section 513 of H.R. 25;
>
> 16) that the level of bonding is sufficient to assure reclamation by a third party in the event of forfeiture.

BOND RELEASE

Public notice and public hearing provisions, as set forth in Section 513 of H.R. 25, should be incorporated in subsequent proposed regulations. The amount of bond should be determined prior to issuance of a permit and the amount of the bond should be based on what the Department of Interior and an independent estimate projects to be the cost of reclamation by a third party in the event of forfeiture. The regulations should more clearly establish a two-stage bond release procedure, as set forth in Section 519 of H.R. 25. Stringency in this area can only be considered good business for the regulatory authority, in this case the Department of Interior.

PUBLIC PARTICIPATION

Mandatory public notice and opportunity for public hearings, as set forth in Section 513 of H.R. 25, should be integrated into the Department's regulations as standard procedure prior to the following major actions: designation of areas unsuitable for strip mining, lease sale selections, issuance of leases, permits or revisions or renewals, revisions in approved permits, and bond release or bond release.

CITIZEN SUITS

Subsequent regulations should incorporate, as a minimum, the applicability of citizen suits as set forth in Section 520 of H.R. 25, as amendments made in this section by Congress accommodated specific difficulties the Administration had with this section.

DESIGNATION OF AREAS UNSUITABLE FOR STRIP MINING

The Interior Department should incorporate Section 522 of H.R. 25 in subsequent regulations, and commence a review process for possible designation of certain areas as off-limits to strip mining, though not necessarily deep mining, prior to the lifting of the leasing moratorium or issuance of new mining permits.

ENACTMENT OF A FEDERAL STRIP MINE BILL (H.R. 25)

More specific comments will be provided the Department in the event of public hearings on DES 75-53 and the accompanying proposed regulations. In the absence of such an opportunity, the remainder of our comments can best be concluded by the recommendation that final regulations not be promulgated prior to enactment of a coal leasing bill and a strip mine bill (H.R. 10[illegible]).

JOHN R. SWANSON
P. O. Box 922
Berkeley, California 94701

November 14, 1975.

Director
Bureau of Land Management
Department of the Interior
Washington, D.C. 20240

Dear Sir,

Please accept my Comments, as follows, concerning the Draft Environmental Impact Statement on the proposed Coal Leasing, Permitting and Licensing Regulations, Bureau of Land Management.

I wish to advise you of my Opposition to any and all coal leasing activities as coal mining whether strip or deep mining in all instances not only seriously destroys the land and water resources that such mining is located upon as well as adjacent lands and waters but as we have evidenced in recent decades decimates permanently vast areas, even regions, of our Nation.

The current efforts to strip mine the coal resources of the Northern Great Plains States and, inevitably, much of Alaska will mean the end of those particular States' land and water resources and such end will be permanent.

I, then, strongly suggest that strip mining for coal and all other mineral resources be permanently banned in the United States and that all other forms of coal mining be very carefully regulated so that the mined areas will not suffer loss of land and water resources.

Sincerely,

John R. Swanson

1252 Woodcrest Drive
Kenhorst, Pennsylvania 19607
15 November 1975

Director
Bureau of Land Management
Department of the Interior
Washington, D. C. 20240

Dear Sir:

This is a comment for the record on the Draft Environmental Statement, "Proposed Surface Management of Federally Owned Coal Resources (43 CFR Part 3041) and Coal Mining Operating Regulations (30 CFR Part 211) [,] DES 72-53." Please take it into account in preparing the Final Impact Statement (Final Environmental Statement) on the proposed action.

As a consulting wildlife ecologist, having extensive experience during more than twenty years with surface mining and other resource developments, I believe that I am well qualified by training and experience to comment on certain of the regulations proposed, though hardly of course on all. And I plan to evaluate and perhaps to comment on the "impact statement covering the overall effects of the entire coal leasing program" (p. V-4) when that document becomes available to me. But by the nature of the present Draft Environmental Statement, it is not practical to offer a technical opinion on any significant portion. Rather, this comment pertains to the competence and adequacy of the entire statement. It further discusses the broader consequences, not addressed in the statement, of taking actions to implement the implicit philosophy of resource management of the Department.

As is true of any document prepared by an interdisciplinary team, the Draft Environmental Statement is of spotty quality, and shows the lapses and apparent contradictions which are almost inevitable in such an effort. But on its own terms, the statement appears to me to achieve what it is intended to do. My question--and I suspect I am not alone--is whether or not the document was prepared to accomplish the proper goals in the context of the National Environmental Policy Act and other legislation.

The logjam in enabling legislation and regulations has for some time restricted the utilization of Federal coal. Adopting the presently proposed regulations would permit beginning surface mining of economically large lease areas (provided the shortage of appropriate equipment were overcome). We do not yet know enough to be confident about the ultimate resumption of economically profitable activity on all mined lands; though at present, for example, it appears imprudent to undertake surface mining where slopes exceed 35%, or where precipitation is less than 25 centimeters (10 inches), these limiting conditions may change. Problems of

transporting energy (in whatever form) can probably in large measure be solved, especially if the availability of process water can be made less important, as for example by the promising technology of magnetohydrodynamics. Surely very few informed and reasonable people would contest any of these statements.

But the entire Draft Environmental Statement is meant to further an activity which is not considered on its merits in the statement, though it has vast environmental impact of its own. This is mining coal, by whatever means, to be used as a source of energy. This is perhaps expedient. It is, indeed, essential to burn a certain proportion of our coal for the lack of a better energy source. But the general consequence of burning coal is shortsightedly to deny the responsibility of this generation as stewards of nonrenewable resources. Set forth below are only some considerations suggesting that the Draft Environmental Statement is inadequate, and fails to accomplish what both law and common sense require.

Developing coal resources for energy, paradoxically, would inhibit the search for other sources of energy. Geothermal energy, for example, can theoretically meet many needs for power, and in fact development of geothermal technology is accelerating; but so long as coal remains a cheap energy source, the capital for research and development will be insufficient. The demand for capital to liquefy coal and to extract oil from shale calls on the same money--and to the degree that capital goes to coal, it cannot go to shale. So long as low-sulfur Western coal is made available cheaply, the motivation to explore for new reserves of oil and gas will be less. And perhaps most importantly, to the degree that coal is used in power plants, the inherently more desirable nuclear technology will not be applied. The potential environmental hazards of the nuclear fuel cycle are in my judgment less severe than the real and documented environmental degradation from coal-fired plants. To encourage the burning of coal by making it available easily and dependably is to slow the development and application of nuclear power.

Burning coal is a profligate misuse of a unique and irreplaceable natural resource. As our most abundant source of organized hydrocarbons, coal has far greater value for chemistry than for combustion. We should value it more realistically than we do.

The final point here is that mining coal at this time denies it to a future when its use even as fuel will probably be more efficient. This does not require a technological breakthrough; all that is needed is refinement of concepts already fully proven. The second law of thermodynamics teaches us that energy conversion always exacts a price in entropic loss. Yet the history of thermal plant development has demonstrated how increasing amounts of energy can be derived from fuel; there is no reason to think this trend has ended. An additional advantage of slowing coal development

would be to permit a fuller recovery of land from mining, so that less of it would at any time bear fresh scars before revegetation through natural succession had taken place. This, too, would be a benefit of waiting for a time when knowledge has advanced to meet the need.

One could raise more comments. But these should suffice to demonstrate that in many ways the Draft Environmental Statement does not meet the need.

Please send me a copy of the Final Environmental Statement when it is issued.

Sincerely yours,

Joe Ghiselin, Ph.D.

APPENDIX 3

ANALYSIS OF THE CHANGES IN THE REGULATIONS

SPECIFIC PROVISIONS OF PROPOSED REGULATIONS, AND ALTERNATIVES THERETO

In addition to the major areas of concern discussed in Chapter VIII specific elements of the proposed regulations received detailed attention in public comments, and during Department review. In several instances, these comments took the form of specific recommendations for amendment to the proposed regulatory language.

The following discussion sets forth the major proposed amendments, and other alternatives considered by the Department, on a section by section basis, and the action taken thereon, and assesses the environmental considerations and impacts associated with each.

In many instances, duplicative or parallel provisions are found in both the proposed 43 CFR 3041 and the proposed revision to 30 CFR 211, and comments were commonly addressed to each. The following analysis treats the proposed 43 CFR 3041 first, with appropriate references to related provisions of the proposed revision of 30 CFR 211.

Section 3041.0-1 Purpose (30 CFR 211.1)

The statement of purposes sets forth the policies of the Department with respect to the Bureau of Land Management leasing regulations.

Included among these purposes are those of avoiding, minimizing or correcting adverse impacts from coal development, and the issuance of leases, permits and licenses only where reclamation of affected lands is "attainable and assured". Reclamation programs are intended to be "undertaken as contemporaneously as practicable with operations."

Surface owners other than the Federal Government are to be protected to the same degree as Federal interests in federally owned surface. Undue duplication and administrative delay by Federal officers are to be avoided.

Environmental Advantages: The statement of purposes supplies guidance as to Departmental intent, and may be relied upon by Departmental officers and, where appropriate, other interested persons seeking clarification or implementation of the regulations themselves. Statements in general terms insure flexibility at the time of such application or implementation, without the constraints that greater detail would provide.

Environmental Disadvantages: Greater specificity in the statement of purposes would add additional reinforcement to the operative language of the provisions themselves.

Alternatives suggested:

Several commentators urged clarification of the rights of surface owners. Such clarification has been inserted in the operative provisions of both the regulations of the Bureau of Land Management and those of the United States Geological Survey, and are discussed below.

Several commentators suggested inclusion of reference to a Departmental intent to designate lands as unsuitable for mining, and thus authorize removal of such lands from lease tracts prior to the issuance of leases, permits, or licenses. This suggestion has not been adopted on the grounds that the specific reference in operative provisions of the regulations to the requirement that affected lands must be reclaimable prior to the issuance of any permission for disturbance balances the need for specificity with the need

for general intent language.

Environmental Advantages: Express recognition of Departmental authority not to issue leases, permits, or licenses would highlight this intent, and clarify for applicants the Departmental position in this regard.

Environmental Disadvantages: Inclusions in these regulations of general statements of intent could conflict with other operative provisions, and might require further amendment if the Department should promulgate additional regulations to implement the recently adopted EMARS program. More explicit references to the designation of lands unsuitable for mining could be read as a Federal intent to override or preempt land use planning efforts by state or other governmental authorities.

Several comments suggested inclusion of express reference to leasing related policy issues, such as interpretations of statutory language regarding diligent development and commercial quantities.

Environmental Advantages: Inclusion of such language would bring together in one location in the Departmental regulations operative provisions which relate to the same subject.

Environmental Disavantages: Inclusion of such material in the proposed regulations would present less opportunity for public review and comment than if the same were issued as separate rulemaking. Each of the specific suggests involved has presently been published for public comment, and will be reviewed in that context.

Section 3041.0-3 Authorities

This section sets forth the statutory authority for issuance of the proposed regulations.

Alternatives suggested:

Several comments suggested addition to the list of authorities cited of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et. seq). It has not been added, since it is not a direct authority for the proposed Departmental action.

Environmental Advantages: Inclusion Would clarify intent of Department to follow law.

Environmental Disadvantages: The inclusion of any one or more other related statutory authorities could be inferred as a Departmental intention not to comply with other obligations imposed by other related legislation. All legislative policies imposed upon the Department will be followed by and may be enforced against Departmental officers.

Section 3041.0-4 Responsibilities

This subsection is descriptive, and sets forth the substance of internal Departmental orders assigning responsibilities for the Secretary's discretionary authority to appropriate officers within the Department.

Alternatives suggested:

Several comments suggested more detail elaboration of responsibilities, including complete recital of the operative powers set forth in

the proposed regulations.

Environmental Advantages: The relationship of responsibilities between and among Departmental bureaus are set forth, so that interested persons may direct inquiries or address attention to appropriate offices within the Department. Recital in specific terms of only the general powers of respective Bureau's reduces the possibility of confusion as to the respective responsibilities of Bureaus by outside parties.

Environmental Disadvantages: Recital of each of the specific authorities imposed by the regulations could lend additional reinforcement to the operative thrust of the regulations themselves.

The proposed regulations provide in subparagraph (f) that where the surface of land is under the jurisdiction of Federal land management agencies other than those of the Department of Interior, any disagreements with respect to the exercise of responsibilities by the BLM in the issuance of leases will be resolved by reference to appropriate higher authorities within each agency, and thence to higher authorities within the respective Departments.

Environmental Advantages: The proposed regulations clarify and set forth in regulatory language the intent of the Department to take into account and fully explore differences of opinion between agencies of the Department, and between the Department and other Departments and the agencies thereof. Such specific undertaking affords reassurance that all appropriate Federal land management views will be taken into account, and allows interested persons

to make relevant inquiries to appropriate personnel of each Department involved.

Environmental Disadvantages: The sharing of functions of the Department with other agencies raises the possibility that environmentally protective intentions or policies of the Department of the Interior might suffer dilution by interface with policies of other Departments.

Some comments suggested deletion of reference to non-Federal surface owners, as representing an unwarranted and perhaps illegal extension of Federal authority into areas appropriate for state jurisdiction. This alternative has not been adopted, since the views of non-Federal surface owners, and the constitutional authorities of states in exercise of their police powers, are clearly relevant to the implementation of Departmental policies and the formulation of broad land manangement objectives.

Environmental Advantages: Insures maximum participation of parties directly interested in the lands involved.

Environmental Disadvantages: Could afford opportunity for surface owner desiring less environmental protection for economic or other reasons unduly to influence Departmental opinion and action.

Some comments suggested inclusion of other Federal regulatory agencies among the list of agencies with which Departmental bureaus must consult, and some suggested that explicit concurrence of other such agencies be obtained prior to Departmental action. These include, particularly, the Environmental Protection Agency in the exercise of its functions relating to the Clean Air Act and the Federal Water Pollution Control Act, as amended.

No such express reference has been included in the proposed regulations. The proposed regulations require that all other applicable laws and regulations be complied with by an operator. They are otherwise neutral as to other regulatory programs. Other Federal regulatory programs represent specific expressions of Congressional intent as to both substantive and procedural mechanisms. More explicit requirements, or participation by other agencies in this regulatory mechanism, would expand and in some cases substantially alter the nature of the enforcement mechanisms created in other legislation. Thus, requiring express concurrence by EPA in the terms and conditions of a lease, permit, or license, or of a proposed plan of operations could be inferred to be in derogation of any previous delegation by EPA to appropriate State authorities, pursuant to either the Clean Air Act or the Federal Water Pollution Control Act. In each of these related Federal statutes, specific permit by permit veto authority considered, by the Congress but rejected. Authorizing concurrence by that agency in lease issuance or mine plan approvals, under the proposed regulations, would create such authority, and could result in potential confusion and duplication.

Environmental Advantages: Duplication, overlap and potential confusion between and among regulatory agencies, other State and Federal authorities, and persons subject to compliance requirements is reduced by the proposed regulations remaining neutral with respect to other regulatory programs.

Environmental Disadvantages: Inclusion of such duplicative or overlapping authority would increase the analytic and enforcement

resources available to both the Department and the other regulatory agencies involved, and provide added assurance that ultimate environmental protection goals would be pursued to the fullest extent possible.

Subparagraph (f) recites that the authorized officer of BLM will "consult with and accept and consider" recommendations from the USGS, other Federal surface management agencies and the surface owner. The word "accept" has been changed from the proposed regulations as published, in which the word "receive" was used. This change is intended to correct an unintended implication that in the absence of receipt of recommendations from any or all of the indicated other entities, the BLM would not be able to act. As now proposed, the regulations require that the opportunity for comment be offered and any actual comment received taken into account. In the absence of any such comments, the authorized officer may proceed with the intended action pursuant to the specific provisions of the regulations.

Environmental Advantages: Will allow expeditious consideration and review of the opinions of other interested entities, and encourage the prompt submission of such opinions.

Environmental Disadvantages: As originally drafted, language could have been interpreted as creating a failsafe against action, amounting to a veto by any indicated entity. This result would have greatly expanded the respective power of all such entities, to influence from an environmental or other standpoint, BLM activities.

Section 3041.0-5 Applicability (30 CFR 211.1(e))

In the regulations proposed September 5, 1975 specific comment was requested on the manner, mechanism and timing of application of the new regulations to existing operations. This section now applies the regulations in the following manner: emergency orders to cease activities which are not in compliance with leases, permits, licenses or plans of operation, and which threaten immediate and serious damage to the environment resources or public health and safety, apply immediately; the performance standards must be complied with by existing operations within 180 days from the date of promulgation of the regulations as final rulemaking; within 18 months of such date, existing operations must have obtained approval of a new or modified plan of operations which conforms to all of the procedural requirements set forth. "Existing operation" is defined as including operations currently underway pursuant to an issued lease, permit or license, or an approved plan of operations, and, in addition, proposed operations for which proposed plans have been received and are in the approval process within the Department.

Subparagraph (c) expressly provides that ongoing Departmental actions with respect to issuances of leases, permits or licenses, or the preparation and completion of environmental impact statements and approval of plans of operations, will, to the maximum extent possible, take into account the provisions of the proposed regulations.

Environmental Advantages: Enables the Department to continue the existing practice, as evidenced by recent approvals of mine plans, to impose appropriate environmental constraints at the

earliest time consistent with the procedural and production requirements of existing operations.

Environmental Disadvantages: Could require some minor reallocation of Departmental resources, and redoing of environmental analyses currently in process.

Subparagraph (d) expressly provides that nothing in the proposed regulations shall be construed as increasing or diminishing rights held by any surface owner or entryman and arising under the laws or any state, relating to the giving or withholding of consent, or consultation in connection with the giving or withholding of consent, to entry for the purpose of mining. This articulates the intent expressed in the notice of proposed rulemaking issued in September, that existing state laws relating to surface owner protection are intended to be allowed to apply where the surface estate overlying Federal coal is in non-Federal ownership. This is consistent with the similar provision contained in the legislation proposed by the President to the Congress on February 6, 1975.

Environmental Advantages: Insures maximum consideration of the rights of surface owners, consistent with prior Federal legislation which created such rights while reserving Federal mineral interest. Surface owners are in the best position, and the mechanism of state laws are most appropriately able, to determine private surface use and the conditions under which entry may occur.

Environmental Disadvantages: Private surface owner motivation unrelated to environmental considerations could under state law assume disproportionate importance, reflecting economic rather than

environmental considerations. This could be especially true where ultimate land use preference by the private surface owner, which could include a coal developer, is at marked difference with the land management preference of state or local agencies or federal management policies on contiguous federal land.

Some comments suggested that the regulations expressly create a surface owner veto, or right to withhold consent from entry. This suggestion was not adopted.

Environmental Advantages: Omission of any such requirement prevents confusion or conflict between the proposed regulations and provisions of state law, which commonly impose conditions on the withholding of consent.

Environmental Disadvantages: Creation of such surface owner consent requirements would add an additional mechanism whereby to prevent or allow the prevention of the mining of federal coal.

Section 3041.0-6 Definitions (30 CFR 211.2)

The proposed regulations contain definitions expanded beyond those published in the regulations published for public comment, reflecting both public comments received and Departmental review thereof. In some cases, the definitions represent refinements of concepts earlier expressed. In other cases, new definitions are proposed which reflect changes in the operative provisions of the regulations.

The intent of the proposed regulations published in September was to eliminate from the definitions set forth in this section operative

language more properly included in the text of the regulations, where the defined terms are used. This intent has been retained.

Some of the major definitions added or amended in the current proposed regulations are discussed as major issues in Part VIII. Additional changes and suggestions have been incorporated as follows:

Subparagraph (c), "approximate original contour" (30 CFR 211.2(c)

Several comments suggested restoration to this definition of language relating to high walls, spoil piles, depressions and impoundments which was contained in regulations previously proposed by the U.S. Geological Survey, and versions of which appeared in the various forms of legislation considered by the Congress. This language has not been included, but has been retained in substance in the relevant operative portions of the text.

Environmental Advantages: By limiting the definition so as to eliminate operative language, clarity is improved and the possibility of subsequent misinterpretation by incorrect inference from inclusion of similar but not identical language in two places is reduced.

Environmental Disadvantages: Inclusion of operative language everywhere possible would emphasize importance of language.

Subparagraph (h), "contemporaneously as practicable" (30 CFR 211.2(i)

Several comments emphasized the importance of conducting reclamation contemporaneously with ongoing operations. Inclusion of an expanded definition "maximum extend practicable" raised the possibility that inferences as to the meaning of "practicable" might be drawn in the context of this phrase as well. Accordingly, for clarity a definition has been included

which articulates the intent that reclamation of disturbed areas be begun and completed as soon after disturbance as possible, consistent with both environmental objectives and the desire not unduly to interfere with ongoing operations.

Some comments suggested more specific articulation of time for operational requirements, e.g. specifying the amount of spoil piles allowed to remain ungraded. This suggestion was not adopted. Environmental and operational conditions are specific to each site. Thus, wind conditions, the time of year, the occurrence of growing seasons and opportunities and other such considerations might, in specific circumstances, make regrading and revegetation necessary or appropriate before operations are allowed to proceed beyond one or two spoil piles, whereas in other circumstances more spoil piles might be allowed to remain without adverse environmental consequences, or frustration of the reclamation objectives desired.

Environmental Advantages: Absence of greater specificity makes possible plan by plan determination of appropriate restrictions, reducing the possibility that any more specific provisions might prove arbitrary and either unnecessarily restrictive or unnecessarily permissive with respect to any given operations.

Environmental Disadvantages: Specific time or operational limitations would create enforceable obligations which might result in superior allocation of resources in proposed plans, and which could provide additional incentives for advancement in the state of the art of reclamation technology.

Subparagraph (n), "Impoundment" (30 CFR 211.2(p))

The proposed regulations relocate and alter the earlier definition of "permanent impoundment" included in the proposed regulations published in September 1975. Several comments addressed the question of whether, in the definition and in the operative portions of such earlier proposed regulations, a distinction was intended so as to apply different design, location or construction standards to temporary as opposed to permanent impoundments. There was no intent in the previously published regulations to exempt temporary impoundments from the standards of performance set forth. To clarify this fact, a definition has been included of "impoundment", within which a "permanent" impoundment is separately defined as an impoundment which is intended to remain after final abandonment of an operation, and is identified as such in an approved plan.

Environmental Advantages: Such clarification ensures that Departmental representatives, as well as operators and interested parties, will understand that impoundments will be allowed only pursuant to the location, design, use and maintenance standards set forth in the proposed regulations.

Environmental Disadvantages: None

Subparagraph (g), "logical mining units" (30 CFR 211.2(g))

The proposed regulations published in September included a definition of "logical mining unit" which attempted to set forth the conditions and circumstances pursuant to which such units might be prescribed by the U.S. Geological Survey. Several comments questioned specific elements of this

definition, and the advisability of including such an important substantive concept in leasing and operating regulations. The proposed regulations delete the former definition, and describe a logical mining unit only as an area of lands designated as such by the Geological Survey. Related rulemaking by the Department relating to diligent development and continuous operations, and pending legislation, address the specific substantive criteria by which LMU's may so be designated.

Environmental Advantages: Deletion of specific LMU definition allows for full consideration of the substantive questions presented in rulemaking more directly related to such matters.

Environmental Disadvantages: Inclusion in the proposed regulations would allow an additional opportunity for review and comment upon the substantive elements of the definition.

Subparagraph (w), "notice of availability" (30 CFR 211.2(z))

The proposed regulations set forth a new procedural device intended to insure effective public knowledge of, and thus opportunity for participation in, the activities of the Department. As defined, a "notice of availability" will indicate that specific documents or pending decisions are available for public inspection; the nature of such document or decision, including specific elements of particular public concern (e.g. the failure to include specific detailed information as to future operations, or reliance by an operator upon a level of control "to the maximum extent practicable" pursuant to the proposed regulations); the identity and location of the lands or operations involved, and the duration and the brief description of any proposed operation; and the dates of filing and the time periods of the availability for inspection

or the submission of requests or comments to the Department, including requests for public hearings. The definition also incorporates a requirement that appropriate Departmental offices create and maintain a mailing list of interested agencies, entities and persons who have indicated a desire to be informed of documents filed with, or pending decisions of, Departmental officers. All notices of availability will be mailed to the addressees included on such lists, to help to insure effective public participation in Departmental activities.

Environmental Advantages: With other procedural requirements such as publication in newspapers, Federal Register, etc., greatly expands opportunity for public participation in review of Departmental actions and decisions, and proposals of operators and applicants for permission to develop Federal coal.

Environmental Disadvantages: Compliance will require allocations of Departmental resources that might be employed in other analytic or administrative functions. Reliance upon a mailing list consisting of persons who have requested notice could provide a false sense of assurance that interested parties have received actual notice of covered activities, and places some burden on interested persons to ensure consideration of their views.

Subparagraph (aa) "permit lands" (30 CFR 211.2(ee))

The definition of permit lands has been changed to include reference to "other" permits which may be issued by the Department. This is intended to reflect ongoing review within the Department of potential regulations to govern and impose controls upon access to Federal lands for exploratory, testing or other similar purposes.

Environmental Advantages: Would subject activities conducted under any Departmental permit for access to public lands to the obligations and responsibilities required by the proposed regulations.

Environmental Disadvantages: Could create confusion as to applicability of these regulations, and require clarification in the terms and conditions of any such permit that may be issued by the Department.

Sub-paragraph (dd) "pollution" (30 CFR 211.2(gg))

Several comments suggested inclusion of some definition of pollution. The proposed regulations include that definition suggested to the Department by the Environmental Protection Agency.

Environmental Advantages: Affords greater clarity for all interested persons of the scope and applicability of the operative provisions of the regulations.

Environmental Disadvantages: To the extent that any interpretation of the defined term is not included, the absence thereof could be inferred to indicate an intent not to apply the operative provisions of the regulations with respect thereto.

Subparagraph (ff), "preliminary plan"

The proposed regulations modify for clarity the definition of preliminary plan contained in the proposed regulations as published in September. Such a plan is now described as consisting of maps and text, to reflect the requirement that a preliminary plan include narrative descriptions of certain aspects of the lands covered or the operations proposed.

Environmental Advantages: Greater clarity for all interested persons.

Environmental Disadvantages: None.

Subparagraph (hh), "reclamation" (30 CFR 211.2 (jj))

The proposed regulations repeat the definition of "reclamation" contained in the proposed regulations published in September. Several comments suggested expansion of this definition, so as to include operative language contained in earlier proposed regulatory language or legislation considered by the Congress. It was specifically suggested that reclamation include a more elaborate requirement articulating restoration to particular types or levels of post mining land uses. These suggestions were not adopted. As noted in the Notice of Proposed Rule Making published in September, the Department feels that the suggested admendatory language is more appropriately included in the operative provisions of the regulations. An intended distinction is drawn in the proposed definition between the condition and form of the land after completion of mining and reclamation, and the specific post mining use to which that land may be put.

This distinction is preserved in the operative portion of the regulations, and relates to the difference between the obligations and objectives of reclamation and the actual land use planning decisions which will be made by the operator, private surface owners, and Federal and non-Federal land use planning agencies. Reclamation is herein defined so as to require restoration of the land to a condition capable of supporting all practicable pre-mining uses. The intended result of this obligation is that the actual post mining land use alternatives available to the appropriate decision makers will be as broad as that range of alternatives available immediately prior to the commencement of mining activity. The actual selection of a specific post mining land use is not directly related to the definition of the process of reclamation as set forth in this section, but is appropriately addressed, and provided for, in the operative provisions of the regulations.

Environmental Advantages: The proposed language clarifies both the nature of the term reclamation and the distinction between the obligations of the operator with respect to the character of the land after reclamation and the freedom of opportunity for appropriate persons or agencies to make land use planning decisions based upon successful fulfillment of such obligations.

Environmental Disadvantages: Some possibility of confusion may still exist in the early stages of implementation of the proposed regulations, as to the nature and relevance of the intended distinctions discussed above. Some comments, for instance, incorrectly construed the language involved to prohibit the selection of post mining land uses other than those immediately prior to mining activity.

Subparagraph (kk), "significant vegetation" (30 CFR 211.2(nn))

In response to specific comments, the proposed regulations add the word "agricultural" to the last phrase of the similar definition in the proposed regulations published in September. This is intended to clarify the Department's intent to require protection of hydrological resources which are necessary to significant vegetation, including natural vegetation which may have significant agricultural value as meadow lands or pasture.

Environmental Advantages: Clarity of intent to extend protection to existing significant meadow and pasture lands which are part of a natural environment expands possible extent of restraints or prohibitions on mining.

Environmental Disadvantages: To the extent that reclamation activities and post mining land use might be superior to a pre-existing natural state of the lands involved, any

prevention of mining and thus prevention of reclamation to such superior state could represent a lost opportunity for increased land productivity.

Subparagraph (nn), "surface owner" (30 CFR 211.2(pp))

The definition of surface owner included in the proposed regulations published in September has been expanded to include "entryman." This is intended to extend the protection offered under the regulations to the holders of rights of entry under related Federal legislation or regulations, and avoid interference with rights and authorized uses granted or approved thereunder.

Environmental Advantages: To the extent that such other entry rights are environmentally desirable, the protection afforded by the regulations is extended.

Environmental Disadvantages: To the extent that such alternate uses would be less environmentally desirable than proposed reclamation and post mining land uses under the proposed regulations, the opportunity for such environmental enhancement might be lost.

Subparagraph (rr), "waste" (30 CFR 211.2(ss))

The proposed regulations contain a definition of this term for the first time. The intent is to include that valueless material for which no future use in operations is intended or possible, and as to which the operative portions of the regulations requiring treatment or disposal will apply.

Environmental Advantages: The proposed definition clarifies the intent of the regulations to allow, in appropriate circumstances, the use of waste in reclamation activities such as land fill. (But c.f. operative portions of regulations, which prohibit use of waste in particular operations such as creation of impoundments.)

Environmental Disadvantages: By excluding material with subsequent useful purpose, an inference could be incorrectly drawn that the requirement of contemporaneous reclamation might not apply to such waste, which might as a result be retained on site for unacceptable periods of time based upon possible future use. No such implication is intended, and no such proposal would be approved as a term or condition of a lease, permit, license, or in an approved plan.

Section 3041.0-7 Use of Surface.

This section has been redrafted so as to clarify the intent of the language of the proposed rulemaking published in September, by precluding any inference that the proposed regulations are intended to create a permit or other authorization mechanism whereby special land uses might be approved. As originally drafted, this language was so interpreted by some commentators.

Environmental Advantages: Clarification of intent minimizes the possibility of confusion by authorized Departmental officers or other interested persons as to whether such permits might be issued pursuant to the proposed regulations. This could lead to unnecessary administrative delay or litigation.

Environmental Disadvantages: None.

Section 3041.1 Coal leasing, permiting, and licensing planning procedures.

This section sets forth the broad general authorization for authorized officers of the BLM to undertake preleasing review, analysis and evaluation to determine whether, where and under what circumstances coal leases might be issued. The proposed language should be read in conjunction with the outline of the proposed EMARS program, discussed in the final environmental impact statement published by the Department on September 19, 1975. The Department is currently reviewing the question of whether regulatory language implementing the individual constituent elements of the EMARS process should be promulgated. To the extent necessary, such promulgation would include appropriate amendment of the proposed regulations.

Several commentators suggested that the word "area"

be defined with greater particularity, and perhaps limited to a particular geographical extent. This suggestion has not been adopted. What will constitute an appropriate "area" for consideration in Departmental preleasing review, and for inclusion in appropriate environmental impact statements pursuant to the provisions of the National Environmental Policy Act of 1969, as amended, will be matters for determination on an ad hoc basis. The existing Departmental process with respect to the use of regional environmental impact statements is currently subject to litigation, which may resolve outstanding policy questions.

Environmental Advantages: Flexibility to determine appropriate areas for consideration in the preleasing review process or for inclusion in environmental impact statements is preserved, allowing all relevant considerations to be taken into account.

Environmental Disadvantages: Specific descriptions of geographical or territorial limitations on such concepts as "areas" would lend some higher degree of certainty as to future Departmental action, and could facilitate anticipation of future allocations of resources.

The phrase "visual resources" has been added to the list of values to be considered in prelease impact evaluation. This term has been included in the operative portions of the proposed regulations as well, and is intended to apply to those geographical areas or sites which have been identified as areas appropriate for visual resource protection by land management agencies.

Environmental Advantages: Adds a value which is important in land use planning.

Environmental Disadvantages: If interpreted too broadly, or applied indiscriminately, could impose unnecessary and perhaps unreasonable restraint upon mineral development activities. The concept involves practicable application of aesthetic judgments, which are highly subjective and thus proportionately less appropriate for direct consideration in regulatory action.

Several comments suggested inclusion of specific requirements for consultations with other officers, increased public notification and participation, etc. at this point in the regulations. Such regulations have been appropriately included or expanded elsewhere in the regulations and are deemed to be unnecessary here.

Environmental Advantages: None.

Environmental Disadvantages: None.

Several comments suggested that reference to NEPA and the preparation of environmental impact statements be qualified so as to require "prompt" preparation of such statements. As noted previously, the Department is reviewing the degree to which time limitations may appropriately be adopted to govern Departmental activities such as EIS statements and the analyses called for by the proposed regulations. No more specific requirement was deemed appropriate here.

Environmental Advantages: Allows appropriate allocation of Departmental resources, pursuant to timetables determined by the Departmental officers charged under NEPA with the

responsibility for such determinations. Avoids distortion of such resource allocation that might result from adoption of artificial or arbitrary time constraints.

Environmental Disadvantages: Represents lost opportunity to create greater degree of certainty as to timing of Departmental actions.

The proposed regulations authorize in subparagraph (e) the development and inclusion in an offer of tracts for leasing of such special terms and conditions as may be required by specific local conditions. Some comments questioned the overlap between this authority and the parallel authority subsequently expressed, pursuant to which the BLM may impose specific terms and conditions upon a lease. It was suggested that inclusion of such terms and conditions was inconsistent with the mechanism in proposed 30 CFR 211, whereby Geological Survey assumes responsibility for policing ongoing operations, in conformity with the performance standards and obligations set forth in that Part. It is the intent of this section to create a mechanism whereby specific physical characteristics of lands to be included in a lease, permit or license might be recognized and identified as subject to special protection. Such site specific characteristics could include degrees of surface slope, particular conditions of acidity or alkalinity, or recognition of adjacent land uses requiring special protection measures. Such terms and conditions would be limited in scope to those particular conditions not appropriately provided for in general performance standards, or in General Mining Orders issued by the Geological Survey

and applicable to the lands in question. The nature and extent of such terms and conditions would be a part of the decision making process of the issuing officer, and subject to review by and participation of interested parties.

Environmental Advantages: Use of a mechanism to impose such specific terms and conditions will enable site characteristics to be identified and appropriately protected, to a greater degree of specificity than can be provided in general rulemaking. This greater flexibility will help to ensure that appropriate recognition be given to the protection of environmental values which are unique to a particular site, and which may not occur with respect to any other lease, permit, license or operation.

Environmental Disadvantages: The inclusion of a general authority to impose specific terms and conditions introduces an element of flexibility. Any such flexibility raises the possibility that maximum environmental protection will not occur. The inclusion in general performance standards of such detail as would effectively cover all possible site conditions, and create specific requirements clearly definable in advance by both applicants and private parties with environmental concerns, would afford added assurance against any abuse of discretion in the exercise of such flexibility.

The proposed regulations add a new subparagraph (f), which would establish a qualified protection for confidential information which relates to the nature and extent of coal reserves, trade secrets and commercial or financial information submitted to the Department under conditions of confidentiality or privilege. Specific procedural requirements are created whereby information so designated by the owner will be protected from automatic availability for public inspection. Upon any request for such inspection, the custodial officer is directed to review the nature of the information, taking into account the adverse impact of disclosure upon the owner and the need for such disclosure in relation to effective public participation in the operation of the proposed regulations. In the event that the officer involved determines that confidentiality should not be maintained, he must inform the owner, and an opportunity of not less than 10 days is afforded for the taking of an appeal from such determination. This section is expressly made subject to application of the provisions of the Freedom of Information Act, 5 U.S.C. 552(b).

Numerous comments pointed out that the scope of information required to be submitted from an applicant or operator under the proposed regulations has been substantially broadened beyond previous Departmental practices. Such requirements now include information of a financial or other character, the disclosure of which could be highly prejudicial to the competitive status of the applicants involved, or substantially diminish the value of research efforts.

On the other hand, it is recognized that some elements of the financial status of an applicant or operator will be relevant to important determinations made under the proposed regulations, and as to which a legitimate public interest may exist. These would include, for instance, some of the factual bases upon which determinations that proposed reclamation is "attainable and assured" might be made or challenged.

Proposed alternatives included the granting of absolute confidentiality to all submitted information to the extent permitted by law, and the equally absolute denial of any protection, with mandatory disclosure of all information submitted.

Environmental Advantages: The proposed regulations will allow the Department to afford protection in appropriate circumstances to confidential and privileged information the disclosure of which is not critical to effective implementation of the regulations, and public participation therein. This will encourage the submission of information which might otherwise be withheld by applicants or operators, for fear that unwarranted disclosure might result. This in turn should afford the maximum opportunity for Departmental review of all relevant factors, and increase the data base upon which its decisions are made.

Environmental Disadvantages: Failure to provide for automatic disclosure of submitted information could place an unwarranted burden upon interested persons to obtain access to

information which may have been designated confidential or privileged by the owners thereof without justification. In such cases, the possibility would exist that information unnecessarily withheld from public disclosure and of particular environmental relevance might receive inadequate attention from Departmental officers.

Section 3041.1-1 Preliminary Plan.

The proposed regulations refine and set forth with more detail the requirement that a preliminary plan be submitted to the authorized officer of the BLM in connection with any application for a coal lease, permit or license. Several comments received reflected considerable confusion between a preliminary plan and a mining plan. The regulations as now proposed clarify this distinction.

Environmental Advantages: The proposed mechanism specifies the nature and extent of both graphic and narrative information which must be received and evaluated before any lease, permit or license can be issued. These requirements would also alert any applicant or prospective applicant to the care and diligence with which the proposed operation and reclamation standards will be enforced.

Environmental Disadvantages: None.

Subparagraph (c) expressly sets forth a prohibition against entry upon lands subject to the proposed regulations without prior authorization, except for casual use. The definition of "casual use" as activities which do not cause significant surface disturbance has been retained.

Environmental Advantages: Clarifies intent to require that operations involving significant surface disturbance occur only with express approval, including reclamation obligations.

Environmental Disadvantages: None.

Proposed 43 CFR 3041.2-2; 30 CFR 211.40: RECLAMATION OBLIGATIONS AND STANDARDS OF PERFORMANCE

The proposed regulations set forth general obligations of operators, and standards of performance applicable to operations. The language of 43 CFR 3041.2-2 and 30 CFR 211.40 sets forth both of these elements, and has been redrafted from the similar language proposed in September for clarity and precision.

3041.2-2(a)

As originally proposed, separate provision was made in subparagraph 3041.0-7(a) and 3041.0-7(c) to authorize the imposition of special terms and conditions upon a lease, permit, or license to meet "exceptional and special circumstances, such as degree of slope, soil conditions and other site characteristics." The proposed regulations as now drafted combine these two provisions into subparagraph 3041.2-2(a).

The inclusion of this authority, and the environmental advantages and disadvantages of the increased flexibility which it affords, have been discussed above in connection with Section 3041.1(e). Pursuant to that subsection, such special terms and conditions may be made a part of an offer of tracts for lease, permit, or license. The present

subsection authorizes the imposition upon the actual lease, permit or license of similar such conditions.

It should be noted that all such special terms and conditions become a part of the obligation of the operator, and that the proposed 30 CFR Part 211 authorizes and directs the Mining Supervisor of the Geological Survey to enforce such terms and conditions during actual operations.

3041.2-2(b)

This subparagraph expressly authorizes officers of the BLM to propose that an approved mining plan be changed to reflect changed conditions or to correct oversights, subsequent to lease issuance and approval of the plan involved. This authority was contained in paragraph 3041.0-7(d) of the earlier proposed regulations, and has been incorporated here unchanged. It is complementary to the authority of the Mining Supervisor to require reasonable revisions or supplements to previously approved plans, set forth in proposed 30 CFR 211.10(d)(2)(i).

It should be noted that this proposed section refers only to authorized offiers of the BLM, and not to authorized officers of other Federal surface management agencies. This reflects the fact that the proposed regulations set forth only that authority delegated to the BLM from the Secretary of the Interior. Inclusion of any specific reference to, or purported delegation of authority to, officers of agencies not located within the Department would be inappropriate. It should also be noted, however, that the authority

of the Mining Supervisor set forth in 30 CFR Part 211 need not be and in fact is not so limited. Thus, authorized officers of land management agencies other than those of the Department of Interior, if authorized to do so under their appropriate regulations, may recommend proposals for changes in plans to the Mining Supervisor, and the Mining Supervisor is authorized to act thereon.

Environmental Advantages: Representatives of land managing agencies will have a familiarity and expertise with respect to areas adjacent to or outside of the area of actual operations subject to the jurisdiction of the Geological Survey and an approved mining plan. Considerations arising out of such expertise may be brought to the attention of the Geological Survey, and necessary changes in plans proposed.

Environmental Disadvantages: It is possible that some confusion might result on the part of private persons as to the appropriate addressee of suggestions, recommendations, or factual data or information that might justify requiring changes in approved plans.

Some comments suggest that recommendations for changes in plans be made mandatory upon the Mining Supervisor, based upon the special expertise of land managing agencies. This suggestion has not been adopted.

Environmental Advantages: The Geological Survey will be most familiar with the actual operations and plan involved, and the physical conditions of the site itself. Final decisions as to

proposed plans should thus lie with the Geological Survey except as may be otherwise expressly provided with respect to questions involving the post mining state of the land.

Environmental Disadvantages: The suggestion would place the power to compel changes in an approved plan in bureaus other than the Geological Survey, which has approved the plan for the operation involved, and might therefore have a bias against change.

Subparagraph 3041.2-2(c)

This subparagraph sets forth a general obligation to conduct operations so as to extract the coal resource to the maximum extent possible, so that future environmental disturbance through the resumption of mining will be minimized. This obligation appeared in the earlier proposed regulations at Section 3041.0-7(b)(1). The text has been redrafted to set forth with greater particularity the criteria to be taken into account in determining whether this obligation has been satisfied. These include existing technology, equipment which is commercially available to the operator, the cost of production and the nature of the resource itself.

Environmental Advantages: As drafted, appropriate authority is asserted to minimize future environmental disturbances.

Environmental Disadvantages: Coal resources might under the provision as now drafted still be considered unminable in the proposed operation and, thus, the possibility might exist that future disturbance to recover such resources might still occur.

Comments suggested that this section represents an unwarranted intrusion into matters which are appropriately the subject of the operator's business judgment. It has been suggested that the paragraph be deleted, or that it be substantially revised so as to emphasize to a greater degree economic circumstances as a determinant. Neither suggestion has been adopted.

Environmental Advantages: As owners of the coal resource, the government has the obligation under NEPA to minimize the net environmental disturbance. Imposing reasonable such conditions upon an operator is appropriate.

Environmental Disadvantages: Greater flexibility, or absence of provision, could lead to abuse, with less efficient recovery and greater disturbance.

Comments suggested the requirement to recover the resource be made absolute. This was not adopted.

Environmental Advantages: As drafted, creates appropriate flexibility.

Environmental Disadvantages: Absolute requirement could lend greater assurance against disturbance, could even prevent mining and disturbance in the first instance.

Section 3041.2-2(d)

This section of the proposed regulations sets forth an obligation of the operator to take identified visual resources into account in planning his facilities, and to take such action as may be needed to minimize, control and, to the maximum extent practicable, avoid damage

to recreational, cultural, scientific, historical and known or suspected archaeological and paleontological values of the land. Similar obligations of the operator were set forth in sections 3041.0-7(f) and (h) of the previously proposed regulations.

Several comments suggested deletion of these elements of protection, as presenting subjective criteria not appropriate for regulatory action. This aspect has been discussed above, in connection with section 3041.0-1 of the proposed regulations.

Environmental Advantages: As drafted, will enable appropriate recognition to be given to these values in the context of issuance of a lease or approval of mining plan, with public participation in the determinations involved.

Environmental Disadvantages: Qualification of this obligation by limitation to identified visual resources, or by use of the term maximum extent practicable, could result in a determination that all possible measures to avoid such damage need not be applied. The introduction of any cost benefit balancing based in whole or in part upon financial considerations involves a trade off against exclusive consideration of environmental values.

Subparagraph 3041.2-2(e).

Proposed regulations in this section apply special provisions applicable to the surface effects of underground mining. Such provisions appeared in the earlier proposed regulations as subsection 3041.0-7(e), and are repeated herein without substantial change.

Several comments suggested that these provisions were inadequate by virtue of their failure to include specific reference to such surface operations relating to underground mines as impoundments, waste piles, the sealing of portals or holes, revegetation, protection of offsite areas, elimination of fire hazards or minimization of disturbance of hydrologic balance.

No provisions have been included to cover such aspects in proposed 43 CFR Part 3041. The jurisdiction of the Geological Survey extends to underground mining operations and the surface effects thereof, and appropriate provision is made in 30 CFR Part 211 to regulate such surface impacts.

Subparagraph 3041.2-2(f).

This subparagraph sets forth performance standards applicable to all operations pursuant to leases, licenses or permits issued by the BLM. They are set forth in terms identical to those found in proposed 30 CFR 211.40, which will be implemented and enforced by the Geological Survey and which will govern the conduct of operations within the area of operations.

Subparagraph (f)(1); 30 CFR 211.40(a)(1)

This provision sets forth the requirement for reclamation as contemporaneously as practicable with operations, and to a condition capable of supporting all practicable uses that the affected lands were capable of supporting immediately prior to any mining activity. This intent of this subsection has been discussed above with respect to the statement of purposes.

It should be noted that this sets forth a requirement of restoration of land to a condition of capability of supporting uses. Actual post mining land use will be appropriately determined in the approved plan. The requirement of restoration to "all practicable uses" is intended to set forth an obligation of the operator to reclaim land to a condition capable of supporting that range of uses which were practicable before mining took place. Thus, upgrading of the land to a condition capable of supporting a use which was possible but not practicable prior to mining would not be required. In the event that a specific post mining land use has been selected, it is anticipated that such use will be the controlling factor in determinations of compliance with this standard of performance.

The provisions of this subparagraph were previously contained in subsection 3041.0-7(b)2. Several comments incorrectly interpreted that section so as to prohibit post-mining uses different from pre-ming uses.

Some comments suggested inclusion in this provision of the word "immediately" to modify the language "prior to any exploration or mining". The suggestion has been adopted.

Environmental Advantages: The test of capability to support uses may be most expeditously determined with reference to a particular point in time. As originally drafted, the language would have permitted or required review of all possible uses to which the land might have been put previous to mining. The uncertainty involved in such determination could have

effectively shifted the focus of review away from the most relevant consideration, the status of the land itself before, during and after mining.

Environmental Disadvantages: The possibility exists that an environmentally superior use might have been practicable at some point in time prior to the commencement of initial exploration and mining operation. As drafted, the language might be read so as to preclude consideration of such land capability at the time a lease, permit or license is proposed to be issued or a plan of operations approved.

Some comments suggested that this language include a specific requirement that land might be required to be reclaimed to a superior condition to that set forth, where no additional expense to the operator might be involved. The suggestion was not adopted, on the grounds that appropriate economic consideration existed elsewhere, and that in any event such a desirable result would occur should the occasion arise without the need for specific regulatory authority.

Environmental Advantages: Absence of such specific language prevents any unintended inference that the requirement to reclaim might be subject to economic qualification other than expressly set forth in the regulations themselves.

Environmental Disadvantages: The possibility might exist that an environmentally superior use might be foregone because of arbitrary action on the part of the operator, or inadvertance on the part of regulatory authorities or private

persons participating in the implementation of the regulations.

Section 3041.2-2(f)(2); 30 CFR 211.40(a)(2)

This section sets forth the requirement for backfilling, grading and, to the maximum extent practicable, the elimination of high walls and spoil piles and restoration of the approximate original contour. Specific provision is made for circumstances in which available overburden will be substantially greater or lesser than might be needed to achieve this result. An express variance is provided from the approximate original contour requirement where circumstances exist analogous to open pit mining, in which ultimate restoration of the approximate original contour is either environmentally undesirable or physically impossible.

The exemption from the approximate contour requirement has been redrafted, so as to clarify the intention to limit its use to circumstances where, because of particular post-mining uses requiring such variance, or unusual physical conditions which make compliance either physically impossible or environmentally undesirable, exist. Examples of such conditions would include circumstances in which the duration of the operations and the volume of mineral deposit removed are so extensive that backfilling contemporaneously with operation is impossible, and where at the conclusion of the operation removed overburden will have been so stabilized, regraded and revegetated that re-disturbance for purposes of backfill would be environmentally undesirable. Similar recognition of such circumstances has been contained in earlier

proposed regulations and legislation.

Environmental Advantages: Recognition of special circumstances allows imposition of appropriate protection, without either shutdown of ongoing operations or potential loss of significant mineral resource.

Environmental Disadvantages: If abused, this discretion could allow mining to occur without appropriate reclamation.

Some comments suggested that the Mining Supervisor be authorized to grant the variance so provided. The suggestion has not been adopted. As drafted, it may be granted only by the Director of the Geological Survey, with the concurrence of the Director of the Bureau of Land Management. It is not intended that this authority be delegable to subordinates within either bureau.

Environmental Advantages: Limitations of the authority to grant this variance to officers at the highest levels within the bureau will limit its availability, and insure appropriate policy level review of the need for and the conditions under which any such variance might be issued.

Environmental Disadvantages: The Mining Supervisor and authorized officers of land management agencies may be in a superior position to judge the relevant jurisdictional facts. Elevation to higher levels of approval might result in less adequate consideration of the physical condition at the site.

Suggestions have been made that this paragraph be redrafted with greater specificity, including for instance specific slope angle

requirements. The suggestions have not been adopted.

Environmental Advantages: Greater flexibility.

Environmental Disadvantages: Specification of specific details of performance would help to insure compliance, and afford a greater level of predictability at the time of lease issuance and mine plan approval.

Suggestion has also been made that the language "to the maximum extent practicable" and the language containing the variance requirement both be eliminated completely. This would impose an absolute requirement to eliminate high walls and spoil piles, and restore the approximate original contour. This suggestion has not been adopted. There will be circumstances in which amelioration of such absolute requirements might be environmentally preferable. Such circumstances could include intentional creation of a rugged post-mining terrain as wildlife habitat, or retention of depressions as ponds for livestock watering purposes. Protection against abuse of the discretion represented by this flexibility is created in provisions for public participation, the requirements for written findings by authorized officers and Mining Supervisors, and the opportunity for adminstrative and judicial appeals.

Environmental Advantages: As drafted, the proposed regulations create the flexibility that will be necessary to adopt the most environmentally preferable requirements as part of an issued lease or an approved mining plan.

Environmental Disadvantages: Abuse of discretion could lead to inadequate performance of a particularly important reclamation obligation.

3041.2-2(f)(3); 211.40(a)(3)

This proposed subparagraph requires stabilization and protection of surface areas, including spoil piles, to control slides, erosion, subsidence and air and water pollution. This language originally appeared as subsection 3041.0-7(b)(4) and is repeated unchanged.

Some comments suggested amendments so as to prevent absolutely the stated results against which controls must be enforced. This suggestion was not adopted, as being physically impossible.

Environmental Advantages: As drafted, control measures will be subject to approval by appropriate officers and needed flexibility created.

Environmental Disadvantages: Absolutely requiring the prevention of the undesirable results affords an opportunity to stop ongoing operations completely, and thus prevent the associated environmental damage.

Subparagraph 3041.2-2(f)(4); 211.40(a)(4)

This subparagraph sets forth requirements for the removal, separate handling and protection of top soil or, in the absence of a sufficient quantity or quality of suitable top soil, other excavated materials. These provisions appeared originally as 3041.0-7(b)(5), and have been redrafted for clarity. As redrafted it now requires the use of quick growing vegetative covers or other means as protection from wind and water erosion and the establishment of noxious plant species. Finally, this section has been redrafted to require separate

handling and protection of excavated "materials" instead of "strata". Practicable limitations may prevent the preservation of extremely thin strata of top soil or other suitable material, and suitable material may not in fact be found in strata at the site of excavation. It should be noted that the obligation to revegetate elsewhere provided is not conditioned upon the existence or absence of top soil, but only upon the nature of pre-mining vegetative cover.

Environmental Advantages: As drafted, the section allows the approval of a plan which provides for appropriate protection of that excavation material most suitable for revegetation purposes, without regard to its character as top soil where insufficient top soil exists. The requirement is thus directed toward the purpose to be achieved, maximum possible utility for revegetation purposes.

Environmental Disadvantages: The natural top soil will under most circumstances be the most suitable material for use in revegetation efforts. Allowing the use of alternative materials would in such circumstances be an environmentally undesirable result.

3041.2-2(f)(5); 211.40(a)(5)

This section sets forth requirements for the design, location, construction, use and maintenance of water impoundments, water retention facilities, dams and settling ponds. It originally appeared as section 3041.0-7(b)(6), and has been redrafted so as to clarify that the requirements relating to impoundments are intended to apply to both

permanent and temporary impoundments and water retention facilities, and so as to eliminate an unintended implication that sub-paragraph (6)(iii) might have authorized permanent discharges from impoundments based upon a standard of unreasonable degradation of water quality in receiving streams.

Subparagraph (IV) has been redrafted so as to include a proviso against construction of this paragraph in derogation of existing water rights which may have been obtained by operators of other water users, and the existence and exercise of which are not intended to be affected by the proposed regulations.

Suggestions for specific redrafting so as to clarify the intent of the language as set forth above have been accepted.

Environmental Advantages: As drafted, this paragraph subjects all impoundments to the objective performance standards set forth, and ensures their safety and environmental desirability.

Environmental Disadvantages: None.

Suggestions were made to eliminate completely any reference to impoundments, and prohibit their use completely. These suggestions have not been adopted.

Environmental Advantages: The imposition of appropriate environmentally controls insures the desired result. Some impoundments will be necessary and appropriate, and in such cases arbitrary prohibition could create an incentive to conceal violations thereof, with the result that appropriate controls might not be applied.

Environmental Disadvantages: The creation of any impoundment involves some elements of environmental risk, against which complete protection is not possible.

3041.2-2(f)(6); 211.40(a)(b)

This section requires covering or plugging of all auger mine holes, and has been redrafted for clarity.

Environmental Advantages: Imposes controls upon auger mine holes including use of non-combustible and impervious materials, with some flexibility.

Environmental Disadvantages: Introduction of any flexibility is undesirable.

3041.2-2(f)(7); 211.40(a)(7)

This section sets forth the requirements for protection of prevailing quality, quantity and flow of surface and ground water systems. Operators are required to minimize disturbances of such systems, and of prevailing erosion and deposition conditions at the mine site and in affecting offsite areas, both during and after operations and reclamation, by adopting the specific control measures set forth in paragraphs (i) thru (iv).

This provision originally appeared as section 3041.0-7(b)(8), and has been redrafted for clarity.

As originally drafted, subparagraph (i) did not include a requirement to exclude oxygen from acid or toxic producing materials. This requirement has been added.

Environmental Advantages: Requires adoption of another specific environmental control measure.

Environmental Disadvantages: If relied upon exclusively, might not achieve desired result.

Suggestions were made to require compliance in this section with specific provisions of other regulations relating to discharges from point sources, imposed pursuant to provisions of the Federal Water Pollution Contol Act, as amended. Similar suggestions were made that compliance with emission limitations imposed thereunder be made a condition of obtaining a lease or approval of a mine plan. The suggestions were not adopted. It is felt that other regulatory programs and enforcement mechanism should be neither incorporated in nor adversely affected by the proposed regulations. The requirement to obtain discharge permits under other provisions of law may not arise until actual discharge is about to occur. Inclusion of a requirement to obtain such permits before Departmental action under the proposed regulations could thus seriously distort the normal time frames within which operations should be planned and submitted for approval

It should be noted that 30 CFR Part 211 3(c)(11), as now drafted, authorizes and directs the Mining Supervisor to report violations of applicable laws and regulations to appropriate Federal or state agencies.

Environmental Advantages: Maintenance of separate regulatory and enforcement mechanisms provides greater clarity and certainty for operators as to their responsibilities, and the identity

of enforcement officers and offices related thereto.

Environmental Disadvantages: Explicit incorporation of other statutory requirements in the proposed regulations would create an additional enforcement mechanism. Such overlapping jurisdiction would decrease the possibility that violations might occur, by increasing the number of administrative officers empowered to inspect for and enforce compliance with such other regulations.

As originally drafted, this provision did not require protection of hydrologic balance. It has been suggested that this concept, related to the flow of water through a site of operations, can be a critical factor in maintaining the productivity of affected areas, and should be protected. This suggestion has been adopted, by inclusion of the words "and flow" in subparagraph (7).

Environmental Advantages: Avoids any unintended implications that flow was not intended to be protected.

Environmental Disadvantages: None.

As originally drafted, Section 3041.0-7(b)(8)(ii) required removal or modification of siltation structures unless otherwise directed by the Mining Supervisor after consultation with the authorized officer of a land management agency. It was suggested that such removal should be mandatory, unless otherwise authorized by the Mining Supervisor with the concurrence of the authorized officer. In addition, it was suggested that any siltation structure be subject to the requirements applicable to impoundments and water retention facilities. These suggestions have been adopted.

Environmental Advantages: Provides appropriate concurrence by land managing agency in a matter related to the state of the land after conclusion of operations, and more expressly creates a presumption against ultimate retention of such facilities.

Environmental Disadvantages: None.

It has been suggested that express requirements be imposed upon the operator to replace the water supply of anyone adversly affected by operations. This requirement has not been adopted. The creation of a cause of action for damages, directly or indirectly, is not deemed to be appropriate or lawful in regulations. All applicable laws and regulations, including the availability of remedies under state common law or statutory provisions, are expressly preserved and not intended to be affected by operation of these regulations.

Environmental Advantages: None.

Environmental Disadvantages: Duplicative provisions would add extra assurance of completed reclamation.

Subparagraph (iv) has been redrafted. It was suggested that specific language prohibiting mining in alluvial valley floors which was contained in previous proposed regulations and legislation considered by the Congress be included in these regulations. This suggestion has not been adopted. No substantive advantage derives from reference or non-reference to such specific geological terms as alluvial valley floors, or from the imposition of prohibitions related

thereto. The Department feels that regulatory efforts are more appropriately directed towards the environmental goals sought to be achieved. Thus, the proposed regulations require the protection, to the maximum extent practicable, of hydrologic resources of those valley floors which provide water sources that support significant vegetation, or supply significant quantities of water for other purposes. The focus of the performance standard is, thus, the protection of the vegetative or other existing uses, without qualification by reference to such specific considerations as the alluvial characteristics of such floors or water sources.

Environmental Advantages: The standard of performance is directed at the desired result, and designed to achieve the intended protection of water resources in the most direct fashion, without reference to physical characteristics not directly related to that goal.

Environmental Disadvantages: Alluvial valley floors are the site of most water resources intended to be protected. Specific reference to such floors increases the certainty and predictability of the effect of implementation of the regulations.

Section 3041.2-2(f)(8); 211.40(a)(8)

This section requires treatment or disposal of rubbish and waste, and expressly requires compacted, layered construction, and the revegetation of waste piles. This section has been redrafted for clarity. In addition, separate sections relating to wastes and rubbish previously published as sec. 3041.0-7(b)(9) and (12) have been combined. Greater detail concerning waste piles and liquid waste impoundments has been provided

Environmental Advantages: Combination into one section should minimize confusion as to the obligations of operators, and the applicability of related sections such as impoundment design and construction.

Environmental Disadvantages: None.

Section 3041.2-2(f)(9); 211.40(a)(9)

This section sets forth a prohibition against surface mining operations in the vicinity of active or abandoned underground mines. Where accurate maps exist, surface operations may approach underground mines. Otherwise, a 200-foot prohibition applies.

It was suggested that an express exemption be provided for "daylighting", a process in which areas previously mined by underground methods are remined from the surface, with removal of coal originally left in place. This suggestion has been adopted.

Environmental Advantages: As drafted, this provision insures against inadvertent penetration of underground mine workings, while allowing environmentally beneficial reworking of previously abandoned facilities, with final reclamation pursuant to these regulations. This should eliminate or reduce subsidence potential, and result in an environmentally superior state of the land upon completion of mining.

Environmental Disadvantages: Allowing exception from absolute prohibition of mining within a specified distance creates the possibility that errors may occur, resulting in unintended, environmentally damaging penetration of underground workings.

Section 3041.2-2(f)(10); 211.40(a)(10)

This section sets forth the requirement that use of explosives must comply with Federal and State law, and be detailed in an approved plan. As previously published, sec. 3041.0-7(b)(13) was read by some commentators as authorizing a Mining Supervisor to allow on a case-by-case basis exemptions from otherwise applicable specific regulations. The section has been redrafted so as to clarify the intent that blasting occur only pursuant to an approved plan, in the approval of which possible adverse impacts will be subject to review, determination and specific controls.

Environmental Advantages: As redrafted, clarifies importance of advance planning and consideration of relevant factors in blasting.

Environmental Disadvantages: None.

Section 3041.2-2(f)(11); 211.40(a)(11)

This section requires the design, construction, maintenance and, unless otherwise authorized in an approved plan, the removal of all roads, pipelines, powerlines, and similar utility access facilities. The section has been redrafted for clarity. As originally published, sec. 3041.0-7(b)(14) required compliance "to the maximum extent practicable." It was suggested that the phrase "control or prevent" would offer sufficient latitude without direct introduction of cost factors into consideration of such important questions as the retention of permanent improvements or facilities covered by this Section. This suggestion has been adopted.

Environmental Advantages: Imposes obligation to control against adverse consequences without explicit emphasis on economic aspects.

Environmental Disadvantages: None.

Section 3041.2-2(f)(12); 211.40(a)(12)

This Section prohibits construction of roads or access ways in, over, or near stream beds or channels, so as to seriously alter the flow therein, except where relocation or alteration of such beds or channels has been expressly approved. The section has been redrafted. sec. 3041.0-7(b)(15) originally required the operator to refrain from construction, and made no provision for the relocation exception. The suggestion has been made that the language be redrafted as a prohibition. This suggestion has been adopted.

Environmantal Advantages: Clarity

Environmental Disadvantages: Any provision for relocation or alteration of stream beds introduces flexibility, and the resulting possibility of abuse.

Section 3041.2-2(f)(13); 211.40(a)(13)

This Section sets forth revegetation requirements. It has been redrafted to clarify that revegetation will be required except where other post mining land uses inconsistent with such revegetation have been approved. As redrafted, it now authorizes the use of mixtures of native and introduced species, on a permanent basis, so long as such mixtures have been approved for the area involved. Consultation with a surface owner upon the question of whether successful revegetation has occurred is now required. Authority is provided for a five-year extension of the ten-year maximum liability period, where during the initial five-year minimum liability period natural conditions

indicate that successful revegetation within the ten-year maximum period is uncertain, and where the financial liability thus incurred is reasonably commensurate with the increased probability of successful revegetation. Each of these changes has been made based upon specific suggestions.

Comments suggested that the maximum liability period begin on the date of last augmented feeding, or other specific revegetation efforts. This suggestion was not adopted. Under the proposed regulations, augmented or additional revegetation efforts may be required of an operator during the period of liability. Implementing this suggestion would create a disincentive to such efforts, or in the alternative could create an open-ended state of liability, and permanent retention of revegetation bonds. It is the Department's feeling that if successful revegetation has not occurred or is not underway within the prescribed maximum period of liability, its eventual occurrence is doubtful. In such cases, the government's responsibility for having allowed the operations involved to occur would make it inequitable to impose full liability upon an operator who has acted in accordance with an approved plan and directions from the Mining Supervisor.

Environmental Advantages: Language creates greater certainty as to the nature and extent of revegetation obligations.

Environmental Disadvantages: Creation of any definite period of liability could reduce incentives to successful revegetation, if the discretion of the Mining Supervisor to act during such period so as to require appropriate efforts is not exercised.

Section 3041.2-2(f)(14); 211.40(a)(14)

This section sets forth the operator's obligation to allow public access to Federal lands subject to his lease, permit, or license, under such controls as will prevent hazards to the public, wildlife, or livestock,

and protect revegetated areas. The Section has been redrafted for clarity, and combines the previously published secs. 3041.0-7(b)(18) and (19).

Environmental Advantages: Clarity.

Environmental Disadvantages: None.

Section 3041.3, Compliance or Performance Bond

This Section sets forth the requirement for submission of a compliance or performance bond, the applicability of other Departmental bonding regulations, and the mechanism for adjustment of the amount of an existing bond to reflect the cost of completion of remaining reclamation requirements.

Several comments addressed the absence from the proposed regulations of specific articulation of bonding requirements, and references to otherwise applicable bonding regulations. The suggestion that bond requirements be set forth in greater detail herein has been adopted.

Subsection (c) provides that a lease, permit, or license may be denied an applicant where a previous bond has been forfeited for non-compliance unless the lands previously involved have in fact been adequately reclaimed without cost to the government. Several comments expressed concern that the language of the section might be intended to be the exclusive grounds for denial of an application. No such intent exists, and language expressly reserving other basis for denial of applications for due cause has been included.

Environmental Advantages: Greater clarity, less confusion on the part of operators or the public as to the nature, extent and duration of compliance bonds filed in connection with operations pursuant to these regulations.

Environmental Disadvantages: None

Section 3041.4; 211.5 Procedures and Public Participation

Proposed sec. 3041.4 is new, and sets forth the requirement that certain decisions and determinations of Departmental officers be in writing, and set forth the facts and rationale upon which they are based. Such decisions are to be made available for public inspection. In addition, specific major documents, including lease applications, are similarly made available for public inspection. To facilitate such inspection, a "notice of availability" of such documents, and of certain pending decisions, is required to be prepared and posted, published, and mailed by Departmental officers to interested agencies, entities and private persons.

Subparagraph (c) sets forth a requirement that upon timely written request from any person having an interest which is or may be adversely affected, a public meeting may be held with respect to three categories of BLM action: lease issuance or modification, plan approval or modification, and final abandonment of operations, including release of bonds. A transcript of such hearings is to be maintained, and will be available for public inspection. Testimony and written comments submitted are to be taken into account in making decisions subject to these provisions.

It should be noted that two differences exist between the proposed BLM regulations (43 CFR 3041.4(a) and (c)) and the proposed USGS regulations (30 CFR 211.5(a) and (c)). Each relates to the different types of functions performed by these respective bureaus.

With respect to the USGS, proposed 30 CFR 211.5(a) requires that all major decisions and determinations of the Mining Supervisor are subject to the requirements for written findings, without regard to the type of action involved. This reflects the nature of the public interest sought to be accommodated. The USGS will be performing inspection and enforcement activities not readily classifiable by type of function, but directly related to the actual conduct of operations in the field. It is, therefore, appropriate that limitations on this requirement be based upon the relative importance of the decision or determination itself.

By contrast, public interest in the BLM land management functions derives not necessarily from the relative importance of the specific actions involved, but from their relevance to the overall land management activity of the Department. Thus, all decisions and determinations relating to the described functions of BLM are required to comply with proposed 43 CFR 3041.4(a).

Similarly, the functions of the USGS in approving a mining plan include exercises of enforcement discretion in setting and insuring compliance with the provisions thereof. As noted in Chapter VIII, the integrity of any mechanism involving the exercise of such

discretion can be best assured and of perhaps equal importance, can be publicly perceived to be so assured, only with maximum assurance of appropriate public review. Accordingly, proposed 30 CFR 211.5(c) requires that upon the request of any person with a valid interest, a public hearing must be held on any decision of the Mining Supervisor subject thereto.

Again by contrast, BLM decisions will not commonly involve the same exercises of enforcement discretion, and will be part of ongoing processes with recurring opportunities for public input. Accordingly, proposed 43 CFR 3041.4(c) provides that upon similar request, a public meeting may be held on subject BLM actions.

The intent in each such case is to provide full opportunity for appropriate public participation and response.

Where a public hearing on an environmental impact statement has been conducted which covers a proposed action otherwise subject to these requirements, and the notice requirements of these sections have been met with respect to such hearing, duplicative public hearings or meetings need not be held.

Environmental Advantages: Allows for more free public access to the Department*s decision-making processes, and ensures appropriate consideration of public views. Creates a mechanism designed to insure against abuse of discretion, where officers* judgments as to specific terms and conditions of leases, permits, licenses, or plans, are incorporated in and become a part of the operator s obligations.

Environmental Disadvantages: None.

The Department will, during the comment period upon this final EIS, be continuing to review the respective mechanisms thus created, to determine the degree to which the interests of both public involvement and the avoidance of unnecessary delay and duplicative administrative processes may be best accommodated.

It has been suggested that all decisions of the Department be subject to similar such requirements, and that public hearings be made mandatory in some or all instances. These suggestions have not been adopted.

Environmental Advantages: Expansion of public participation requirement would give absolute assurance against any possible abuse of discretion.

Environmental Disadvantages: Would require allocation of private sector environmental analytic resources to broad spectrum of relatively unimportant actions, and could unduly restrict or delay Departmental action to exercise its land management functions and impose environmental restraints.

It has been suggested that the discretionary nature of public hearings or meetings be adopted with respect to both proposed regulations.

Environmental Advantages: Would avoid necessity for duplicative actions and undue delay, and allow most efficient allocation of the resources for analysis and review of both the Department and the private sector, including environmental interest groups.

Environmental Disadvantages: Abuse of discretions involved could reduce actual public participaton in decision-making process.

It has been suggested that the public notice and public participation requirements of these sections be made not applicable to Indian-owned coal.

Environmental Advantages: To the extent that regulations promulgated with respect to Indian-owned coal would provide equal or superior opportunity for public participation, such exemptions could facilitate such participation.

Environmental Disadvantages: To the extent that the converse is true, public participation would be diminished.

Section 3041.5 Completion of Operations and Abandonment

This section sets forth in one location the procedural and substantive requirements where operations are to be temporarily or permanently abandoned. It has been redrafted from the earlier proposed regulations, to set forth such requirements in greater detail.

Subparagraph (d) requires the preparation and submission of a completion report, prior to cessation or abandonment of operations. It requires a joint inspection by the land managing agency and the Mining Supervisor, to determine the adequacy of completed operations, and requires consultation with and the taking into account of the comments of any private surface land owner before approval of abandonment or termination of bond liability.

Each of these specific provisions is in accordance with suggestions made by the public or raised during Departmental review.

Environmental Advantages: Enhanced clarity and assurance that obligations of performance and reclamation are adequately considered prior to release of operator from liability and transfer of land to postmining use.

Environmental Disadvantages: Requirement of joint inspection could result in delay in final release of operator.

Section 3041.6 Reports

This section sets forth requirements for the preparation and filing of reports with respect to ongoing operations and revegetation. Section 3041.6 as previously published has been amended, by the relocation of former subsection (b) into subsection 3041.5(a) of the proposed regulations.

Environmental Advantages: Periodic analysis and availability for public inspection of status reports relating to ongoing operations assures that ongoing operations are in compliance, and reduces possibility that noncompliance might be unnoticed or uncorrected preparational and helps to insure public participation in the administration and enforcement mechanisms created by the regulations.

Environmental Disadvantages: None.

Section 3041.7 Notice of Noncompliance: Revocation

This section expressly authorizes an authorized officer of a land managing agency who discovers activities being conducted not in compliance with applicable leases, permits, licenses, or plans to take

appropriate remedial action. Under subparagraph (c), if the activities in question threaten immediate and serious damage to the environment, resources or public health and safety, this action may include an order for the cessation of the activities involved, followed by prompt notification to the Mining Supervisor for appropriate action. It is not intended by this Section to diminish the responsibilities of the Mining Supervisor, which include the implementation and enforcement of the proposed regulations with respect to ongoing operations, or to provide substitute authority for officers of land managing agencies. The primary discretion and authority to act would at all time remain that of the Mining Supervisor. Where, however, the Mining Supervisor is not present, it is the Department's view that any authorized officer who, in the course of his own duties, might also discover noncomplying activities which threaten the indicated damage, the limited immediate action set forth herein should be authorized, to be followed by recourse to the Mining Supervisor.

Environmental Advantages: Allows more effective application of the proposed regulations, in those limited circumstances where appropriate enforcement mechanisms are not available to prevent impending environmental damage.

Environmental Disadvantages: None.

Section 211.1 Scope and Purpose

This section sets forth the scope and purposes of the proposed regulations.

Subsections (a) and (c) deal with lands subject to other express legislation or departmental regulation, including lands in Alaska and Tribal and allotted Indian lands. Where 25 CFR Part 177, relating to surface mining and reclamation on Indian lands is inconsistent with these proposed regulations, it is provided that that part shall govern, except with respect to the performance standards set forth in Section 211.40.

The Native American Resource Development Federation and the Three Affiliated Tribes of the Fort Berthold Reservation suggested that these regulations should not apply to Indian-owned coal at all since the Department proposed in 1972 to revise 25 CFR and to develop a separate and comprehensive scheme for regulating the mining and reclamation of Indian lands. In addition, the Arapahoe Tribe of the Wind River Reservation, the Hoopa Valley Tribe of the Hoopa Valley Reservation, the Quinault Tribe of the Quinault Reservation, the Three Affiliated Tribes of the Fort Berthold Reservation, and the National Congress of American Indians objected strongly to Section 211.72 of the proposed regulations published in September 1975. That section provided that the Secretary may adopt local State laws as Federal law with respect to coal which "is owned by or subject to the jurisdiction of the United States..." As now revised, the proposed regulations clarify

that no provision of this Part is to be construed as a Federal authorization of, consent to, or acquiescence in the extension of the laws of any State over the lands or resources of any Indian tribe.

Environmental Advantages: The proposed regulations offer, at a minimum, the environmental protection measures imposed by the proposed Section 211.40 of 30 CFR. These requirements are far more comprehensive and rigorous than those contained in the present version of 25 CFR, Part 177. To that extent, at least, the proposed mechanism offers increased environmental protection.

Environmental Disadvantages: As presently proposed, the regulations are silent as to the applicability of laws the tribes themselves might pass, which laws might, in fact, be more stringent than either Federal or State laws. Except for this possibility, there are no environmental disadvantages to the proposed mechanism.

Several alternatives to the proposed mechanism have been suggested. These include removing Indian-owned coal altogether from the provisions of these regulations.

Environmental Advantages: The tribes would be free to adopt protection resources more stringent than those of either the States or the Federal Government.

Environmental Disadvantages: To the considerable extent that the proposed Section 211.40 of 30 CFR offers greater environmental

protection to Indian lands than do current regulations contained in 25 CFR or in any Indian code, and to the extent that the environmental standards imposed upon the operator are specified in the proposed regulations, adoption of this alternative would result in a foregone opportunity to impose these protective standards in any operation involving Indian-owned coal.

Subsection (d) expressly excepts from the operation of the proposed regulations enforcement of the Federal Coal Mine Health and Safety Act of 1969, and regulations issued pursuant thereto. Employee health and safety in mines remains vested within the Department, in the Mining Enforcement and Safety Administration.

Environmental Advantages: None

Environmental Disadvantages: None

Section 211.2 Definitions

Section 211.2(o) General coal mining order.

This section defines a procedural mechanism whereby the Geological Survey might, by rule making, issue orders of general application within a specific geographical area. Such orders could be utilized to reflect specific conditions common to all operations within such area, and provide greater certainty and advance notice with respect to operations therein. Specific examples of uses to which such orders might be put include approvals of specific mixtures

of seeds for use in revegetation; particular types of information, or circumstances relating to coal reserves, which might be treated as confidential; specific criteria for the possible identification of lands or types of lands within areas that cannot be reclaimed and that will not be approved as a part of a proposed plan; and specific indications of physical or chemical characteristics specific to an area and relevant to determinations of levels of protection afforded with respect to acid or toxic producing materials.

Environmental Advantages: Could afford greater specificity with respect to some aspects of the standards set forth, increasing certainty and predictability of impacts of development.

Environmental Disadvantages: None.

Section 211.3 Responsibilities

This section sets forth in descriptive terms the authority delegated from the Secretary to the Mining Supervisor.

Subparagraph (b) specifically lists the Mining Supervisor's authority to approve, disapprove, approve upon condition, or require modification of exploration and mining plans.

Subparagraph (c) has been redrafted, expressly to authorize the Mining Supervisor to consult with and solicit views of other appropriate Federal, State and local agencies and other interested parties.

Environmental Advantages: Evidences commitment to consultation with other interested agencies and parties.

Environmental Disadvantages: None.

Subparagraph (c)(3) now expressly requires that all reports and recommendations as to the general conditions of land under lease, permit or license are to be furnished to the operator upon request, and made available to the public.

Environmental Advantages: Increased public participation potential.

Environmental Disadvantages: None.

Subparagraph (c)(8) now provides that before recommending that any period of liability under bond be terminated, the Mining Supervisor shall notify the surface owner, where other than the United States, and solicit and take into account the comments and recommendations thereof.

Environmental Advantages: Ensures consideration of surface owner interests.

Environmental Disadvantages: Surface owner interests could be economic in nature, or otherwise inimical to environmental considerations.

Subparagraph (c)(11) now expressly directs the Mining Supervisor to "promptly notify" appropriate representatives of other Federal and State agencies in the event of discovery of any noncompliance with air and surface and ground water management and pollution control measures.

Environmental Advantages: Enhanced enforcement opportunity.

Environmental Disadvantages: Could lead to confusion of authority, respective roles of agencies involved.

Subparagraph (c)(14) now provides that any disagreements between the Geological Survey and the Bureau of Land Management shall be referred for resolution within the Department to the appropriate Assistant Secretaries or the Under Secretary, and that any disagreement between the Mining Supervisor and the appropriate authorized officer of any Federal surface management agency not in the Department of the Interior will be referred for resolution to comparable higher authorities within the respective departments.

Environmental Advantages: Ensures consideration at high policy levels of conflicting views of land management agencies and the U. S. Geological Survey.

Environmental Disadvantages: Could result in consideration of non-environmental considerations, or elevate resolution above levels most competent to judge on technical bases.

Subparagraph (f) has been redrafted, so as to add specific reference to the fact that the reporting of accidents pursuant to the proposed regulations is in addition to any related obligation which may arise under regulations of MESA.

Environmental Advantages: None.

Environmental Disadvantages: None.

Section 211.4 General Obligations

Subparagraph (a) requires that all operations conform to the provisions of "all other applicable laws and regulations, including effluent and emission limitations."

Subparagraph (d) sets forth a general obligation of the operator, to minimize, control, and to the maximum extent practicable, avoid a list of indicated adverse environmental consequences. This section sets forth general obligations, and is in addition to those specific performance standards elsewhere provided. It has been redrafted, so as to include specific reference to threatened and endangered species and damage to cultural, scientific, and known or suspected archaeological and paleontological values of the land.

Environmental Advantages: Clarification of obligations of operator.

Environmental Disadvantages: None.

Section 211.5 Procedures and Public Participation

This section sets forth procedures and public participation requirements, discussed above with respect to proposed 43 CFR Part 3041.

Subparagraph (b), relating to the availability of proposed plans, retains the provisions of the same paragraph as published in September, redrafted for clarity.

Section 211.10 Exploration and Mining Plans

This section sets forth the requirement that an operator obtain

the approval of an exploration or mining plan prior to conducting any operation other than casual use.

Subparagraph (a)(1) requires the submission of information to show that reclamation will progress as contemporaneously as practicable with operations, and sufficient information to substantiate the effectiveness of the proposed reclamation method.

Environmental Advantages: Clarity and certainty of reclamation, more informed public participation.

Environmental Disadvantages: None.

Subparagraph (a)(2) revises and substantially modifies Section 211.10(e) as published in September, relating to the concept of a "partial plan." Substantial public comment indicated confusion over the intended scope of this proposed provision.

The proposed rulemaking in September authorized the approval of a "partial plan," where "sufficient information is not available." No further specification or detail as to the nature of a partial plan was provided. It was construed by many commentators as authorizing the approval of a plan in the absence of complete information about the operations contained therein. This was not intended.

The proposed rulemaking now provides instead that where detailed information is not available at the time of submission of a mining plan, the plan may be approved without some such detailed information on the conditions that (1) the information not available is identified; (2) the absence of this information is specifically

mentioned in the notice of pendancy of the decision to approve the plan; (3) the plan contains complete and detailed information for at least five years of the proposed operation; and (4) the operator must supply the missing information in full detail as soon as it becomes available.

At the time of preparation and submission of a plan, specific operational details for future operations may and in some cases certainly will not be available. To approve an entire plan in the absence of such detail could involve serious environmental risks. Inability to approve a plan without complete detail could, however, effectively prevent the approval of any major operation. In the alternative, imposition of an absolute requirement for detail could create an incentive to predict or project future operational details without adequate basis in fact. This could lead to the submission and approval of plans which do not in fact represent an accurate program of future operational events. This in turn would create an incentive, if not a need, for major and frequent future changes in plans. This would have an undesirable environmental result, since it would require future and perhaps redundant commitment of resources into analysis and comment upon proposed plans by interested parties.

The intent of the regulations now proposed would be to require submission and analysis of operational details for all immediate operations, and for those future operations for which such details are known. This would permit consideration of all relevant factors,

based upon sufficient data for the decisionmaker to approve a plan, with minimal risk of unforeseen future adverse environmental consequences.

It should be noted that the proposed provision relates only to operational details, in connection with mine plan approval. Prelease and leasing analyses, and environmental analysis and impact statements prepared in connection therewith, would still review and analyze the environmental impacts of the entire proposed operation.

Environmental Advantages: The proposed regulations would encourage submission of all known details concerning future operations. This would decrease incentives to submit small scale plans which do not accurately reflect the cumulative effect of the entire proposal, or unrealistic projections of future operational details and, thus, environmental impacts. This would allow more efficient allocation of environmental review resources in both the public and private sector.

Environmental Disadvantages: Under the proposed regulations, full and complete details may not be known as to all aspects of an operation at the time the plan concerning the same is first approved.

Some comments suggested retention of the partial plan mechanism as originally proposed. This has not been accepted.

Environmental Advantages: Would allow maximum discretion in determining which and how much environmental analysis

is conducted with respect to a proposed plan.

Environmental Disadvantages: Without specific guidelines, the authority of the Mining Supervisor to reject a plan for inadequate data would be reduced. This would in turn decrease the possibility that appropriately detailed information might be compelled to be submitted, by action against the Mining Supervisor or the operator by interested parties in either administrative or judicial review.

Some comments suggested express prohibition of approval of any plan without full details. This suggestion was not adopted.

Environmental Advantages: Would ensure that all environmental consequences are considered at the time of plan approval. Would maximize opportunity for review of environmental concerns by interested parties.

Environmental Disadvantages: Could result in development and submission for approval of unrealistic plans of operations, with resulting need for incremental changes in plans that would require unnecessary expenditure of resources by interested persons.

Subparagraph (b), exploration plans.

This section sets forth the requirements for an exploration plan. It has been redrafted for clarity, and to add specific reference to endangered species.

Subparagraph (c), mining plans.

Requirements for data to be submitted with the mining plan have been expanded, and redrafted for clarity. The specific requirements of subparagraphs (6) and (7), the narrative description of the proposed operation, and the data which must be displayed on maps or aerial photographs, have been expanded to include additional information concerning the physical conditions at the site.

Subparagraph (d) is new, and sets forth in one subparagraph the procedural requirements for plan approval.

Subparagraph (d)(1) expressly authorizes the Mining Supervisor to approve, disapprove, or impose conditions upon the approval of a plan. It specifically requires the execution, submission and approval of a bond conditioned upon compliance with the provisions of the proposed plan.

Subparagraph (d)(2) sets forth the mechanisms whereby changes may be made in approved plans. Subparagraph (i) deals with changes made on motion of the Mining Supervisor, and Subparagraph (ii) on motion of the operator. Subparagraph (iii) is new and allows any interested person to petition the Mining Supervisor to exercise his authority pursuant to Subparagraph (i).

Environmental Advantages: Creates a mechanism for public initiative, whereby facts appropriately requiring a change in approved plan may be brought to the attention of the Mining Supervisor.

Environmental Disadvantages: None.

Subparagraph (d)(3) sets forth specific procedural requirements where an operator proposes to rely upon a level of control or reclamation which is the "maximum extent practicable" such level of control. As noted in Chapter VIII, this procedural device is designed to ensure against abuse of administrative discretion represented by the ability of the Mining Supervisor to approve a plan which contains a level of compliance "to the maximum extent practicable."

Section 211.62 Reports

This section sets forth specific procedural requirements for the filing of annual reports, vegetation reports after each planting, and production and royalty payment reports.

Environmental Advantages: Provides for the timely preparation and submission of data regarding ongoing operations, as additional failsafe method of ensuring compliance with applicable laws, regulations, leases, permits, licenses, or approved plans.

Environmental Disadvantages: None.

Section 211.62 Basis for royalty computation; audits

This section sets forth in greater detail the procedural mechanism for determining the value of royalties due to the Government based upon the Departmental practice of assessing such

royalties based upon the value of the coal. This section has been redrafted substantially from Section 211.61 as published in September, for clarity and to take into account circumstances in which the gross value of the coal is not in fact determinable by reference to the contract price itself.

Environmental Advantages: No direct environmental advantages, but insurance of payment of full market value of royalties fulfills important Departmental policy objective.

Environmental Disadvantages: None.

Section 211.74 Applicability of State law

The proposed regulations provide a mechanism, discussed in Chapter VIII, for the application of State law.

Since proposed 30 CFR Part 211 applies to Indian coal, subparagraph (c) hereof expressly sets forth that Indian rights will be protected in the exercise of the authority created by this section.

Environmental Advantages: Same as apply with respect to Indian lands, above.

Environmental Disadvantages: Same as above.

APPENDIX 4

ENDANGERED AND THREATENED WILDLIFE

(Source: U.S. Fish and Wildlife Service. Extracted from Federal Register, v. 40, no. 188, Friday, September 26, 1975.)

SPECIES			*RANGE*			
Common Name	Scientific Name	Population	Known Distribution	Portion of Range Where Threatened or Endangered	Status	When Listed
MAMMALS:						
Anoa	*Anoa depressicornis*	N/A	Indonesia	Entire	E	3
Armadillo, Pink Fairy	*Chlamyphorus truncatus*	N/A	Argentina	Do	E	3
Ass, African Wild	*Equus asinus*	N/A	Ethiopia, Somalia, Sudan	Do	E	3
Ass, Asian Wild	*Equus hemionus*	N/A	Southwestern and Central Asia	Do	E	3
Avahis	*Avahi* spp. (all species)	N/A	Malagasy Republic (Madagascar)	Do	E	4
Aye-aye	*Daubentonia madagascariensis*	N/A	Do	Do	E	3
Bandicoot, Barred	*Perameles bougainville*	N/A	Australia	Do	E	4
Bandicoot, Desert	*Perameles eremiana*	N/A	Do	Do	E	6
Bandicoot, Rabbit	*Macrotis lagotis*	N/A	Do	Do	E	4
Bandicoot, Lesser Rabbit	*Macrotis leucura*	N/A	Do	Do	E	4
Bandicoot, Pig-footed	*Chaeropus ecaudatus*	N/A	Do	Do	E	4
Banteng	*Bibos banteng*	N/A	Southeast Asia	Do	E	4
Bat, Hawaiian Hoary	*Lasiurus cinereus semotus*	N/A	USA (Hawaii)	Entire	E	2
Bat, Indiana	*Myotis sodalis*	N/A	Eastern and Midwestern USA	Do	E	1
Bear, Grizzly	*Ursus arctos horribilis*	USA (48 conterminous States)	USA (Montana, Idaho, Wyoming)	Do	T	9
Bear, Mexican Grizzly	*Ursus arctos nelsoni*	N/A	Mexico	Do	E	3
Bison, Wood	*Bison bison athabascae*	N/A	Canada	Do	E	3
Cat, Tiger	*Felis tigrina*	N/A	Costa Rica to Northern South America	Do	E	4
Cheetah	*Acinonyx jubatus*	N/A	Africa to India	Do	E	3, 5
Colobus, Red	*Colobus badius rufomitratus*	N/A	Kenya	Do	E	4
Colobus, Zanzibar Red	*Colobus badius kirkii*	N/A	Tanzania (Zanzibar)	Do	E	4
Cougar, Eastern	*Felis concolor cougar*	N/A	Eastern USA	Do	E	6
Deer, Bawean	*Helaphus kuhli* (*Cervus kuhli*)	N/A	Indonesia	Do	E	3
Deer, Brow-antlered, Eld's	*Cervus eldi*	N/A	India, Southeast Asia	Do	E	4
Deer, Cedros Island Mule	*Odocoileus hemionus cerrosensis*	N/A	Mexico (Cedros Island)	Entire	E	10
Deer, Columbian Whitetailed	*Odocoileus virginianus leucurus*	N/A	USA (Oregon, Washington)	Do	E	1
Deer, Key	*Odocoileus virginianus clavium*	N/A	USA (Florida)	Do	E	1
Deer, Marsh	*Blastocerus dichotomus*	N/A	Argentina, Uruguay, Paraguay, Brazil	Do	E	4
Deer, McNeill's	*Cervus elaphus macneilli*	N/A	China, Tibet	Do	E	4
Deer, Persian Fallow	*Dama dama mesopotamica*	N/A	Iraq, Iran	Do	E	3
Deer, Swamp	*Cervus duvauceli*	N/A	India, Nepal	Do	E	4
Dibatag (see Gazelle, Clark's)						
Dibbler	*Antechinus apicalis*	N/A	Australia	Do	E	4
Dog, Asiatic Wild (Dhole)	*Cuon alpinus*	N/A	USSR, India	Do	E	4
Dugong	*Dugong dugon*	N/A	East Africa to Ryukyu Islands	Do	E	4
Ferret, Black-footed	*Mustela nigripes*	N/A	Western USA and Western Canada	Do	E	1, 3
Forester, Tasmanian (Kangaroo)	*Macropus giganteus tasmaniensis*	N/A	Australia	Do	E	6
Fox, Northern Kit	*Vulpes velox hebes*	N/A	Canada	Do	E	3
Fox, San Joaquin Kit	*Vulpes macrotis mutica*	N/A	USA (California)	Do	E	1
Gazelle, Clark's (Dibatag)	*Ammodorcas clarkii*	N/A	Somalia, Ethiopia	Do	E	3
Gazelle, Cuviers	*Gazella cuvieri*	N/A	Morocco, Tunisia	Do	E	4
Gazelle, Mhorr	*Gazella dama mhorr*	N/A	Morocco	Do	E	4
Gazelle, Moroccan (Dorcas)	*Gazella dorcas massaesyla*	N/A	Morocco, Algeria	Do	E	4
Gazelle, Rio de Oro Dama	*Gazella dama lozanoi*	N/A	Spanish Sahara	Do	E	4
Gazelle, Slender-horned (Rhim)	*Gazella leptoceros*	N/A	Sudan, Algeria, Egypt, Libya	Do	E	4
Gibbon, Kloss	*Hylobates klossi*	N/A	Indonesia	Do	E	4
Gibbon, Pileated	*Hylobates pileatus*	N/A	Laos, Thailand, Cambodia	Do	E	4
Gorilla	*Gorilla gorilla*	N/A	Central and Western Africa	Do	E	4
Hartebeast, Swayne's	*Alcelaphus buselaphus swaynei*	N/A	Ethiopia	Do	E	4
Hog, Pygmy	*Sus salvanius*	N/A	India Nepal, Bhutan, Sikkim	Do	E	4
Hyaena, Barbary	*Hyaena hyaena barbara*	N/A	Morocco	Do	E	4
Hyaena, Brown	*Hyaena brunnea*	N/A	South Africa	Do	E	4
Ibex, Pyrenean	*Capra pyrenaica pyrenaica*	N/A	Spain	Do	E	3
Ibex, Walia	*Capra walie*	N/A	Ethiopia	Do	E	3
Impala, Black-faced	*Aepyceros melampus petersi*	N/A	Southwest Africa, Angola	Do	E	4
Indris	*Indri* spp (all species)	N/A	Malagasy Republic (Madagascar), Comoro I.	Do	E	3, 4
Jaguar	*Panthera onca*	N/A	Central and South America	Do	E	4
Kangaroo, Eastern Gray (see also Forester, Tasmanian)	*Macropus giganteus* (all subspecies except *tasmaniensis*)	N/A	Australia	Do	T	7
Kangaroo, Red	*Megaleia rufa*	N/A	Australia	Do	T	7
Kangaroo, Western Gray	*Macropus fuliginosus*	N/A	Australia	Do	T	7
Kouprey	*Bos sauveli*	N/A	Cambodia	Do	E	3
Langur, Douc	*Pygathrix nemaeus*	N/A	Indochina, China (Hainan)	Entire	E	4
Langur, Pagi Island	*Simias concolor*	N/A	Indonesia	Do	E	4
Lechwe, Black	*Kobus leche smithemani*	N/A	Zambia	Do	E	4
Lemurs	*Lemuridae*: all members of the Genera *Lemur, Hapalemur, Lepilemur, Cheirogaleus, Microcebus, Phaner*	N/A N/A	Malagasy Republic (Madagascar) and Comoro Islands	Do	E	3, 4
Leopard	*Panthera pardus*	N/A	Africa and Asia	Do	E	3, 5
Leopard, Formosan Clouded	*Neofelis nebulosa brachyurus*	N/A	Taiwan	Do	E	4
Leopard, Snow	*Panthera uncia*	N/A	Central Asia	Do	E	3
Lion, Asiatic	*Panthera leo persica*	N/A	India	Do	E	3
Lynx, Spanish	*Felis lynx pardina* (*Felis pardina*)	N/A	Spain	Do	E	3
Macaque, Lion-tailed	*Macaca silenus*	N/A	India	Do	E	3
Manatee, Amazonian	*Trichechus inunguis*	N/A	South America: Amazon River Basin	Do	E	3
Manatee, West Indian (Florida)	*Trichechus manatus*	N/A	USA (Florida), Caribbean, South America	Entire	E	1, 3
Mangabey, Tana River	*Cercocebus galeritus galeritus*	N/A	Kenya	Do	E	3
Margay	*Felis wiedii*	N/A	Central and South America	Do	E	5
Marmoset, Goeldi's	*Callimico goeldii*	N/A	Brazil, Colombia, Ecuador, Peru	Do	E	4
Marmoset, Golden (See Tamarin)						
Marsupial, Eastern Jerboa	*Antechinomys laniger*	N/A	Australia	Do	E	4
Marsupial-mouse, Large Desert	*Sminthopsis psammophila*	N/A	Australia	Do	E	4
Marsupial-mouse, Longtailed	*Sminthopsis longicaudata*	N/A	Australia	Do	E	4
Marten, Formosan Yellow-throated	*Martes flavigula chrysospila*	N/A	Taiwan	Do	E	4
Monk-seal (See Seal, Mediterranean Monk).						
Monkey, Spider	*Ateles geoffroyi frontatus*	N/A	Costa Rica, Nicaragua	Do	E	3
Monkey, Spider	*Ateles geoffroyi panamensis*	N/A	Costa Rica, Panama	Do	E	3
Monkey, Red-backed Squirrel	*Saimiri oerstedii* (*Siamiri sciureus oerstedii*.	N/A	Costa Rica, Panama	Do	E	3

SPECIES			*RANGE*			
Common Name	Scientific Name	Population	Known Distribution	Portion of Range Where Threatened or Endangered	Status	When Listed
Monkey, Woolly Spider	*Brachyteles arachnoides*	N/A	Brazil	Entire	E	4
Mouse, Field's	*Pseudomys fieldi*	N/A	Australie	Do	E	4
Mouse, Gould's	*Pseudomys gouldii*	N/A	Do	Do	E	6
Mouse, New Holland	*Pseudomys novaehollandiae*	N/A	Do	Do	E	4
Mouse, Salt Marsh Harvest	*Reithrodontomys raviventris*	N/A	USA (California)	Do	E	2
Mouse, Shark Bay	*Pseudomys praeconis*	N/A	Australia	De	E	4
Mouse, Shortridge's	*Pseudomys shortridgei*	N/A	Do	Do	E	4
Mouse, Smoky	*Pseudomys fumeus*	N/A	Do	De	E	4
Mouse, Western	*Pseudomys occidentalis*	N/A	Do	De	E	4
Native-cat, Eastern	*Dasyurus viverrinus*	N/A	De	De	E	6
Numbat	*Myrmecobius fasciatus*	N/A	Do	De	E	6
Ocelot	*Felis pardalis*	N/A	Central and South America	Do	E	5
Orangutan	*Pongo pygmaeus*	N/A	Indonesia, Malaysia, Brunei	Entire	E	3
Oryx, Arabian	*Oryx leucoryx*	N/A	Arabian Peninsula	Do	E	3
Otter, Cameroon Clawless	*Paraonyx microdon*	N/A	Cameroons	Do	E	4
Otter, Giant	*Pteronura brasiliensis*	N/A	South America	Do	E	3
Otter, La Plate	*Lutra platensis*	N/A	Uruguay, Argentina, Bolivie, Brazil	Do	E	4
Panther, Florida	*Felis concolor coryi*	N/A	USA (Florida)	Do	E	1
Planigale, Little	*Planigale subtilissima*	N/A	Australia	Do	E	4
Planigale, Southern	*Planigale tenuirostris*	N/A	Do	Do	E	4
Porcupine, Thin-spined	*Chaetomys subspinosus*	N/A	Brazil	Do	E	3
Possum, Mountain Pygmy	*Burramys parvus*	N/A	Australia	Do	E	4
Possum, Scaly-tailed	*Wyulda squamicaudata*	N/A	Do	Do	E	4
Prairie Dog, Mexican	*Cyonomys mexicanus*	N/A	Mexico	De	E	4
Prairie Dog, Utah	*Cyonomys parvidens*	N/A	USA (Utah)	Entire	E	6
Pronghorn, Peninsular	*Antilocapra americano peninsularis*	N/A	Mexico (Baja California)	Do	E	10
Pronghorn, Sonoran	*Antilocapra americana sonoriensis*	N/A	USA (Arizena) Mexico	De	E	1, 3
Quokka	*Setonix brachyurus*	N/A	Australia	Do	E	6
Rabbit, Volcano	*Romerolagus diazi*	N/A	Mexico	Do	E	4
Rat, Morro Bay Kangaroo	*Dipodomys heermanni morroensis*	N/A	USA (California)	Do	E	2
Rat, Stick-nest	*Leporillus conditor*	N/A	Australia	Do	E	6
Rat, False Weter	*Xeromys myoides*	N/A	Do	Do	E	4
Rat-kangaroo, Brushtailed	*Bettongia pencillata*	N/A	Do	Do	E	4
Rat-kangaroo, Gaimard's	*Bettongia gaimardi*	N/A	Do	Do	E	6
Rat-kangaroo, Hestleur's	*Bettongia lesueur*	N/A	Do	Do	E	4
Rat-kangaroo, Plain	*Caloprymnus campestris*	N/A	Do	Do	E	4
Rat-kangaroo, Queensland	*Bettongia tropica*	N/A	Australia	Entire	E	4
Rhim (see Gazelle, Slender-horned)						
Rhinoceros, Great Indien	*Rhinōceros unicornis*	N/A	India, Nepal	De	E	4
Rhinoceros, Javan	*Rhinoceros sondaicus*	N/A	Indonesia, Burma, Thailand	De	E	3
Rhinoceros, Northern White	*Ceratotherium simum cottoni*	N/A	Zaire, Uganda, Sudan, Cantral African Republic	Do	E	4
Rhinoceros, Sumatran	*Didermoceros sumatrensis*	N/A	Bangladesh to Viet-Nam to Indonesia (Borueo)	Do	E	3
Saki, White-nosed	*Chiropotes albinasus*	N/A	Brazil	Do	E	4
Seal, Mediterranean Monk	*Monachus monachus*	N/A	Mediterranean, Northwest African Coast and Black Sea.	Do	E	3
Seledang (Gaur)	*Bos gaurus*	N/A	India, Southeast Asia, Bangladesh.	Do	E	4
Servel, Barbary	*Felis serval constantina*	N/A	Algeria	Do	E	4
Shou	*Cervus elaphus wallichi*	N/A	Tibet, Bhutan	Do	E	4
Sifakas	*Propithecus* spp. (all species)	N/A	Malagasy Republic (Madagascar)	Entire	E	4
Sloth, Brazilian Three-toed	*Bradypus torquatus*	N/A	Brazil	Do	E	4
Snow Leopard (see Leopard)						
Solenodon, Cuban	*Atopogale cubana*	N/A	Cuba	Do	E	4
Solenoden, Haitian	*Solenodon paradoxus*	N/A	Dominicen Republic, Haiti	Do	E	4
Squirrel, Delmarva Peninsula Fox	*Sciurus niger cinereus*	N/A	USA (Maryland)	Do	E	1
Stag, Barbary	*Cervus elaphus barbarus*	N/A	Tunisia, Algeria	Do	E	3
Stag, Kashmir	*Cervus elaphus hanglu*	N/A	India (Kashmir)	Do	E	3
Tamaraw	*Anoa mindorensis*	N/A	Philippines	Do	E	4
Tamarin, Golden-rumped (Golden-headed Tamarin; Golden-lion Marmoset)	*Leontideus* spp. (all species)	N/A	Brazil	Do	E	3
Tapir, Brazilian	*Tapirus terrestris*	N/A	Venezuela, Argentina, Brazil, Colombia	Do	E	4
Tapir, Central American	*Tapirus bairdii*	N/A	Southern Mexico to Colombia and Ecuador	Do	E	4
Tapir, Mountain	*Tapirus pinchaque*	N/A	Colombia	Do	E	4
Thylacine (See Tiger, Tasmanian)						
Tiger	*Panthera tigris*	N/A	Temparate and Tropical Asia	Entire	E	3, 5
Tiger, Tasmanian (Thylacine)	*Thylacinus cynocephalus*	N/A	Australia	Do	E	3
Uekeri	*Cacajao* spp. (all species)	N/A	Peru, Colombie, Brazil, Venezuela, Ecuador	Do	E	3
Vicuna	*Vicugna vicugna*	N/A	Peru, Bolivia, Argentina	Do	E	3
Wallaby, Banded Hare	*Lagostrophus fasciatus*	N/A	Australia	Do	E	4
Wallaby, Brindled Nail-tail	*Onychogaela frenata*	N/A	Do	Do	E	4
Wallaby, Crescent Nail-tail	*Onychogaela lunata*	N/A	Do	Do	E	4
Wallaby, Parma	*Macropus parma*	N/A	Do	De	E	4
Wallaby, Western Hare	*Lagorchestes hirsutus*	N/A	Do	Do	E	4
Wallaby, Yellow-footed Rock	*Petrogale xanthopus*	N/A	Do	Do	E	6
Whale, Blue	*Balaenoptera musculus*	N/A	Oceanic	Do	E	4
Whale, Bowhead	*Balaena mysticetus*	N/A	Oceanic	Entire	E	4
Whale, Finback	*Balaenoptera physalus*	N/A	Do	Do	E	4
Whale, Gray	*Eschrichtius gibbosus*	N/A	Do	Do	E	4
Whale, Humpback	*Megaptera novaeangliae*	N/A	Do	De	E	4
Whale, Right	*Eubalaena* spp (all species)	N/A	Do	Do	E	4
Whale, Sei	*Balaenoptera borealis*	N/A	Do	Do	E	4
Whale, Sperm	*Physeter catodon*	N/A	Do	Do	E	4
Wolf, Eastern Timber	*Canis lupus lycaon*	N/A	USA (Minnesota, Michigan), Eastern Canada	De	E	1
Wolf, Maned	*Chrysocyon brachyurus*	N/A	Argentina, Bolivia, Brazil, Paraguay.	De	E	4
Wolf, Northern Rocky Mountain	*Canis lupus irremotus*	N/A	USA (Wyoming, Montana)	Do	E	6
Wolf, Red	*Canis rufus*	N/A	USA (Texas, Louisiana)	De	E	2
Wombat, Barnerd's	*Lasiorhinus barnardi*	N/A	Austrelie	Do	E	4
Wombat, Queensland Hairy-nosed	*Lasiorhinus gillespiei*	N/A	Australia	Do	E	6
Yak, Wild	*Bos grunniens mutus*	N/A	Tibet, India	Entire	E	4

SPECIES			*RANGE*			
Common Name	Scientific Name	Population	Known Distribution	Portion of Range Where Threatened or Endangered	Status	When Listed
BIRDS:						
Akepa, Hawaii (Honeycreeper)	*Loxops coccinea coccinea*	N/A	USA (Hawaii)	Entire	E	2
Akepa, Maui (Honeycreeper) (akepuie)	*Loxops coccinea ochraceu*	N/A	USA (Hawaii)	Entire	E	2
Akialoa, Kauai (Honeycreeper)	*Hemignathus procerus*	N/A	USA (Hawaii)	Entire	E	1
Akiapolaau (Honeycreeper)	*Hemignathus wilsoni*	N/A	USA (Hawaii)	Entire	E	1
Albatross, Shortailed	*Diomedea albatrus*	N/A	Japan	Entire	E	3
Bobwhite, Masked (Quail)	*Colinus virginianus ridgwayi*	N/A	USA (Arizona, New Mexico), Northern Mexico	Entire	E	1, 3
Bristlebird, Western (Flycatcher)	*Dasyornis brachypterus longirostris*	N/A	Australlia	Entire	E	4
Bulbul, Mauritius Olivaceous	*Hypsipetes borbonicus olibaceus*	N/A	Mauritius	Entire	E	3
Bullfinch, Sao Miguel (Finch)	*Pyrrhula pyrrhula murina*	N/A	Eastern Atlantic Ocean: Portugal (Azores)	Entire	E	3
Bustard, Great Indian	*Choriotis nigriceps*	N/A	India, Pakistan	Entire	E	3
Cahow (Bermuda Petrel)	*Pterodroma cahow*	N/A	Western Atlantic Ocean: Bermuda	Entire	E	4
Condor, Andean	*Vultur gryphus*	N/A	Colombia to Chile and Argentina	Entire	E	4
Condor, California	*Gymnogyps californianus*	N/A	USA (California)	Entire	E	1
Coot, Hawaiian	*Fulica americana alai*	N/A	USA (Hawaii)	Entire	E	2
Crane, Hooded	*Grus monacha*	N/A	Japan, USSR	Entire	E	4
Crane, Japanese	*Grus japonensis*	N/A	China, Japan, Korea, USSR	Entire	E	4
Crane, Mississippi Sandhill	*Grus canadensis pulla*	N/A	USA (Mississippi)	Entire	E	6
Crane, Siberian White	*Grus leucogeranus*	N/A	Siberia to India	Entire	E	4
Crane, Whooping	*Grus americana*	N/A	Canada, USA	Entire	E	1, 3
Creeper, Hawaii	*Loxops maculata mana*	N/A	USA (Hawaii)	Entire	E	10
Creeper, Molokai (Kakawahie) (Honeycreeper)	*Loxops maculata flammea*	N/A	USA (Hawaii)	Entire	E	2
Creeper, Oahu (Alauwahio) (Honeycreeper)	*Loxops maculata maculata*	N/A	USA (Hawaii)	Entire	E	2
Crow, Hawaiian (Alala)	*Corvus tropicus*	N/A	USA (Hawaii)	Entire	E	1
Cuckoo-shrike, Mauritius	*Coquus typicus*	N/A	Mauritius	Entire	E	3
Cuckoo-shrike Reunion	*Coquus newtoni*	N/A	Indian Ocean: France (Reunion I.)	Entire	E	3
Curassow, Red-billed	*Crax blumenbachii*	N/A	Brazil	Entire	E	4
Curassow, Trinidad White-headed	*Pipile pipile pipile*	N/A	West Indies: Trinidad	Entire	E	3
Curlew, Eskimo	*Numenius borealis*	N/A	Canada to Argentina	Entire	E	1, 3
Dove, Cloven-feathered	*Drepanoptila holosericea*	N/A	Southwest Pacific Ocean: New Caledonia	Entire	E	4
Dove, Grenada	*Leptotila wellsi*	N/A	West Indies: Grenada	Entire	E	4
Dove, Palau Ground	*Gallicolumba canifrons*	N/A	West Pacific Ocean: Palau Islands	Entire	E	4
Duck, Hawaiian (Koloa)	*Anas wyvilliana*	N/A	USA (Hawaii)	Entire	E	1
Duck, Laysan	*Anas laysanensis*	N/A	USA (Hawaii)	Entire	E	1
Duck, Mexican	*Anas diazi*	N/A	USA (Texas, Arizona), Mexico	Entire	E	1
Duck, White-winged Wood	*Cairina scutulata*	N/A	India, Burma, Thailand, Malaysia, Indonesia	Entire	E	3
Eagle, Monkeyeating	*Pithecophaga jefferyi*	N/A	Philippines	Entire	E	3
Eagle, Southern Bald	*Haliaeetus leucocephalus leucocephalus*	N/A	USA (South of the 40th Parallel)	Entire	E	1
Eagle, Spanish Imperial	*Aquila heliaca adalberti*	N/A	Spain, Morocco, Algeria	Entire	E	4
Egret, Chinese	*Egretta eulophotes*	N/A	China, Korea	Entire	E	4
Falcon, American Peregrine	*Falco peregrinus anatum*	N/A	Canada, USA, Mexico	Entire	E	2, 3
Falcon, Arctic Peregrine	*Falco peregrinus tundrius*	N/A	Canada, USA, Greenland to South America	Entire	E	2, 4
Finches, Laysan and Nihoa (Honeycreepers)	*Psittirostra cantans*	N/A	USA (Hawaii)	Entire	E	1
Flycatcher, Chatham Island Robin	*Petroica traversi*	N/A	New Zealand	Entire	E	4
Flycatcher, Euler's (Tyrant)	*Empidonax euleri johnstonei*	N/A	West Indies: Grenada	Entire	E	3
Flycatcher, Greynecked Rock-fowl	*Picathartes oreas*	N/A	Cameroon	Entire	E	3
Ficatcher, Palau Fantail	*Rhipidura lepida*	N/A	West Pacific Ocean: Palau Islands	Entire	E	4
Flycatcher, Scarletbreasted Robin (Tyrant)	*Petroica multicolor multicolor*	N/A	Australia (Norfolk I.)	Entire	E	3
Flycatcher, Seychelles Black	*Terpsiphone corvina*	N/A	Indian Ocean: Seychelles	Entire	E	4
Flycatcher, Tahiti	*Pomarea nigra nigra*	N/A	South Pacific Ocean: Tahiti	Entire	E	3
Flycether, Whitenecked Rock-fowl	*Picathartes gymnocephalus*	N/A	Africa: Togo to Sierra Leona	Entire	E	3
Fody, Seychelles (Weaver-finch)	*Foudia sechellarum*	N/A	Indian Ocean: Seychelles	Entire	E	3
Gallinule, Hawaiian	*Gallinula chloropus sandvicenis*	N/A	USA (Hawaii)	Entire	E	1
Goose, Aleutian Canada	*Branta canadensis leucopareia*	N/A	Western USA, Japan	Entire	E	1, 4
Goose, Hawaiian (Nene)	*Branta sandvicensis*	N/A	USA (Hawaii)	Entire	E	1
Ooshawk, Christmas Island	*Accipiter fasciatus natalis*	N/A	Indian Ocean: Australia (Christmas I.)	Entire	E	3
Orackle, Slender-billed	*Cassidix palustris*	N/A	Mexico	Entire	E	4
Grass-wren, Eyrean (Flycatcher)	*Amytornis goyderi*	N/A	Australia	Entire	E	4
Grebe, Atitlan	*Podilymbus gigas*	N/A	Guatemala	Entire	E	3
Guan, Horned	*Oreophasis derbianus*	N/A	Guatemala, Mexico	Entire	E	3
Gull, Audouin's	*Larus audouinii*	N/A	Mediterranean Sea and adjacent lands	Entire	E	3
Hawk, Anjouan Island Sparrow	*Accipiter francesii pusillus*	N/A	Indian Ocean: Comoro Islands	Entire	E	3
Hawk, Oallapagos	*Buteo galapagoensis*	N/A	Ecuador (Galapagos Islands)	Entire	E	3
Hawk, Hawaiian (Io)	*Buteo solitarius*	N/A	USA (Hawaii)	Entire	E	1
Honeycreeper, Crested (Akohekohe)	*Palmeria dolei*	N/A	USA (Hawaii)	Entire	E	1
Honeyeater, Helmeted	*Meliphaga cassidix*	N/A	Australia	Entire	E	4
Ibis, Japanese Crested	*Nipponia nippon*	N/A	China, Japan, Korea, USSR	Entire	E	3
Kagu (Rail)	*Rhynochetos jubatus*	N/A	Southwest Pacific Ocean: New Caledonia	Entire	E	3
Kakapo (Owl Parrot)	*Strigops habroptilus*	N/A	New Zealand	Entire	E	4
Kestrel, Mauritius	*Falco punctatus*	N/A	Mauritius	Entire	E	3
Kestrel, Seychelles	*Falco araea*	N/A	Indian Ocean: Seychelles	Entire	E	3
Kite, Cuba Hookbilled	*Chondrohierax wilsonii*	N/A	Cuba	Entire	E	4
Kite, Orenada Hookbilled	*Chondrohierax uncinatus mirus*	N/A	West Indies: Grenada	Entire	E	4
Kite, Florida Everglade (Snail Kite)	*Rostrhamus sociabilis plumbeus*	N/A	USA (Florida)	Entire	E	1
Kokako (Wattlebird)	*Callaeas cinerea*	N/A	New Zealand	Entire	E	3
Magpie-robin, Seychelles (Thrush)	*Copsychus sechellarum*	N/A	Indian Ocean: Seychelles	Entire	E	3
Malkoha, Redfaced	*Phaenicophaeus pyrrhocephalus*	N/A	Sri Lanka	Entire	E	3
Megapode, La Perouse's	*Megapodius laperouse*	N/A	Western Pacific Ocean: Palau Islands, Mariana Islands	Entire	E	4

SPECIES			*RANGE*			
Common Name	Scientific Name	Population	Known Distribution	Portion of Range Where Threatened or Endangered	Status	When Listed
Megapode, Maleo	*Macrocephalon maleo*	N/A	Indonesia (Celebes)	Entire	E	4
Millerbird, Nihoa (Warbler)	*Acrocephalus kingi*	N/A	USA (Hawaii)	Do	E	1
Monals (see Pheasant)						
Monarch, Tinian (Tyrant Fly-catcher)	*Monarcha takatsukasae*	N/A	Western Pacific Ocean: Manana Islands (Tinian)	Do	E	3
Nukupuus, Kauai & Maui (Honey-creeper)	*Hemignathus lucidus*	N/A	USA (Hawaii)	Do	E	2
Oo, Kauai (Oo Aa) (Honeyeater)	*Moho braccatus*	N/A	USA (Hawaii)	Do	E	1
Ostrich, Arabian	*Struthio camelus syriacus*	N/A	Jordan, Saudi Arabia	Do	E	3
Ostrich, West African	*Struthio camelus spatzi*	N/A	Spanish Sahara	Do	E	4
Ou (Honeycreeper)	*Psittirostra psittacea*	N/A	USA (Hawaii)	Do	E	1
Owl, Anjouan Scops	*Otus rutilus capnodes*	N/A	Indian Ocean: Comoro Islands	Do	E	3
Owl, Palau	*Otus podargina*	N/A	Western Pacific Ocean: Palau Islands	Entire	E	4
Owl, Seychelles	*Otus insularis*	N/A	Indian Ocean: Seychelles	Do	E	3
Owlet, Mrs. Morden's	*Otus ireneae*	N/A	Kenya	Do	E	3
Palila (Honeycreeper)	*Psittirostra bailleui*	N/A	USA (Hawaii)	Do	E	1
Parakeet, Forbes'	*Cyanoramphus auriceps forbesi*	N/A	New Zealand	Do	E	4
Parakeet, Golden-shouldered	*Psephotus chrysopterygius*	N/A	Australia	Do	E	4
Parakeet, Mauritius Ringnecked	*Psittacula krameri echo*	N/A	Mauritius	Do	E	4
Parakeet, Ochre-marked	*Pyrrhura cruentata*	N/A	Brazil	Do	E	4
Parakeet, Orange-bellied	*Neophema chrysogaster*	N/A	Australia	Do	E	4
Parakeet, Paradise	*Psephotus pulcherrimus*	N/A	Australia	Do	E	4
Parakeet, Scarlet-chested	*Neophema splendida*	N/A	Australia	Entire	E	4
Parakeet, Turquoise	*Neophema pulchella*	N/A	Australia	Do	E	4
Parrot, Bahamas	*Amazona leucocephala bahamensis*	N/A	Western Atlantic Ocean: Bahamas	Do	E	3
Parrot, Ground	*Pezoporus wallicus*	N/A	Australia	Do	E	6
Parrot, Imperial	*Amazona imperialis*	N/A	West Indies: Dominica	Do	E	4
Parrot, Night	*Geopsittacus occidentalis*	N/A	Australia	Do	E	3
Parrot, Puerto Rican	*Amazona vittata*	N/A	USA (Puerto Rico)	Do	E	1
Parrot, Red-browed	*Amazona rhodocorytha*	N/A	Brazil	Do	E	4
Parrot, St. Lucia	*Amazona versicolor*	N/A	West Indies: St. Lucia	Do	E	4
Parrot, St. Vincent	*Amazona guildingii*	N/A	West Indies: St. Vincent	Do	E	4
Parrot, Thick-billed	*Rhynchopsitta pachyrhyncha*	N/A	Mexico, USA (Arizona, New Mexico)	Entire	E	3
Parrotbill, Maui (Honeycreeper)	*Pseudonestor xanthophrys*	N/A	USA (Hawaii)	Do	E	1
Pelican, Brown	*Pelecanus occidentalis*	N/A	USA, West Indies, Central and South America: Coastal	Do	E	2, 4
Penguin, Galapagos	*Spheniscus mendiculus*	N/A	Ecuador (Galapagos Islands)	Do	E	2, 3
Petrel, Hawaiian Dark-rumped	*Pterodroma phaeopygia sandwichensis*	N/A	USA (Hawaii)	Do	E	1
Pheasant, Bar-tailed	*Syrmaticus humiae*	N/A	Burma, China	Do	E	3
Pheasant, Blyth's Tragopan	*Tragopan blythii*	N/A	Burma, China, India	Do	E	3
Pheasant, Brown-eared	*Crossoptilon mantchuricum*	N/A	China	Do	E	3
Pheasant, Cabot's Tragopan	*Tragopan caboti*	N/A	China	Do	E	3
Pheasant, Chinese Monal	*Lophophorus lhuysii*	N/A	China	Do	E	3
Pheasant, Edward's	*Lophura edwardsi*	N/A	Vietnam	Entire	E	3
Pheasant, Imperial	*Lophura imperialis*	N/A	Vietnam	Do	E	3
Pheasant, Mikado	*Syrmaticus mikado*	N/A	Taiwan	Do	E	4
Pheasant, Palawan Peacock	*Polyplectron emphanum*	N/A	Philippines	Do	E	3
Pheasant, Sclater's Monal	*Lophophorus sclateri*	N/A	Burma, China, India	Do	E	3
Pheasant, Swinhoe's	*Lophura swinhoii*	N/A	Taiwan	Do	E	3
Pheasant, Western Tragopan	*Tragopan melanocephalus*	N/A	India, Pakistan	Do	E	3
Pheasant, White-eared	*Crossoptilon crossoptilon*	N/A	China (Tibet), India	Do	E	4
Pigeon, Azores Wood	*Columba palumbus azorica*	N/A	East Atlantic Ocean: Portugal (Azores)	Do	E	3
Pigeon, Chatham Island	*Hemiphaga novaeseelandiae chathamensis*	N/A	New Zealand	Do	E	4
Pigeon, Puerto Rican Plain	*Colomba inornata wetmorei*	N/A	USA (Puerto Rico)	Entire	E	3
Piopio (Wattlebird)	*Turnagra capensis*	N/A	Indian Ocean: France (Reunion Island)	Do	E	3
Praire Chicken, Attwater's Greater	*Tympanuchus cupido attwateri*	N/A	USA (Texas)	Do	E	1
Plover, New Zealand Shore	*Thinornis novae-seelandiae*	N/A	New Zealand	Do	E	4
Po'o Uli	*Melamprosops phaeosoma*	N/A	USA (Hawaii)	Do	E	10
Rail, Aukland Island	*Rallus pectoralis muelleri*	N/A	New Zealand	Do	E	3
Rail, California Clapper	*Rallus longirostris obsoletus*	N/A	USA (California)	Do	E	2
Rail, Light-footed Clapper	*Rallus longirostris levipes*	N/A	Mexico, USA (California)	Do	E	2
Rail, Yuma Clapper	*Rallus longirostris yumanensis*	N/A	Mexico, USA (Arizona, California)	Do	E	1
Rhea, Darwin's	*Pterocnemia pennata*	N/A	Argentina, Bolivia, Peru, Uruguay	Do	E	4
Roller, Long-tailed Ground	*Uratelornis chimaera*	N/A	Malagasy Republic (Madagascar)	Entire	E	4
Scrub-bird, Noisy	*Atrichornis clamosus*	N/A	Australia	Do	E	3
Shama, Cebu Black (Thrush)	*Copsychus niger cebuensis*	N/A	Philippines	Do	E	3
Shearwater, Newell's Manx	*Puffinus puffinus newelli*	N/A	USA (Hawaii)	Do	T	10
Sparrow, Cape Sable	*Ammospiza maritima mirabilis*	N/A	USA (Florida)	Do	E	1
Sparrow, Dusky Seaside	*Ammospiza maritima nigrescens*	N/A	USA (Florida)	Do	E	1
Sparrow, Santa Barbara	*Melospiza melodia graminea*	N/A	USA (California)	Do	E	6
Starling, Ponape Mountain	*Aplonis pelzelni*	N/A	Western Pacific Ocean: Caroline Islands (Ponape)	Do	E	4
Starling, Rothschild's (Myna)	*Leucopsar rothschildi*	N/A	Indonesia (Bali)	Do	E	4
Stilt, Hawaiian	*Himantopus himantopus knudseni*	N/A	USA (Hawaii)	Do	E	2
Stork, White Oriental	*Ciconia ciconia boyciana*	N/A	China, Japan, Korea, USSR	Entire	E	4
Tern, California Least	*Sterna albifrons browni*	N/A	Mexico, USA	Do	E	2, 4
Thrasher, White-breasted	*Ramphocinclus brachyurus*	N/A	West Indies: Martinique, St. Lucia	Do	E	3
Thrush, Large Kauai	*Phaeornis obscurus myadestina*	N/A	USA (Hawaii)	Do	E	2
Thrush, Molokai (Oloma'o)	*Phaeornis obscurus rutha*	N/A	USA (Hawaii)	Do	E	2
Thrush, Small Kauai (Puaiohi)	*Phaeornis palmeri*	N/A	USA (Hawaii)	Do	E	1
Tragopans (see Pheasants)						
Trembler, Martinique Brown	*Cinclocerthia ruficauda gutturalis*	N/A	West Indies: Martinique	Do	E	3
Wanderer, Plain	*Pedionomus torquatus*	N/A	Australia	Do	E	6
Warbler (Wood), Bachman's	*Vermivora bachmanii*	N/A	Cuba, USA (Southeastern)	Do	E	1, 4
Warbler (Wood), Barbados Yellow	*Dendroica petechia petechia*	N/A	West Indies Barbados	Entire	E	4
Warbler, (Wood) Kirtland's	*Dendroica kirtlandii*	N/A	USA, West Indies: Bahamas	Do	E	1, 4
Warbler, Reed	*Acrocephalus luscinia*	N/A	Western Pacific Ocean: Mariana Islands	Do	E	3
Warbler, Rodrigues	*Bebrornis rodericanus*	N/A	Mauritius (Rodrigues I.)	Do	E	3
Warbler, Semper's	*Leucopeza semperi*	N/A	West Indies: St. Lucia	Do	E	3

SPECIES			RANGE			
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Warbler, Seychelles	*Bebrornis sechellensis*	N/A	Indian Ocean: Seychelles	Do	E	3
Whipbird, Western (Thrush)	*Psophodes nigrogularis*	N/A	Australia	Do	E	4
Whip-poor-will, Puerto Rican	*Caprimulgus noctitherus*	N/A	USA (Puerto Rico)	Do	E	6
White-eye, Ponape Great	*Rukia sanfordi*	N/A	Western Pacific Ocean: Caroline Islands (Ponape)	Do	E	4
White-eye, Seychelles	*Zosterops modestus*	N/A	Indian Ocean: Seychelles	Do	E	4
Woodpecker, Imperial	*Campephilus imperialis*	N/A	Mexico	Entire	E	3
Woodpecker, Ivory-billed	*Campephilus principalis*	N/A	Cuba, USA (South Central and Southeast)	Do	E	1, 3
Woodpecker, Red-cockaded	*Dendrocopos borealis*	N/A	USA (South Central and Southeast)	Do	E	2
Woodpecker, Tristram's	*Dryocopus javensis richardsi*	N/A	Korea	Do	E	3
Wren, Guadeloupe House	*Troglodytes aedon guadeloupensis*	N/A	West Indies: Guadeloupe	Do	E	3
Wren, New Zealand Bush	*Xenicus longipes*	N/A	New Zealand	Do	E	3
Wren, St. Lucia	*Troglodytes aedon mesoleucus*	N/A	West Indies: St. Lucia	Do	E	3
REPTILES:						
Alligator, American	*Alligator mississippiensis*	Wherever found in the wild, except in Cameron, Vermilion, and Calcasieu Parishes in Louisiana.	Southeastern USA	Entire	E	11
Alligator, American	*Alligator mississippiensis*	In the wild in Cameron, Vermilion, and Calcasieu Parishes in Louisiana	USA (Cameron, Vermilion, Calcasieu Parishes in Louisiana)	N/A	T(S/A)	11
Alligator, American	*Alligator mississippiensis*	In captivity, wherever found	Worldwide	N/A	T(S/A)	11
Boa, Puerto Rican	*Epicrates inornatus*	N/A	Puerto Rico	Entire	E	2
Boa, Jamaican	*Epicrates subflavus*	N/A	Jamaica	Entire	E	4
Crocodile, American	*Crocodylus acutus*	Florida	USA (South Florida and Florida Keys)	Entire	E	10
Crocodile, Cuban	*Crocodylus rhombifer*	N/A	Cuba	Entire	E	4
Crocodile, Morelet's	*Crocodylus moreletii*	N/A	Mexico, British Honduras	Entire	E	4
Crocodile, Nile	*Crocodylus niloticus*	N/A	Africa	Entire	E	4
Crocodile, Orinoco	*Crocodylus intermedius*	N/A	South America: Orinoco River Basin	Entire	E	4
Gavial (Gharial)	*Gavialus gangeticus*	N/A	Pakistan, India Burma, Bangladesh	Entire	E	4
Gecko, Day	*Phelsuma newtoni*	N/A	Mauritius	Entire	E	4
Gecko, Round Island Day	*Phelsuma guentheri*	N/A	Do	Entire	E	4
Iguana, Anegada Ground	*Cyclura pinguis*	N/A	Virgin Islands: Anegada Island	Entire	E	3
Iguana, Barrington Land	*Conolophus pallidus*	N/A	Ecuador: Galapagos Islands	Entire	E	4
Lizard, Blunt-nosed Leopard	*Crotaphytus silus*	N/A	USA: California	Entire	E	1
Snake, San Francisco Garter	*Thamnophis sirtalis tetrataenia*	N/A	USA: California	Entire	E	1
Terrapin, River (Tuntong)	*Batagur baska*	N/A	Burma, India, Indonesia, Malaysia, Bangladesh	Entire	E	4
Tortoise, Galapagos	*Testudo elephantopus*	N/A	Ecuador: Galapagos Islands	Entire	E	4
Tortoise, Madagascar Radiated	*Testudo radiota*	N/A	Malagasy Republic (Madagascar)	Entire	E	4
Tortoise, Short-necked or Swamp	*Pseudemydura umbrina*	N/A	Australia	Entire	E	4
Tuatara	*Sphenodon punctatus*	N/A	New Zealand	Entire	E	4
Turtle, Aquatic Box	*Terrepene coahuila*	N/A	Mexico	Entire	E	6
Turtle, Atlantic Ridley	*Lepidochelys kempii*	N/A	Do	Entire	E	4
Turtle, Hawksbill	*Eretmochelys imbricata*	N/A	Tropical Seas	Entire	E	3
Turtle, Leatherback	*Dermochelys coriacea*	N/A	Tropical and Temperate Seas	Entire	E	3
Turtle, South American	*Podocnemis expansa*	N/A	South America: Orinoco and Amazon River Basins	Entire	E	3
Turtle, South American	*Podocnemis unifilis*	N/A	Do	Entire	E	4
Yacare (Caiman)	*Caiman yacare*	N/A	Bolivia, Argentina, Peru, Brazil	Entire	E	3
AMPHIBIANS:						
Frog, Israel Painted	*Discoglossus nigriventer*	N/A	Israel	Entire	E	4
Frog, Stephen Island	*Leiopelma hamiltoni*	N/A	New Zealand	Do	E	4
Salamander, Desert Slender	*Batrachoseps aridus*	N/A	USA (California)	Do	E	5
Salamander, Santa Cruz Long-tailed	*Ambystoma macrodactylum croceum*	N/A	Do	Do	E	1
Salamander, Texas Blind	*Typhlomolge rathbunio*	N/A	USA (Texas)	Do	E	1
Toad, Houston	*Bufo houstonensis*	N/A	Do	Do	E	2
FISHES:						
Ala Balik	*Salmo platycephalus*	N/A	Turkey	Entire	E	3
Ayumodoki	*Hymenophysa curta*	N/A	Japan	Do	E	3
Blindcat, Mexican	*Prietella phreatophila*	N/A	Mexico	Do	E	3
Bonytail, Pahranagat	*Gila robusta jordoni*	N/A	USA (Nevada)	Do	E	2
Catfish	*Pangasius sanitwongsei*	N/A	Thailand	Do	E	3
Catfish, Giant	*Pangasianodon gigas*	N/A	Do	Do	E	3
Chub, Humpback	*Gila cypha*	N/A	USA (Arizona, Utah, Wyoming)	Do	E	1
Chub, Mohave	*Siphateles mohavensis*	N/A	USA (California)	Do	E	2
Cicek	*Acanthorutilus handlirschi*	N/A	Turkey	Do	E	3
Cisco, Longjaw	*Coregonus alpenae*	N/A	USA (Lakes Michigan, Huron, and Erie)	Do	E	1
Cui-ui	*Chasmistes cujus*	N/A	USA (Nevada)	Do	E	1
Dace, Kendall Warm Springs	*Rhinichthys osculus thermalis*	N/A	USA (Wyoming)	Do	E	2
Dace, Moapa	*Moapa coriacea*	N/A	USA (Nevada)	Do	E	1
Darter, Bayou	*Etheostoma rubrum*	N/A	USA (Mississippi)	Do	T	10
Darter, Fountain	*Etheostoma fonticola*	N/A	USA (Texas)	Entire	E	2
Darter, Maryland	*Etheostoma sellare*	N/A	USA (Maryland)	Do	E	1
Darter, Okaloosa	*Etheostoma okaloosae*	N/A	USA (Florida)	Do	E	6
Darter, Watercress	*Etheostoma nuchale*	N/A	USA (Alabama)	Do	E	2
Gambusia, Big Bend	*Gambusia gaigei*	N/A	USA (Texas)	Do	E	1
Gambusia, Clear Creek	*Gambusia heterochir*	N/A	Do	Do	E	1
Gambusia, Pecos	*Gambusia nobilis*	N/A	Do	Do	E	2
Killifish, Pahrump	*Empetrichythys latos*	N/A	USA (Nevada)	Do	E	1
Madtom, Scioto	*Noturus trautmani*	N/A	USA (Ohio)	Do	E	10

SPECIES			RANGE			
Common Name	Scientific Name	Population	Known Distribution	Portion of Range Where Threatened or Endangered	Status	When Listed
Nekogigi	*Coreobagrus ichikawai*	N/A	Japan	Do	E	3
Pike, Blue	*Stizostedion vitreum glaucum*	N/A	USA (Lakes Erie and Ontario)	Do	E	1
Pupfish, Comancho Springs	*Cyprinodon elegans*	N/A	USA (Texas)	Do	E	1
Pupfish, Devil's Hole	*Cyprinodon diabolis*	N/A	USA (Nevada)	Do	E	1
Pupfish, Owens River	*Cyprinodon radiosus*	N/A	USA (California)	Do	E	1
Pupfish, Tecopa	*Cyprinodon nevadensis calidae*	N/A	USA (California)	Do	E	2
Pupfish, Warm Springs	*Cyprinodon nevadensis pectoralis*	N/A	USA (Nevada)	Do	E	2
Squawfish, Colorado River	*Ptychocheilus lucius*	N/A	USA (Colorado River System)	Do	E	1
Stickleback, Unarmored Threespine	*Gasterosterus aculeatus williamsoni*	N/A	USA (California)	Do	E	2
Sturgeon, Shortnose	*Acipenser brevirostrum*	N/A	Atlantic Coast of USA and Canada	Do	E	1
Tango, Miyako	*Tanakia tanago*	N/A	Japan	Do	E	3
Topminnow, Oila	*Poeciliopsis occidentalis*	N/A	USA (Arizona), Mexico	Do	E	1
Trout, Arizona (Apache)	*Salmo apache*	N/A	USA (Arizona)	Do	T	8
Trout, Gila	*Salmo gilae*	N/A	USA (New Mexico)	Do	E	1
Trout, Greenback Cutthroat	*Salmo clarki stomias*	N/A	USA (Colorado)	Do	E	1
Trout, Lahontan Cutthroat	*Salmo clarki henshawi*	N/A	USA (California, Nevada)	Do	T	8
Trout, Paiute Cutthroat	*Salmo clarki seleniris*	N/A	USA (California)	Entire	T	8
Woundfin	*Plagopterus argentissimus*	N/A	USA (Utah)	Do	E	2
SNAILS:						
Snail, Manus Island Tree	*Papustyla pulcherrina*	N/A	Admiralty Islands (Manus I.)	Do	E	4
MOLLUSKS: [reserved]						
INSECTS: [reserved]						
OTHER FORMS: [reserved]						

1–32 F R 4001; March 11, 1967
2—35 F R 16047; October 13, 1970
3—35 F R 8491; June 2, 1970
4—35 F R 18319; December 2, 1970
5—37 F R 6476; March 30, 1972
6—38 F R 14678; June 4, 1973
7—39 F R 44990; December 30, 1974
8—40 F R 29863; June 16, 1975
9—40 F R 31734; July 28, 1975
10—40 F R 44149; Sept. 25, 1975
11—40 F R 44412; Sept. 26, 1975

APPENDIX 5

DILIGENT DEVELOPMENT AND CONTINUOUS OPERATIONS
PROPOSED RULEMAKING

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[43 CFR Parts 3500, 3520]

[Circular No. 2377]

COAL LEASES

Diligent Development and Continuous Operations

On page 43229 of the FEDERAL REGISTER of December 11, 1974, there were published a notice and text of a proposed amendment to §§ 3500.0–5 and 3522.1–2 of Title 43, Code of Federal Regulations. The purpose of the amendment was to provide definitions for terms relating to coal leases. Interested persons were granted an opportunity from January 10, 1975, until February 3, 1975, to submit comments, suggestions, or objections to the proposed amendment. Comments have been received and considered, and revisions have been made to the proposed amendment. Since extensive revisions have been made, the new proposed rules are now being published for comment.

Interested persons are invited to submit their comments in writing to the Director, Bureau of Land Management, Department of the Interior, Washington, D.C. 20240, on or before January 30, 1976.

The purpose of the proposed amendment is to revise the regulations relating to coal leases by defining the terms "logical mining unit," "logical mining unit reserves," "diligent development," and "continuous operation," and to modify the regulations relating to the duration and the adjustment of terms and conditions of coal leases. Section 7 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 207), authorizes the issuance of coal leases for an indeterminate period upon condition of diligent development and continued operation of the mine. When read together, the phrases "diligent development" and "continuous operation" indicate a statutory intent that holders of coal leases should promptly reach a reasonable level of production and then maintain it.

The proposed amendment which follows is based on the principle that a clear standard for judging whether development has been diligent and whether operation is continuous requires definition of a rate of production from the mine which is appropriate in light of the size of the leased reserves, and a time by which that rate must be attained. In granting new leases the Bureau of Land Management has already adopted a policy of including financial incentives in the form of advance royalty payments to encourage mining at a rate which would exhaust the recoverable reserves within 40 years from the date of the lease. The same general approach has been used in this proposed amendment. It sets a production standard for diligent development and continuous operation and provides that leases which do not meet the standard would be subject to cancellation. Although all existing leases contain requirements for diligent development, explicit standards of diligent development and continuous operation have not been defined or enforced. Existing leases are, therefore, treated for the purpose of this amendment as though they were dated as of the effective date of the amendment, insofar as the statute and existing lease terms permit.

The Bureau of Land Management is aware that many coal mines involve extraction of both Federal and non-Federal coal, and that inflexibly applied regulations for diligent development and continuous operation on the Federal portion of the mine could lead to distortions of mining practice to the detriment of sound conservation and economic operations. For this reason, the amendment defines a "logical mining unit" which may include non-Federal coal, and defines diligent development and continuous operation for the logical mining unit as a whole in such a way as to give the lessee reasonable flexibility in operating and developing the mine, consistent with exhaustion of the Federal deposit in 40 years.

Finally the amendment announces that, at the time of the next scheduled adjustments of the terms of existing leases, which come at twenty-year intervals dating from the date of issuance of the lease, advance royalty terms will be included based on a schedule of mining which would exhaust the deposit in 40 years from the effective date of the regulation. A lessee who produced ahead of this schedule prior to the next scheduled adjustment of terms would receive credits against later advance royalties, thereby providing a financial incentive to encourage timely development and production of Federal coal before the scheduled adjustment of terms of existing leases.

It is proposed to amend Chapter II of Title 43, Code of Federal Regulations, as set forth below.

1. 43 CFR 3500.05 is amended by the addition of the following new paragraphs (d), (e), (f), and (g):

§ 3500.0–5 Definitions.

* * * * *

(d) *Logical Mining Unit (LMU).* A Logical Mining Unit or LMU is an area of coal land that can be developed and mined in an efficient, economical and orderly manner with due regard to the conservation of coal reserves and other resources. An LMU may consist of one or more Federal leaseholds, and may include intervening or adjacent non-Federal lands, if all lands are under the effective control of a single operator and can be developed and operated as a unified mine. It may also consist of lands committed to a contract for collective prospecting, development, or operations approved by the Secretary pursuant to the Act of August 31, 1964 (30 U.S.C. 201-1). The Mining Supervisor is authorized to approve or establish an LMU. Every Federal lease will automatically be considered by itself an LMU as of the effective date of the lease or (the effective date of these regulations), whichever is later. The boundaries of an LMU may later be changed (1) upon application by the lessee or operator and with the approval of the Mining Supervisor and the concurrence of the authorized officer, or (2) at the discretion of the Mining Supervisor with the concurrence of the authorized officer, or (3) at the request of the authorized officer with the approval of the Mining Supervisor.

(e) *Logical Mining Unit (LMU) Reserves.* LMU Reserves as of a given date are defined as being equal to the sum of (1) estimated recoverable reserves under Federal lease in the LMU at that time and (2) estimated non-Federal recoverable reserves then in the LMU which will be mined prior to the extraction of all estimated Federal reserves then in the LMU. The LMU reserves associated with a given Federal lease are the estimated LMU reserves as of the effective date of that lease or (the effective date of these regulations), whichever is later. Since the effective dates of different Federal leases in a given LMU may differ, the estimated LMU reserves associated with those leases may also differ. The estimate of recoverable reserves under both (1) and (2) above may be adjusted by the Mining Supervisor whenever significant new information becomes available about the amount of such reserves, including the time at which a mining plan is approved for the Federal portion.

(f) *Diligent Development.* Diligent Development of a Federal lease means the timely preparation for and initiation of production of coal from the LMU of which the lease is a part so that one-fortieth of the LMU reserves associated with that lease are extracted within a period of ten years from (the date of this regulation) or from the date of the lease, whichever occurs later.

(1) Upon application by the lessee, the period by the end of which diligent development must have been achieved, shall be increased by an amount of time equal to the period during which diligent development is, in the opinion of

the Secretary, significantly impaired by (i) a strike, the elements, or casualties not attributable to the lessee, (ii) an administrative delay in the Department which is not caused by the lessee's action, or (iii) extraordinary circumstances not attributable to the lessee and not foreseeable by a reasonably prudent operator. In the determination of whether any of the conditions listed in (i)–(iii) above occurred and whether one or more of those conditions did in fact significantly impair diligent development, the Secretary's finding shall be final. The Secretary shall, however, not find to be an extraordinary circumstance under (iii) any condition arising out of normally foreseeable business risks such as: fluctuations in prices, sales, or costs, including foreseeable costs of compliance with requirements for environmental protection; commonly experienced delays in delivery of supplies or equipment; or inability to obtain sufficient sales.

(2) Any extension of time for achieving diligent development granted by the Secretary under paragraph (f) (1) of this section shall include notification of the revised date by which diligent development must be achieved.

(g) *Continuous Operation.* Continuous operation on a given lease means extraction, processing or marketing of coal from the LMU of which the lease is a part, after diligent development has been achieved, in the amount of one percent or more of the LMU reserves in each calendar year, subject to the exceptions contained in 30 U.S.C. 207 and in the lease, if any.

2. 43 CFR 3522.2–1 is amended by the following modification (a) and addition (b):

§ 3522.2–1 Terms and Conditions.

(a) *General.* Coal, potassium, and phosphate leases are subject to readjustment of the terms and conditions of the lease at the end of each 20-year period succeeding the date of the lease unless otherwise provided by law at the time of the expiration of such periods. The lessee will be notified of the proposed readjustment of terms or notified that no readjustment is to be made. Within 30 days after receipt of the notice, unless the lessee or operator files his objection to the proposed readjusted terms, or the lessee files a relinquishment of the lease, he will be deemed to have agreed to such readjusted terms. Notice of the proposed readjustments or that no readjustment is to be made will be given, whenever feasible, before the expiration of each such 20-year period.

(b) *Coal.* Coal leases outstanding at the effective date of these regulations which do not contain advance royalties according to a schedule of production sufficient to exhaust the deposit in 40 years, dated prior to January 1, 1975, will be subject to change in advance royalty terms and conditions at the next schedule adjustment of terms and conditions under paragraph (a) of this section after (the effective date of these regulations). The new advance royalty terms and conditions will be based on a standard schedule of production sufficient to exhaust the elapsed deposit within 40 years from (the effective date of these regulations). The advance royalty rates for the years following the readjustment of terms will be those rates appropriate for a lease dated (the effective date of these regulations). Lessees will be allowed to credit against the advance royalties due under those rates any production royalties paid in lease years prior to the readjustment of terms, which production royalties are in excess of advance royalties that would have been due had advance royalties been in effect from (the effective date of these regulations).

3. 43 CFR 3523.2–1(b)(1) is amended to read as follows:

§ 3523.2–1 Judicial Proceedings.

(b) *Exceptions—(1) Coal.* Any coal lease on which there are not diligent development and continuous operation in accordance with Section 3500.0–5 will be subject to cancellation in whole or in part. In deciding whether to cancel a lease under this subparagraph, the Secretary will not consider adverse circumstances which arise out of normally foreseeable business risks, such as fluctuations in prices, sales or costs, including foreseeable costs of compliance with requirements for environmental protection; commonly experienced delays in delivery of supplies or equipment; or inability to obtain sufficient sales.

* * * * *

THOMAS S. KLEPPE,
Secretary of the Interior.

DECEMBER 22, 1975.

[FR Doc.75-35094 Filed 12-30-75;8:45 am]

APPENDIX 6

SUMMARY OF STATE SURFACE COAL MINING AND RECLAMATION LAWS

Table 4-2
Summary of State Surface Coal Mining and Reclamation Laws
Effective on September 1, 1974 The Eastern Region

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Alabama	The Alabama Surface Mining Act of 1969. Effective Oct. 1, 1970. (All Minerals except limestone, marble and dolomite.)	Permit applications must be filed with the Department of Industrial Relations and be accompanied by a plan of reclamation. Filing fee $250. $50 for amended permits.	Mining without a permit not less than $500 nor more than $5,000 and requirement that the affected land be reclaimed. Willful misrepresentation of facts on permit application -- not less than $100 nor more than $500 for each offense.	$150 for each acre covered by the permit	Reduce peaks and ridges to a width of 15-feet at the top; cover face of toxic material; divert water to reduce siltation, erosion or damage to streams and natural water courses; plant trees or direct-seed the affected land; revegetate haulage roads and land used to dispose of refuse; and construct fire lanes or access roads in areas to be reforested. Reclamation to be completed within 3 years of expiration of permit period.	Yes (Yes)
Kentucky*	Chapter 350, Kentucky Revised Statutes, as amended. Effective June 16, 1966. (All Minerals)	Permit applications must be filed with the Division of Reclamation. A reclamation plan is required. Coal -- $150 plus $35 for each acre to be affected. License fee for other minerals $100 per year. Permit fee for other minerals .$25 per year.	A fine of not less than $100 nor more than $1,000 for each day the violation continues. Willful violation not less than $500 nor more than $5,000 for each day violation continues.	$500-$1,500 per acre with $5,000 minimum.	Complete backfilling not to exceed the original contour with no depressions to accumulate water is required of all land affected by area mining. All highwalls resulting from contour strip mining shall be reduced or backfilled, the steepest slope of the reduced or backfilled highwall and the outer slope of the fill bench being no greater than 45 degrees from the horizontal. The table portion to be terraced with a slope not greater than 10-degrees. The restored area to have a minimum depth of 4-feet of fill over the pit floor. Revegetation shall include planting trees, shrubs, grasses legumes. Reclamation to begin as	Yes (Yes)

Table 4-2 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Kentucky* (Cont'd)					soon as possible after strip mining begins and completed within 12 months after the permit has expired.	
Maryland*	Maryland Strip Mining Law. Effective July 1, 1971. (Coal)	A license and permit must be obtained from the Bureau of Mines. A reclamation plan is required. License – $100 plus $10 for each renewal.	Failure to obtain a license – not less than $5,000 nor more than $10,000 or imprisonment not to exceed 6 months, or both. Failure to obtain a permit – not less than $500 nor more than $5,000. Failure to backfill prospected areas not less than $250 nor more than $500.	$400 per acre with a $3,000 minimum. A special reclamation fee of $30 per acre of land affected and a revegetation bond of not less than $50 nor more than $125 per acre are also required.	Grade spoil banks to reduce depressions between peaks of spoil to a surface which restores the terrain to a condition prescribed by the Director, Bureau of Mines; if overburden deposits are composed of materials which are suitable for supporting vegetative growth, it shall be graded so as to cover the final pit; and seal-off, with a fill, underground mining operations at the base of the final cut.	Yes (Yes)
Ohio	Title 15, Ohio Revised Code. Chapter 1513 as amended – Reclamation of Strip Mined Land. Effective April 10, 1972. (All minerals)	Applications for licenses must be filed with the Division of Reclamation. A reclamation plan is required. $150 plus $30 for each acre to be mined. $1,000 maximum.	Mining without a permit $5,000 plus $1,000 per acre of land affected. Exceed limits of license – $1,000 per acre of land affected that is not under license. Willful misrepresentation – $100 to $1,000 or 6 months. Violation of	$1,000/acre Minimum – $5,000.	Cover all acid producing materials with nontoxic material; construct and maintain access roads; prevent the pollution of waters, erosion, land-slides, flooding and the accumulation or discharge of acid water; contour the affected area unless the mining and reclamation plan provides for terracing or other uses; and replace segregated topsoil and grow vegetative covering.	Yes (Yes)

Table 4-2 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Ohio (Cont'd)			any other provision $100 to $5,000 or 6 months in prison, or both.			
Pennsylvania*	Surface Mining Conservation and Reclamation Act. Effective January 1, 1972. (All Minerals)	Application for permits must be filed with the Department of Environmental Resources. A reclamation plan is required. $50 for persons mining 2,000 tons or less of marketable minerals other than coal per year, and $500 for mining coal or more than 2,000 tons of other marketable minerals per year. Annual renewal - $50 for mining 2,000 tons or less of marketable minerals other than coal and $300 in the case of all other minerals.	Mining without a permit $5,000 or an amount of not less than the total profits derived from unlawful activities, together with the cost of restoring the land to its original condition or 1 year imprisonment, or both.	An amount sufficient to insure completion of the reclamation plan not less than $5,000, except in the case of minerals other than anthracite and bituminous coal where it is determined that the amount of marketable minerals to be extracted does not exceed 2,000 tons, no bond shall be required. Liability under the bond shall be for the duration of the operation and for 5 years thereafter.	Backfill all pits within 6-months after completion of mining. Such backfilling shall be terraced or sloped to an angle not to exceed the original contour. Plant grasses and trees or grasses and shrubs upon affected land within 1 year after backfilling.	Yes (Yes)

Table 4-2 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Tennessee*	The Tennessee Surface Mining Law. Effective March 23, 1972. (All minerals except limestone, marble, and dimension stone.)	Applications for permits must be filed with the commissioner, Department of Conservation. A reclamation plan is required. $250 plus $25 for each acre to be mined. The total amount not to exceed $2,500.	Violation of the Act fine of not less than $100 nor more than $5,000 for each day violation continues. Willful violation not less than $1,000 nor more than $5,000 or imprisonment not to exceed 1 year, or both.	Not less than $400 for minerals other than coal and not less than $600 for coal for each estimated acre to be affected.	Coal: Cover all acid producing material; seal off any breakthrough in mine or pit walls which creates a hazard; control drainage to prevent damage to adjacent lands, soil erosion and pollution of streams and waters; remove all refuse except vegetation resulting from the operation; provide adequate access roads to remote areas; on steep slopes, regrade area to approximate original contour or rolling topography and eliminate highwalls, spoil piles and water-collecting depressions (grading and other soil preparation to accommodate vegetation shall be completed within 6 months following initiation of soil disturbance). Revegetate the affected area with grasses or legumes to prevent soil erosion. Minerals other than coal: regrade the area to approximately the original or rolling topography, and eliminate all highwalls, spoil-piles, and water collecting depressions; control drainage to prevent soil erosion, damage to adjacent lands, and pollution of streams and other waters; and revegetate with trees, grasses, or legumes.	Yes (Yes)

Table 4-2 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Virginia	Chapter 17, Title 45.1, Code of Virginia (1950), as amended. Effective April 10, 1972. *Separate statute for non-coal minerals. (Coal)	Permit applications must be filed with the Department of Conservation and Economic Development. A reclamation plan is required. Prospecting permit $10 per acre. Surface mining permit $12 per acre. Annual fee – $6 per acre.	Violation of the Act fine of not more than $1,000 or imprisonment for not more than 1 year or both. Each day violation continues constitutes a separate offense.	Prospecting – $300 per acre. Surface mining bond no less than $200 or more than $1,000 per acre to be mined. Minimum bond $2,500, except when the operation involves less than 5 acres, the bond shall not be less than $1,000.	Remove all debris resulting from mining operations; regrade the area in a manner established by rules and regulations; grade overburden to reduce peaks and depressions between peaks to produce a gently rolling topography; preserve existent access roads; and plant trees, shrubs, grasses or other vegetation upon areas where revegetation is practicable.	Yes (Yes)
West Virginia*	Article 6, Chapter 20, Code of West Virginia. Effective March 13, 1971. (All minerals)	Applications for permits must be filed with the Department of Natural Resources. A reclamation plan is required. Prospecting – $300. Surface mining $500. Annual renewal $100. Personal injury and property damage insurance of $100,000 and $300,000 respectively is also required.	Violation of the law's provisions $100 to $1,000 fine or 6 months imprisonment, or both. Deliberate violation – $1,000 to $10,000 fine or 6 months imprisonment, or both.	Not less than $600 per acre nor more than $1,000 per acre with a $10,000 minimum.	Cover the face of coal and disturbed area with material suitable to support vegetative cover; bury acid forming materials, toxic material, or materials constituting fire hazard; impound water. Bury all debris. The law also contains requirements for regrading surface mined areas where benches result specifying the maximum bench width allowed. On land where benches do not result complete backfilling is required but shall not exceed the original contour of the land. The backfilling shall eliminate all highwalls and spoil peaks. Planting is required.	Yes (Yes)

Table 4-3
Surface Coal Mining Production and Regulation by State
(as of September 1974).[1]

State	Mining Permits in 1973	Production (thousands short tons)	State Regulatory Agencies Employment (Total)	Manyears Effort	Budget ($000)
The Eastern Mining Region					
Alabama	84	11,613	6[2]	2.0	9
East Kentucky	778	33,413	99[3]	51.0[3]	1.135[3]
Maryland	54	1,722	7	7.0	143
Ohio	207	29,558	46	44.0	623
Pennsylvania	830	30,195	49[2]	47.0	1,250
Tennessee	73	4,584	17[2]	13.5	211
Virginia	350	10,524	29	29.0	344
West Virginia	410	19,932	48	48.0	1,102
The Central Mining Region					
Arkansas	10	432	2	2.0	27
Illinois	32	29,002	8	8.0	186
Indiana	36	24,465	7[2]	6.8	125
Iowa	10	245	1[2]	0.2	6
Kansas	4	1,086	8[4]	1.5[4]	18
West Kentucky	55	31,337	99[3]	46.0[3]	1,006[3]
Missouri	10	4,658	3[2]	1.0	18
Oklahoma	11	2,183	10[2]	2.0	38
The Western Mining Region					
Colorado	9	2,872	n.a.	0.9	12
Montana	8	10,724	9	6.0	150
New Mexico	5	8,336	7	0.3	15
North Dakota	12	6,906	2	1.8	75
Washington	2	3,254	65[2]	0.7	1
Wyoming	12	14,461	14[2]	6.0	93

[1] Data Sources: Permits and Production – Bureau of Mines 1973 data which also includes that from Federal and Indian Lands; State agency data – estimated from data provided by individual states.
[2] Includes employment other than for surface coal mine regulation.
[3] Employment figures not available on east and west basis. Estimates of employment and budget are based on production ratio within the State.
[4] The Kansas Mined Land Conservation Board is made up of four state and four non-state employees who meet quarterly. The board is authorized 1.5 people for enforcement but has none at present.

NOTE: Utah, Alaska, Arizona and Texas had production in 1973, but no state surface mining law; Michigan, Oregon, and South Dakota have surface mining laws, but had no production.

Table 4-4
Summary of State Surface Coal Mining and Mined Land Reclamation Laws
Effective September 1, 1974 The Central Region

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Arkansas	The Arkansas Open Cut Land Reclamation Act of 1971. Effective July 1, 1971. (All Minerals)	Permit applications must be filed with Arkansas Pollution Control Commission and be accompanied by a reclamation plan. $25 to $500 depending upon the number of acres to be mined.	Surface mining without a permit a fine of not less than $500 nor more than $1,000 for each day the violation continues.	$500 for each acre or portion to be affected.	Grade peaks and ridges to a rolling topography; construct earth dams; in areas to be reforested, construct fire lanes or access roads at least 10-feet wide; strike peaks and ridges to a minimum of 20-feet at the top on all land to be seeded for pasture; cover exposed acid forming material; and dispose of refuse so as to control erosion or damage to streams or natural water courses. Reclamation to be completed prior to the expiration of 2-years after termination of permit.	Yes (No)
Illinois	The Illinois Surface Mines Land Conservation Act. Effective July 1, 1971. (All Minerals)	Applications for permits must be filed with the Department of Mines and Minerals for all operations exceeding 10-ft. in depth or affecting more than 10-acres during the permit year. A reclamation plan is required. $50 plus $25 for every acre to be affected.	Surface mining without a permit not less than $50 nor more than $1,000. Each day's violation is deemed a separate offense.	$600 to $1,000 for each acre to be affected including slurry and gob disposal areas.	Grade affected land to a rolling topography with slopes having no more than a 15% grade, except land reclaimed for forest plantation, recreational or wildlife, the final cut spoil, the box cut spoil, and the outside slopes of all overburden deposition areas, the grade shall not exceed 30%; impound run-off water to reduce soil erosion, damage to unmined lands, and pollution of streams and waters; cover exposed acid forming material with not less than 4 to 6 feet of water or other materials capable of supporting plant and animal life, confine slurry in depressed or mined areas; remove	Yes

Table 4-4 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Illinois (Cont'd)					and grade all haulage roads and drainage ditches; and plant trees, shrubs, grasses and legumes. All reclamation except a slurry and gob areas in active use shall be completed prior to the expiration of 3-years after termination of the permit year.	
Indiana	Chapter 344, Act of 1967, Indiana Statutes. Effective January 1, 1968. (Coal, clay and shale).	Applications for permits must be filed with the Department of Natural Resources. A reclamation plan is required. $50 plus $30 for each acre to be affected.	Not less than $1,000 nor more than $5,000.	$1,000 per acre. Minimum $5,000.	Grading to reduce peaks and ridges to a rolling, sloping or terraced topography; construct earth dams in final cuts to impound water; bury all metal, lumber, or other debris or refuse resulting from mining; and revegetate affected areas as soon as practicable after initiation of mining operations.	Yes (Yes)
Iowa	An Act Relating to Surface Mining. Effective Jan. 1, 1968. (All Minerals)	Permit applications must be filed with the Department of Mines and Minerals. License – $50 $10 – renewal.	$50 to $500 or imprisonment not to exceed 30-days or both.	An amount equal to the estimated cost of rehabilitating each site affected.	Grade irregular spoil banks to reduce peaks and ridges to a rolling topography suitable for establishing vegetation by striking off ridges and peaks to at least 24-feet at the top; grade other spoil banks to slopes having a maximum of 1-foot vertical rise for each 3-feet horizontal distance, except where the original topography exceeds these stipulations, the spoil bank shall be graded	Yes (Yes)

Table 4-4 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Iowa (Cont'd)					to blend with surrounding terrain; and cover acid forming material with at least 2-feet of earth or spoil material. Operators shall rehabilitate affected areas within 24-months after mining is completed.	
Kansas	The Kansas Mined-Land Conservation and Reclamation Act. Effective July 1, 1968. (Coal)	Permit applications must be filed with the Mined Land Conservation and Reclamation Board. A reclamation plan is required. $50 + $25 per acre.	Not to exceed $250. Each day violation continues constitutes a separate offense.	Not less than $200 nor more than $500 per acre with a $2,000 minimum. Not less than $500 nor more than $1,000 per acre with a $3,000 minimum	Grade each pit to a maximum 25" slope with a width equal to at least 60% of the original pit; cover the face of coal or other minerals with non-acid bearing and non-toxic materials to a distance of at least 2-feet above the seam being mined, or by a permanent water impoundment; control flow at all runoff water to reduce soil erosion, damage to agricultural lands, and pollution of streams and waters; and grade overburden to provide suitable vegetative cover. Reclamation must be pursued as soon as possible after mining begins and completed within 12-months after the permit has expired.	Yes (Yes)
Kentucky*	Chapter 350, Kentucky Revised Statutes, as amended. Effective June 16, 1966.	Permit applications must be filed with the Division of Reclamation. A reclamation plan is required.	A fine of not more than $1,000 each day the violation continues. Willful violation – not less	$500 to $1,500 per acre with $5,000 minimum.	Complete backfilling not to exceed the original contour with no depressions to accumulate water is required of all land affected by area mining. All highwalls resulting from	

Table 4-4 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Kentucky* (Cont'd)	(All Minerals)	Coal $150 plus $35 for each acre to be affected. License fee for other minerals -- $100 per year. Permit fee for other minerals - $25 per year.	than $500 nor more than $5,000 for each day violation continues.		contour strip mining shall be reduced or backfilled, the steepest slope of the reduced or backfilled highwall and the outer slope of the fill bench being no greater than 45 degrees from the horizontal. The table portion to be terraced with a slope not greater than 10-degrees. The restored area to have a minimum depth of 4-feet of fill over the pit floor. Revegetation shall include planting trees, shrubs, grasses, legumes. Reclamation to begin as soon as possible after strip mining begins and completed within 12-months after the permit has expired.	
Michigan	Mine Reclamation Act. Act No. 92 of the Public Acts of 1970, as amended by Act No. 123 of the Public Acts of 1972. Effective March 29, 1973. (All minerals except clay, gravel, marl, peat or sand.)		comply	If there is doubt as to the operator's financial ability to comply with the rules of the Act, he may be required to post a performance bond or other security.	The Act authorized the Chief of the Geological Survey to conduct a comprehensive study and survey to determine the type of regulation needed to protect the public interest. Upon completion of the survey, rules may be promulgated governing: sloping terracing or treatment of stockpiles and tailings to prevent damage to fish and wildlife, pollution of waters or injury to persons or property; vegetation or treat-	

Table 4-4 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Michigan (Cont'd)					ment of tailings basins and stockpiles where natural vegetation is not expected within 5-years and where research reveals vegetation can be accomplished within practical limitations; and stabilization of the surface overburden banks of open pits in rocks and the entire bank of open pits is unconsolidated material.	
Missouri	An Act Relating to the Reclamation of Certain Mining Lands. Effective September 28, 1971. (Coal and barite.)	Permit applications must be filed with the Land Reclamation Commission. A reclamation plan is required. $50 plus $17.50 for each acre to be affected.	Mining without a permit $1,000 per day for each day the violation continues.	Not less than $300 for coal and $200 for barite nor more than $700 for coal and $500 for barite for each acre of land affected, with a $2,000 minimum.	Grade peaks and ridges of overburden except where lakes are to be formed to a rolling topography traversable by farm machinery. The slopes need not be reduced to less than the original grade prior to mining, and the slope of overburden ridge resulting from a box cut need not be reduced, to less than 25 degrees from the horizontal. Dispose of all debris, material or substance removed from the surface prior to mining.	Yes (Yes)
Oklahoma*	The Mining Lands Reclamation Act. Effective June 12, 1971. (All Minerals)	Application for permits must be filed with the Department of Mines and Mining. A reclamation plan is required.	Mining without a permit not less than $50 nor more than $1,000. Each day constitutes a separate offense.	Not less than $350 nor more than $650 for each acre to be affected. For coal and copper mining the minimum bond	Grade peaks and ridges of overburden to a rolling topography, but the slopes need not be reduced to less than the original grade prior to mining, and the slope of ridge resulting from the box cut need not	Yes (Yes)

Table 4-4 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Oklahoma* (Cont'd)		$50		shall be $5,000. For all other mining the minimum bond shall be $1,000.	be reduced to less than 25 degrees from the horizontal; construct earth dams to form lakes in pits resulting from surface mining operations; cover exposed faces of mineral seams with not less than 3-feet of earth to support plant life or with a permanent water impoundment; and revegetate affected land, except that which is to be covered with water or used for homesites or industrial purposes, by planting trees, shrubs or other plantings appropriate to future use of the land.	

Table 4-5
Summary of State Surface Coal Mining and Mined Land Reclamation Laws
Effective September 1, 1974 The Western Region

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Colorado	The Colorado Open Cut Land Reclamation Act of 1969. Amended effective July 1, 1972. (Coal)	Permit applications must be filed with the Land Reclamation Board. A reclamation plan is required. $50 plus $15 for each acre to be affected.	The Act provides no penalties but contains administrative procedures for dealing with violations.	The bond penalty shall be in such amount as is deemed necessary to insure the operator's performance.	Grade ridges and peaks to a width of 15 ft. at the top; where practical, construct earth dams in final cuts to impound water; cover acid forming material to protect drainage system from pollution; and dispose of all refuse so as to control stream pollution, and divert water to control siltation, erosion, or other damage to streams and natural water courses. The Act further contains specific requirements for reclaiming disturbed areas for various uses including forest, range, agricultural or horticultural crops, homesites, recreational and industrial.	Yes (Yes)
Montana	The Montana Strip Mining and Reclamation Act. Effective March 16, 1973. (Coal, clay, phosphate rock and uranium.)	Permit applications must be filed with the Department of State Lands. A reclamation plan is required. $50 for mining permit. $100 for prospecting permit.	Violation of provisions fine of not less than $100 nor more than $1,000. Willful violation - not less than $500 nor more than $5,000. Each day violation occurs constitutes a separate offense.	Not less than $200 nor more than $2,500 per acre with a $2,000 minimum.	Bury under adequate fill all toxic materials; seal off breakthrough of water creating hazard; impound, drain or treat runoff water so as to reduce soil erosion, damage to grazing and agricultural lands, and pollution of surface and subsurface waters; and remove and bury all refuse resulting from the operation. All highwalls must be reduced, the steepest slope of which shall be no greater than 20-degrees from the horizontal. Backfilled, graded and topsoiled areas shall be prepared	Yes (Yes)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Montana (Cont'd)					and planted with legumes, grasses, shrubs, and trees. Reclamation to be completed prior to the expiration of 2-years after termination of permit.	
New Mexico	Coal Surface Mining Act. Effective February 29, 1972. (Coal)	Application for permit must be filed with the Coal Commission. Mining plans must accompany permit applications. $50 application fee. $10 initial acreage fee. Annual fee of $20 per acre for each acre affected during the preceding year.	$1,000 for each day violation continues.	The Surface Coal Mining Commission may require an operator to file a bond in amount sufficient to insure compliance.	Grade to produce a gently undulating topography or such other topography as is consistent with planned end use of this land. Grading shall be done in such a manner as to control erosion and siltation of the affected areas and surrounding property and water courses. Revegetation of the affected areas must be accomplished in accordance with the previously approved mining plan.	
North Dakota	Chapter 38-14 North Dakota Century Code, as amended. Effective July 1, 1973. (All Minerals)	Applications for permits must be filed with the Public Service Commission for all planned operations exceeding 10-feet in depth. A reclamation plan is required.	Mining without a permit - fine of not less than $50 nor more than $1,000. Each day violation continues constitutes a separate offense.	$500 for each acre to be affected.	Regrade affected area to approximate original contour, or rolling topography or topography for higher end use; spread topsoil or other suitable soil material over the regraded area to a depth to two feet; impound or treat runoff water to reduce soil erosion, damage to agricultural lands and pollution of streams; back-slope final cuts and	Yes (Yes)

Table 4-5 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
North Dakota (Cont'd)		Up to ten acres $25 plus $10 times the number of acres to be affected between two and ten; eleven to fifty acres $100 plus $10 times the number of acres between eleven and fifty. More than fifty acres - $275 plus $10 times the number of acres in excess of fifty acres.			end walls to an angle not exceeding 35 degrees from the horizontal (operator may propose alternative to backfilling if consistent with the Act); remove or bury all debris.	
Oregon	An Act Relating to mining. Oregon Legislative Assembly 1971, Regular Session. Effective July 1, 1972. (All Minerals)	Permits must be obtained for all operations exceeding 10,000 cubic yards of material extracted or at least 2-acres of land affected within a period of 12 consecutive calendar months. A reclamation plan is required. Basic fee $150. Annual renewal fee $50.	Mining without a permit a fine not exceeding $1,000. Violation of any rules or regulations is punishable by a fine of not less than $25 nor more than $250, or imprisonment for not more than 60 days or both.	Not to exceed $.300 per acre to be surface mined.	Reclamation of the affected land must be performed in accordance with the approved reclamation plan which must contain: Measures to be undertaken by the operator in protecting the natural resources of adjacent lands; measures for the rehabilitation of the surface-mined lands and the procedures to be applied in the surface mining operation to control the discharge of contaminants and the disposal of surface mining refuse; procedures to be applied in the rehabilitation of affected stream channels and stream banks to a condition minimizing erosion, sedimentation and	Yes (Yes)

Table 4-5 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Oregon (Cont'd)					other factors of pollution; such maps and other documents as may be requested by the Department of Geology and Mineral Industries; and a proposed time schedule for the completion of reclamation operations.	
South Dakota	Surface Mining Land Reclamation Act. Effective July 1, 1971. (All Minerals)	Permit applications must be filed with the State Conservation Commission. A reclamation plan is required. $50 $25 for each renewal.	Violation of Act's provisions – a fine of not less than $1,000 for each day the violation continues.	An amount sufficient to cover the cost of reclamation.	Isolate all toxic or other material that have a damaging effect upon ground and surface waters, fish and wildlife, public health and the environment; reclaim surface mined areas to control erosion, provide vegetation, and eliminate safety hazards; replace topsoil evenly over reclaimed area; revegetate in accordance with agronomic and forestry recommendations; and upon completion of operations, remove all structures, machinery, equipment, tools and materials from the site of operation.	Yes (Yes)
Washington	Surface-Mined Land Reclamation Act, Chapter 64, Laws of 1970. Effective January 1, 1971. (All Minerals)	Permit applications must be filed with the Department of Natural Resources. A reclamation plan is required. $25 per permit year	Mining without a permit misdemeanor. An operator can be enjoined or otherwise stopped. Each day's violation constitutes a separate offense.	Not less than $100 nor more than $1,000 per acre.	In reclaiming excavations for use as lakes, all banks shall be sloped to 2-feet below the groundwater line at a slope no steeper than 1½ feet horizontal to 1-foot vertical. In all other excavations, the side slopes shall be no steeper than 1½ feet horizontal to 1-foot vertical for	Yes (Yes)

Table 4-5 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Washington (Cont'd)		for each location plus $5 per acre for all acreage exceeding 10-acres which was disturbed during the previous permit year.			their entire length. All strip pits and open pits shall be no steeper than 1-foot horizontal to 1-foot vertical. The slopes of quarry walls shall have no preslopes, except where a hazardous condition is created the quarry shall be graded or backfilled to a slope of 1-foot horizontal to 1-foot vertical. In strip mining, peaks and depressions of spoil banks shall be constructed to a gently rolling topography. Suitable drainage shall be constructed to prevent the collection of stagnant water. All grading and backfilling shall be made with non-noxious, nonflamable, noncombustible solids. All acid forming materials shall be covered with at least 2-feet of clean fill, vegetative cover shall be required and all surface mining that disturbs streams must comply with State fisheries laws.	
Wyoming	The Wyoming Environmental Quality Act, Article 4, Land Quality. Effective July 1, 1973. (All Minerals)	Applications for permits must be filed with the Administrator Division of Land Quality. A reclamation plan is required.	The Act imposes fines ranging from $10,000 to $50,000 per depending upon the violation involved. Criminal penalties are also prescribed for	Not less than $10,000 except for scoria or jade and sand and gravel, in which case the bond shall not be less than $200 per acre.	Protect the removed and segregated topsoil from wind and water erosion and from acid or toxic materials; cover, bury, impound or otherwise contain radioactive material; conduct contouring operation to achieve planned use; backfill, grade and replace topsoil	Yes (Yes)

Table 4-5 (Continued)

State	Title or Code Citation (Minerals Covered)	License and/or Permit Requirements: Application and Fee	License and/or Permit Requirements: Penalty	Bond Requirements	Reclamation Requirements	Failure to Reclaim Penalties Bond Forfeit (Permit Denial)
Wyoming (Cont'd)		Surface mining fee $100 plus $10 for each acre to be affected with a $2,000 maximum. Amended permit $200 plus $10 per acre with a fee for mineral exploration – $25.	certain violations. 6 months to 2 years imprisonment		or approved subsoil; replace vegetation; prevent pollution of surface and subsurface waters; and reclaim affected land as mining progresses in conformity with the approved reclamation plan.	

California **	Title	Application Fees	Penalty	Bond Requirements
	Surface Mining and REclamation Act of 1973	Permit application must be filed with the Department of Conservation		

** Rules and regulations not yet promulaged; administrative not yet prepared.

	Title	Application and Fees	Penalty
Idaho	Idaho Surface Mining Act, Title 47, Chapter 15, Idaho Code. Effective May 31, 1975 (all minerals).	Application for permits must be filed with the State Department of Lands. A Reclamation Plan, approved by the State Board of Land Commissioners, is required for exploration or mining activities affecting more than two (2) acres of surface lands, prior to commencement of operations. No application fee is required,	For violation of provisions, a civil penalty imposed of not less than $10(nor more than $1000 for each day that violation continues. May be enjoined from continuing such viloations. For willful violations or falsification of information, a fine of not less than $1000 nor more than $5000 or imprisionment not to exceed one (1) year, or both.

Bond Requirements

Bond penalty shall be in such an amount as is deemed necessary to insure operator's performance in compliance with the Act, but bond may not exceed $500 for any given acre of affected land.

Reclamation Requirements

Affected lands shall be reclaimed in accordance with the approved Reclamation Plan, which shall include: Overburden ridges leveled to a minimum width of 10 feet at the top; peaks of overburden leveled to a minimum width of 15 feet at the top; overburden piles prepared in a manner control erosion; insure control of stream or lake siltation caused by operations on affected lands to a degree less than that which existed prior to operations or to meet the requirements of the State Code regarding health and safety, whichever is the lesser standard; cross-ditching of abandoned roads to prevent erosion; plugging of exploration drill holes; topping of abandoned lands with overburden reasonalby available from the pit that will be conducive to erosion and growth of vegetation; conduct revegetation program on all affected lands, except as may be excused by the Act, to result in vegetation comparable to that which existed prior to operations; preparation of tailings ponds to leave in a condition that is non-hazardous to human and animal life. Time limitations and definitions are imposed by the Act on reclamation activities.

Failure to Reclaim Penalties Bond Forfeit (permit Denial

Yes

	Title	Application Fee	Penalty	Bond Requirement
Texas	Texas Surface Mining and Reclamation Act	Permit application must be filed with the Railroad Commission of Texas Application fee $200	Violation of the Act- notification of cessation of mining operations, hearing, revoke permit, civil penalty not more than $5000 a day; criminal penalty not more than $10,000 or imprisonment not more than 1 year or both.	Amount of the bond shall be determined by the commission and shall be sufficient to assure the completion of the reclamation plan if the work had to be performed by a third party.

REclamation Requirements	Failure to Reclaim
Conserve and replace top soil, use stratum best for plant growth, backfill and grade approximate original contour, revegetate for beneficial use, establish diverse self-regenerative cover suitable for approved end-use. Principles stated on lakes, water rights and ground water; 4-year responsiblity for vegetation.	yes (yes)

UTAH	Title	Application Fees	Penalty	Bond Requirements
	Mined Land Reclamation Act of 1975	Permit must be filed with the Department of Natural Resources No application fee	Violation of the Act- shall be guilty of a misdemenor and, upon conviction, shall be subject to a fine of not more than $10,000 for each violation. Each day of willfut failure to comply with an emergency order shall be considered as a separate violation.	An amount sufficient to insure completion of the reclamation of the site affected.

Reclamation Requirements

Control water flow and quality, conserve and replace top soil, backfill and grade where practical, bury or neutralize toxic wastes, and revegetate for beneficial use (priority to non-noxious native plants).

APPENDIX 7

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