NORTHWEST ENERGY COMPANY

INTERNATIONAL R W ASSOCIATION

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

NATIONAL FOREST SYSTEM COOPERATIVE FORESTRY FORESTRY RESEARCH FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

ENERGY CONSERVATION AND DEVELOPMENT COUNCIL • STATE OF UTAH •

utah power & LIGHT COMPANY

CONFERENCE REPORT

May 1, 1981

REPORT OF CONFERENCE

ON

ENERGY TRANSPORTATION SYSTEMS

Co-Sponsored By: Bureau of Land Management
Forest Service
Northwest Pipeline Corporation
Utah Power & Light Company
International Right-of-Way Association

Dates: February 2, 3, 4, 5, 1981

Place: Hilton Inn of Salt Lake City
154 West 6th South
Salt Lake City, Utah
Phone (801) 521-2930

Theme: "Expediting Right-of-Way Applications for Major Energy Transportation Systems over Federal, State, and Private Lands"

TABLE OF CONTENTS

I. INTRODUCTION AND ACKNOWLEDGEMENTS

INTRODUCTION

The Energy Transportation Systems Conference was held at the Hilton Inn, Salt Lake City, Utah, February 3, 4, and 5, 1981. The conference was co-sponsored by the Bureau of Land Management, Northwest Pipeline Corporation, Utah Power and Light Company, Utah Energy Office, the Forest Service, USDA, and the International Right-of-Way Association.

The primary goal of the conference was to improve efficiency, understanding, and transfer of information for expediting right-of-way applications on energy transportation systems over Federal, State, and private lands. The objectives of the conference were to (1) provide information on Federal and State agency permitting processes and industry's energy project planning procedures; (2) investigate methods for improving existing procedures currently being used by Federal and State agencies and energy transportation industries; and (3) establish contact and coordination points between Federal, State, and local agencies and industry representatives.

Conference participants were invited from the Intermountain Region including the States of Utah, Idaho, Nevada, Wyoming, Colorado, and California. Conference participants included people from the following agencies, industries, and public interest groups:

Federal Agencies: Bureau of Land Management, Bureau of Indian Affairs, Forest Service, Corps of Engineers, Environmental Protection Agency, Water and Power Resources, Fish and Wildlife Service, Federal Energy Regulatory Commission, Department of Energy, Rural Electrification Association, National Park Service, Geological Survey, Farmers Home Administration, Interstate Commerce Commission, Bonneville Power Administration, and Western Area Power Administration.

State and Local Agencies: State Department of Natural Resources, State Energy Office, State Department of Environmental Health, Community Development Office, State Planning Office, Department of Transportation, and City and County representatives.

Industry Representatives: Oil and gas pipeline companies, railroad companies, coal slurry pipeline companies, electrical generation and transmission companies, municipal utilities, and engineering and environmental consulting firms.

Public Interest Groups: Conservation organizations, Indian tribes, University representatives, Western Energy States Policy Office, Western Interstate Energy Board, and others.

The conference was structured to follow the energy project planning, development, and construction processes. Specific papers were presented by participants from Federal, State, and local agencies and industry representatives on topics listed under Table of Contents.

In addition, prominent guest speakers made presentation during the luncheon hours on projected energy demands, supply and conservation programs.

It is intended that this document be used by Federal, State, and local agencies and industry representatives in planning energy transportation projects and in establishing key contacts with agencies involved in the processing of permit applications for their project.

ACKNOWLEDGEMENTS

Conference Steering Committee:

John Stephenson, BLM, Utah State Office
W.A. Thomasson, Northwest Pipeline Corp., Salt Lake City
Rosemary Richardson, UP&L, Salt Lake City
Jim Butler, Forest Service, USDA, Ogden, Utah
Walfred Hensala, Northwest Pipeline Corp., Salt Lake City
David Neilson, UP&L, Salt Lake City
Buzz Hunt, Utah Energy Office, Salt Lake City

Special thanks go to Yvonne Evans and Bonnie Hoffmann for their assistance in typing the many letters, agendas, and preparation of this report; and to the Northwest Pipeline Corporation for publication of this document.

Also, special thanks to Tresa Taylor and Betty Thomasson for their help in registration of conference participants and other administrative matters.

Page

II. OPENING REMARKS

Remarks of Dean E. Stepanek

Energy Transportation Systems Conference

On behalf of the Bureau of Land Management I would like to add my welcome to you and thank you for taking time from your busy schedules to attend this conference.

This past week I had the opportunity to meet with Secretary Watt. During that meeting he expressed his priorities for management of the public lands. As you might expect, providing public lands for energy exploration development and transportation in an environmentally sound manner is very high on that list of priorities.

The Secretary went on to specifically request our identification of unnecessary or cumbersome laws, regulations, policies, or procedures which delay or frustrate common sense management and development of the public land resources. On that point, I have asked Utah's BLM staff to note your comments and report to me by Friday so that I might forward your suggestions to Washington.

The Bureau's policy is to provide public lands for appropriate energy development projects in the most responsive manner and at the least cost to the proponent and, ultimately, the consuming public.

To the extent this conference leads to greater efficiencies in our systems, it will have been worth the effort.

The Forest Service is pleased to be a co-sponsor of this workshop and we think it is an important and timely issue to address.

We, in this room, will have a big part in rebuilding or doubling the physical plant and the population of the Intermountain West in the next 20 years. Let's not look at this session as just one step in expediting the next power line, or power plant siting, or reservoir location, rather let's look on it as a forum for learning about each other's needs and requirements through which we can all better serve the needs of the public as well as our own. Let's build our part of this world so we can take pride in our work when our children come along.

As I view the topic of rights of way, there are several observations that come to mind:

1. Rights of way always seem to be short changed. We are always in a hurry. We plan other parts of the system, other parts of our capital improvements and we give sufficient time to other aspects of development but, for some reason, we seem to neglect planning for rights of way.

2. I have found that rights of way normally can fit into the scheme of multiple uses given enough time to resolve the conflicts and look for ways to resolve competing uses. The Forest Service is a multiple use agency and we do not prohibit the use of the land for rights of way on most of our lands.

3. Planning takes time. It can't be left to the last minute. The planning must be managed. It must fit the processes of all parties involved and this requires time.

4. There is someone interested in every acre that will be used for rights of way location and other uses. Every acre and every critter is important to someone. The Forest Service cannot ignore this. It is a factor in resolving the issues which will surface when we contemplate decisions on rights of way.

5. We are all better off and better decisions are made if all sides understand each other's points of view and each other's needs so we can concentrate on the real issues of rights of way rather than fighting with each other.

6. Our decisionmaking process is open. There can be no hidden agendas. I don't think industry has caught up with this concept yet, but it must be one that is appreciated because we cannot and will not do business behind closed doors.

Again we appreciate the opportunity to be a full sponsor of this session and I look forward to a better understanding of each other's needs and processes and hope that this workshop can make a significant contribution to making better decisions and more timely decisions in the future.

Remarks given by Jeff M. Sirmon at the Energy Transportation Systems Conference in Salt Lake City, Utah, on February 3, 1981.

OPENING STATEMENTS

ENERGY TRANSPORTATION CONFERENCE
February 2,3,4, & 5, 1981

GOOD MORNING, I'm W.A. Thomasson, Manager of Right of Way and Environmental Affairs, for Northwest Pipeline Corporation. I am also Secretary of the International Right of Way Association. I am here this morning to welcome you on behalf of these two of the co-sponsors of this Conference.

To acquaint you with Northwest Pipeline, we are a natural gas transportation company serving seven western states. Our principal business is transporting natural gas from fields in New Mexico, Colorado, Utah and Wyoming, to markets in the Pacific Northwest. We also purchase gas delivers from Canada at our Sumas, Washington Station. As a company, our interest and goal in this conference is to try to find ways to work closer with government agencies and develop a better understanding of each others problems and work out solutions to these problems. We have made a lot of progress in the last few months in this regard and we would like to continue this progress. We feel that a conference of this nature will certainly help in this regard. Its been a pleasure working with John Stephenson and the other co-sponsors of the conference. We all now look forward to the results.

It is very encouraging to see as many people here as we have today. When you look out and see 180 or so people that have registered for the Conference it makes some of this work seem worth while.

Now, on behalf of the International Right of Way Association. This is a Professional Association, principly concerned with Education of its membership. We are 11,000 members strong, and have an Educational Program that is second to none. We are very actively involved in promoting professionalism among Right of Way people and have a senior Registration program that requires the applicant to pass rigid exams in Law, Engineering, Appraisal, and Negotiations, in addition to fulfilling several years of actual Right of Way job experience. We are happy as a professional organization to have the opportunity to co-sponsor this Energy Transportation Conference. If you are, or think you might be interested in the International Right of Way Association, there are several informational packets available at the Registration Desk. If there is not sufficent number to meet the needs, I will take your name and address and see that one is mailed to you. We also have some applications handy in case you would like to become a member of the Association. We will be glad to accept your application and forward it to the appropriate area Chapter. There are 70 Association Chapters in the United States and Canada, so there is probably a local Chapter that meets in your area.

You may be seeing quite a bit of me in the next three days. It is my responsibility to keep the conference moving, the coffee ready, and the lunches on time.

So, if you see me adjusting microphones or asking you to be ready for certain activities, you'll know what I am trying to accomplish. If I can assist you in any way, be sure to let me know and I will try to supply your needs. I urge everyone here to participate in the program. We are not trying to make this a program that is presented for your passive information. We want you to actively participate. You will only receive benefits from this conference to the degree in which you participate. We welcome your questions, answers, suggestions, and problems. I look forward to becoming acquainted with each of you and hope we can together, make this conference a success.

WELCOMING ADDRESS

By Jack Lyman, Director
Utah Energy Office

CONFERENCE ON ENERGY TRANSPORTATION SYSTEMS

Salt Lake Hilton Inn
February 3, 1981

GOOD MORNING, LADIES AND GENTLEMEN. ON BEHALF OF THE STATE OF UTAH AND OUR CONFERENCE CO-SPONSORS, I'M PLEASED TO WELCOME YOU TO SALT LAKE CITY FOR THE OPENING OF THIS THREE-DAY CONFERENCE ON ENERGY TRANSPORTATION SYSTEMS.

AS YOU KNOW, THE PURPOSE OF THIS CONFERENCE IS TO IMPROVE OUR UNDERSTANDING OF THE PROCESS BY WHICH PUBLIC LAND MANAGERS WILL REVIEW AND, WHEREVER POSSIBLE, EXPEDITE PREMIT APPLICATIONS. IT ALSO PRESENTS AN OPPORTUNITY FOR ALL OF US TO SHARE OUR VIEWS AND CONCERNS ON EXISTING PERMITTING PROCEDURES WHICH WILL HOPEFULLY LEAD TO GREATER EFFICIENCY IN THE FUTURE IN TERMS OF BOTH TIME AND MONEY. WE ARE ENCOURAGED THAT THIS CONFERENCE WILL HELP PROMOTE A COOPERATIVE PARTNERSHIP BETWEEN THE PUBLIC AND PRIVATE SECTORS TO FOSTER THE PRUDENT DEVELOPMENT OF ENERGY RESOURCES THROUGHOUT THE INTERMOUNTAIN WEST.

ENERGY DEVELOPMENT IN OUR REGION HAS GROWN DRAMATICALLY OVER THE PAST DECADE. IT IS GENERATING A MOMENTUM WHICH WILL STIMULATE GROWTH THROUGHOUT THE REST OF THIS CENTURY. INDEED, THE WEST IS OFTEN REFERRED TO AS THE CENTERPIECE OF THIS NATION'S ENERGY FUTURE. WE POSSESS AN ENVIABLE ABUNDANCE OF NATURAL RESOURCES INCLUDING MUCH OF THE IN-GROUND

ENERGY ON WHICH THIS NATION WILL DEPEND IN THE DRIVE FOR ENERGY INDEPENDENCE. THE NEED TO DEVELOP THESE RESOURCES IS NOW UPON US. WE MUST PUT OUR HOUSE IN ORDER BY OPENING UP THE CHANNELS OF COMMUNICATION BETWEEN PUBLIC AND PRIVATE INTERESTS TO MINIMIZE MANAGEMENT PROBLEMS ACCOMPANYING GROWTH, WHILE SIMULTANEOUSLY TAKING FULL ADVANTAGE OF OPPORTUNITIES IT OFFERS.

DURING THE NEXT TEN YEARS, THE RURAL AREAS OF THE WEST WILL EXPERIENCE SIZABLE INCREASES IN COAL PRODUCTION, EXPANSION OF COAL-FIRED ELECTRICAL GENERATING CAPACTIY, INTENSIFIED EXPLORATION AND PRODUCTION OF OIL AND GAS FROM NEWLY DISCOVERED FIELDS, AND THE DEVELOPMENT OF SYNTHETIC FUELS FROM OIL SHALE, TAR SANDS AND COAL. NEARLY ALL OF THESE DEVELOPMENTS WILL REQUIRE THE CAREFUL PLANNING AND TIMELY CONSTRUCTION OF NEW ENERGY TRANSPORTATION SYSTEMS, INCLUDING MAJOR ELECTRIC AND TELEPHONE TRANSMISSION SYSTEMS, OIL AND GAS PIPELINES, COAL SLURRY PIPELINES, RAILROADS AND HIGHWAYS. GIVEN THIS PERSPECTIVE, WE MUST ALL RECOGNIZE THE CHALLENGES AWAITING PUBLIC LAND MANAGEMENT AND STRIVE TOWARD A BETTER MUTUAL UNDERSTANDING AND COOPERATIVE PARTNERSHIP AMONG PUBLIC AND PRIVATE INTERESTS.

THE PURPOSE OF THIS CONFERENCE IS PRIMARILY TWOFOLD. FIRST, WE INTEND TO EXCHANGE INFORMATION ON EXISTING PERMITTING PROCESSES USED BY PUBLIC REGULATORY AGENCIES AS WELL AS PROJECT PLANNING PROCEDURES USED BY PRIVATE INDUSTRY. SECOND, WE WOULD LIKE TO EXPLORE METHODS FOR IMPROVING EXISITING PROCEDURES USED BY THE PUBLIC AND PRIVATE SECTORS AND

INVESTIGATE WAYS IN WHICH OUR OWN GOALS AND OBJECTIVES CAN BE MORE EFFICIENTLY ACCOMPLISHED. TO ACHIEVE THOSE ENDS, YOUR PARTICIPATION IN PANEL DISCUSSIONS AND QUESTION AND ANSWER PERIODS WILL BE MOST WELCOME.

I WOULD LIKE TO EXTEND MY PERSONAL APPRECIATION TO THE BUREAU OF LAND MANAGEMENT, U.S. FOREST SERVICE, NORTHWEST PIPELINE COMPANY, UTAH POWER & LIGHT COMPANY, AND THE INTERNATIONAL RIGHT-OF-WAY ASSOCIATION FOR THEIR EFFORTS IN ORGANIZING AND CO-SPONSORING THIS CONFERENCE. I'M CONFIDENT THAT THE GOOD WILL AND COOPERATIVE SPIRIT THEY HAVE ALREADY CONTRIBUTED WILL TRANSLATE INTO A PRODUCTIVE AND MEANINGFUL CONFERENCE FOR ALL OF US.

THANK YOU.

Page

III. PROJECT PLANNING

J. A. Shelley
Black Mesa Pipeline

Thank you Dr. Grunspan for the introduction. Good morning Ladies and Gentlemen, it is a pleasure to be here with you. John Montfort, Black Mesa's Vice President and General Manager, had planned to be on this panel today, but Black Mesa's operational requirements dictated that he stay in Arizona. He asked that his regrets at not being able to attend be passed on to you. I have been with Black Mesa Pipeline as a part of its operational team for over three years.

I'd like to briefly discuss the feasibility of coal slurry pipelines as a means of coal transportation. We at Black Mesa Pipeline feel that slurry pipelines definitely have a place in the transportation field, particularly in special situations like Black Mesa and the proposed Alton project. Where no rail facilities exist or rail facilities provide a more circuitous route (420 to 273 miles in the case of Black Mesa), slurry lines can be very competitive. Over rough terrain slurry pipelines can be sloped up to 16%, whereas railroads hold to 1 - 2% maximum slope. This provides quite an opportunity for pipeline routes to be shorter than rail. Where rail facilities exist, they provide a tough economic challenge to a proposed slurry line.

The operational and economic feasibility of Black Mesa's pipeline is excellent. The system has had over a 99% availability factor over a 10 year operating period. This high factor can be compared to liquid pipelines which tend to have factors of 92 - 95% dependent upon the complexity of their operations. Of great assistance to Black Mesa in attaining its high reliability factor has been a philosophy of intensive maintenance and an extensive sparing of key equipment. This availability could vary with the magnitude of demands placed on the system.

The Black Mesa system is a hybrid with respect to economics and could not be duplicated in today's financial environment. Lenders are no longer willing to stand still, while inflation passes them by, so capital costs are likely to escalate along

with operating expenses on future projects. Black Mesa Pipeline features the use of 1969-70 capital dollars and 1981 operating expense dollars. The resulting transportation charge varies with the tonnage shipped in the range of 1.0 to 1.6 cents per ton mile. This charge includes slurry preparation and 273 miles of transportation. Slurry dewatering is not included in the charge. At this time dewatering costs are fairly significant, but should decrease considerably as this technology advances making coal transportation by slurry more attractive economically.

A problem mentioned with respect to slurry pipelines is the sizeable water usage associated with them. In some situations this is a legitimate argument, however, to bring water usage into the proper perspective, the following figures are presented:

> Black Mesa has used approximately 3,200 acre feet of water to transport 4,500,000 tons of coal in a year. In comparison, the City of Flagstaff uses twice that amount annually, two sections of cotton land use an equivalent amount, and evaporation from Lake Powell in a year amounts to 650,000 acre feet or 200 times as much. The majority of slurry water is recovered and used in the cooling system of the power plant in Black Mesa's case and thus decreases the amount of Colorado River water that is used by the Mohave power plant.

From a marketing standpoint, slurry pipelines fall into a chicken and egg type situation. In order to justify a slurry pipeline, plants capable of burning slurry must be available and conversely slurry burning plants need a pipeline to feed them. As with any present day project, soft costs for environmental studies, permits, preliminary engineering, legal costs, etc. are a major factor in determining economic feasibility and can be quite detrimental.

Considerable effort is being put into making boiler conversions from oil to coal and coal slurry more economically feasible. This effort will likely increase the requirements for coal transportation.

In summary, there are probably many other locations in the United States and throughout the world where slurry pipelines can serve coal transportation needs.

Thank you.

"SOUTHERN UTAH COAL:

THE RAILROAD CHALLENGE"

Presented By

Mr. Jeff Brinton

Asst. Manager-Environmental Planning

Union Pacific Railroad Company

At The

Energy Transportation Systems Conference

February 3, 4, and 5, 1981

Salt Lake City, Utah

SOUTHERN UTAH COAL: THE RAILROAD CHALLENGE

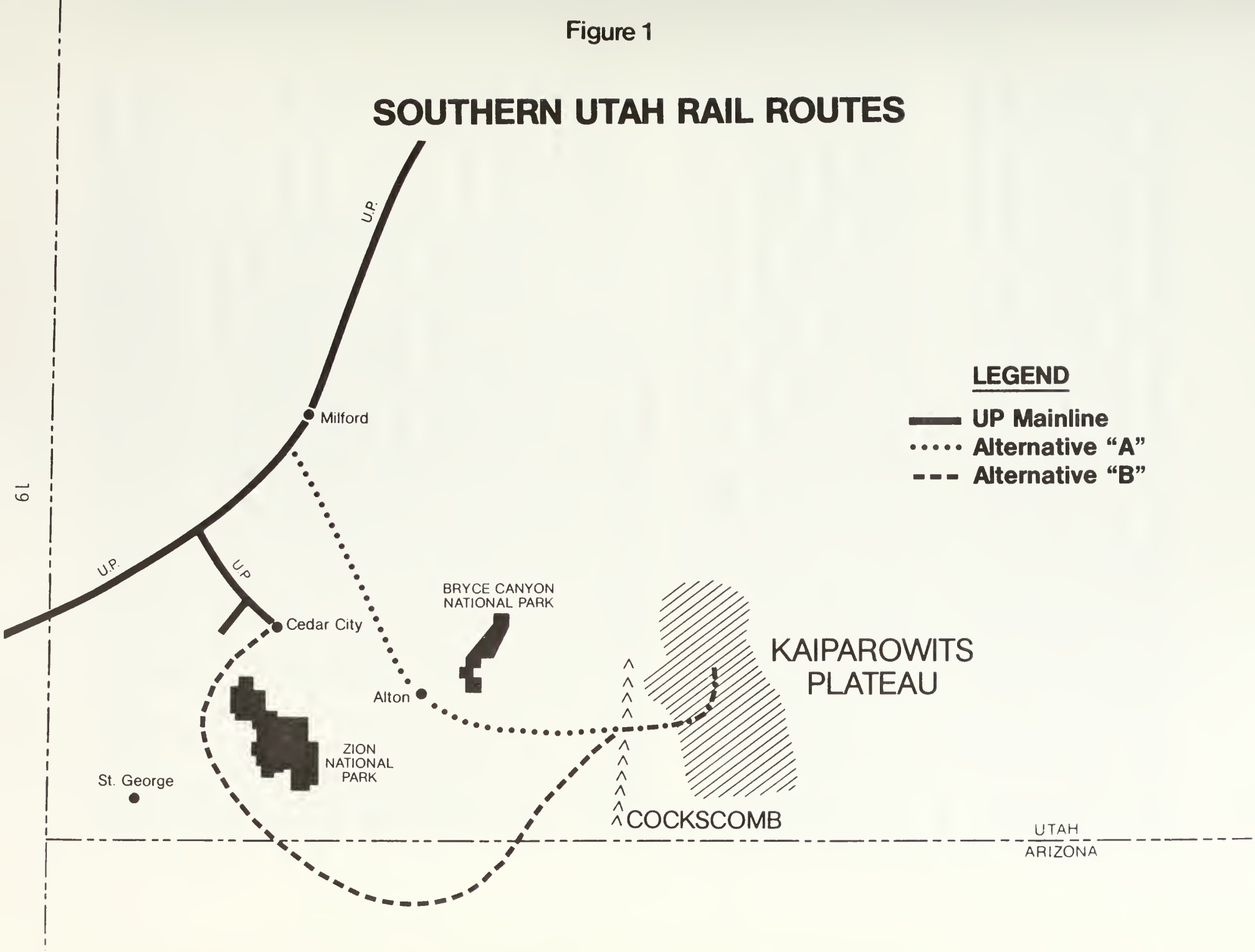
Introduction

It was almost two years ago that the Union Pacific Railroad Company, in conjunction with a consortium of coal and utility companies, first publicly disclosed that a preliminary feasibility study was underway considering the possible construction of a railroad line to serve coal fields located in the southern Utah area. At that time, two alternative routes were being projected for accessing the Kaiparowits Plateau (see Figure 1). One alignment was to originate from the Union Pacific main line near Milford, Utah and extend in a southeasterly direction to the Plateau; the other alignment was to originate from a Union Pacific branch line near Cedar City, Utah and extend first southward into Arizona, and then northeastward into the southern Utah coal reserves. Each alternative alignment required approximately 200 miles of new trackage. As originally intended, the proposal was to have been progressed as quickly as possible so as to allow for completion of the rail line by June, 1986. This date coincided with the date by which the federal coal leases were required to be in production in accordance with diligent development regulations contained in the Federal Coal Leasing Act Amendments of 1976.

Union Pacific's interest in the southern Utah area was due to a variety of factors, including an acknowledgement both of coal's expanded role in this nation's (and the world's) energy future, and of the tremendous potential of the Kaiparowits Plateau, which contains one of the largest undeveloped bodies of high-quality coal in the United States. This was combined with a belief that the transport of this coal resource in raw form to outside markets by rail would be environmentally preferable to either mine mouth electrical generation, mine mouth synthetic fuel conversion, or slurry transport utilizing valuable water resources; and, of course, Union Pacific's existing lines were ideally positioned to tap Kaiparowits coal.

While the opportunities were readily apparent, it was also realized that the proposed undertaking would present a series of challenges, some of them formidable. Not the least of these was the task of laying 200 miles of track through the sometimes difficult terrain of the Colorado Plateau. The magnitude of the project was reflected in

Figure 1


SOUTHERN UTAH RAIL ROUTES
U.P.
Milford
U.P.
U.P.
Cedar City
BRYCE CANYON
NATIONAL PARK
Alton
ZION
NATIONAL
PARK
St. George
KAIPAROWITS
PLATEAU
COCKSCOMB
UTAH
ARIZONA
LEGEND
UP Mainline
Alternative "A"
Alternative "B"
19

its cost—the total estimated cost of the main access line with one branch line, based on 1978 dollars, ranged from $317 million to $350 million. Added to this was the financial commitment required on the part of coal developers to develop the associated underground mining complex. No less imposing was the challenge of balancing energy resource values with environmental values in an area well known for its natural amenities. And, finally, there were a number of difficulties inherent in the coordination of the diverse and sometimes competing interests of the respective mining, transportation, and utility companies.

Given the complexities noted above, it is not surprising that the ambitious time schedule originally proposed has not been met. In spite of this delay, there have been significant positive developments which impact on both the environmental and economic feasibilities of the project and which, therefore, are directly related to the status of the proposal at the present time. These developments are briefly reviewed in the following sections.

Kaiparowits Coal Development and Transportation Study

Not long after the rail line proposal and associated coal developments were announced, the federal and state governments joined forces to sponsor a broad-brush environmental feasibility study of potential coal-related activities in the southern Utah area. The stated objective of the study was to identify the major environmental and socioeconomic impacts that production and transportation of coal from the area would have on federal and state lands and to develop information which would assist land managers and local officials in making a preliminary assessment of the acceptability of such impacts. Mitigation measures and further planning needs were also to be identified. In essence, the effort was designed not only to supplement previous environmental studies such as the Southern Utah Coal EIS (1979), but also to provide a general planning document upon which critical decisions relating to the Plateau's future could be based. It was envisioned that detailed site analyses would be conducted at a later time in conjunction with specific mining plans and applications for rights of way.

A consultant, Environmental Research and Technology, Inc., of Fort Collins, Colorado, was selected to perform the environmental analyses. In addition, the Five County Association of Governments headquartered in St. George, Utah was responsible

for the analysis of socioeconomic impacts under an arrangement with the state of Utah. A federal-state steering committee guided the work effort. In August of 1980, after approximately one year of study, the report was released to the public. Three levels of coal production were analyzed in the report: a low production level of 5 million tons per year, a medium production level of 54 million tons per year, and a high production level of 84 million tons per year. Several transportation corridors and transport modes were also studied.

While ERT's study refrains from "making value judgments about the desirability of coal development or the acceptability of impacts," it does suggest that sizable tonnages of coal can be mined and transported from the Kaiparowits region without violating present environmental regulations, if proper mitigating measures are applied. However, some degradation of the environment and socioeconomic problems would accompany development and this is indicative of the trade-offs which are to be expected. The significance of these impacts would depend primarily upon the level of coal production and the type and location of coal transportation facilities.

While all of the study's findings cannot be detailed here, some of the observations pertaining to railroad construction and transportation are highlighted below:

- Air Quality - No violations of National Ambient Air Quality Standards (NAAQS) or Prevention of Significant Deterioration (PSD) increments are anticipated as a result of railroad construction activities. During the operation phase, although railroad-related Total Suspended Particulate Emissions (TSP) could be significant, primarily due to coal blow-off, mitigation would allow Class II TSP increments and NAAQS to be achieved in all scenarios. Mitigation would alleviate all potential violations except the PSD Class I increment near Bryce Canyon, which would be borderline for TSP and SO_2, for the high scenario only. No train-related standards violations are anticipated by ERT for any other pollutants.

- Visibility - No significant impact on visual range is expected due to rail transportation.

Water Resources - While there would be temporary increases in runoff and sediment during construction, rail transportation would avoid the significant adverse water supply impacts associated with the slurry pipeline transport mode.

The combined impacts from mining and transportation were also considered in the determination of overall environmental feasibility. With regard to air quality, often considered as one of the major factors in limiting coal development, the modeling results indicated that with mitigation measures representing best available control technology, up to 38 million tons per year could be produced under the medium scenario and up to 50 million tons per year could be produced under the high scenario before the most stringent air quality standards would be violated.

The effects of regional coal development and transportation on the socioeconomic environment were also studied and were found to have both positive and negative elements. Positive impacts would include increased money in the local economy, a larger tax base, more employment opportunities, and less moving away of young local residents in the eligible work force. On the negative side, the large population increases projected for some communities could result in concomitant increases in the tax rate structure, the need for major capital outlays to provide for basic community services (possibly in advance of any substantial growth-related revenue increases), and substantial increases in the cost of living. With a large influx of residents from outside areas sociocultural changes in the communities could also occur.

In conclusion, the findings of the study indicate that significant quantities of coal could be developed and transported from the southern Utah region while maintaining acceptable levels of environmental quality. With its regional and integrating perspective, the ERT study fills a void in the planning process which otherwise might not have been provided. It supplies a foundation which now can be used in conjunction with other supporting evidence to chart a course for the Kaiparowits area. It will also help guide the advanced planning effort which will be required to minimize the adverse socioeconomic impacts.

The transportation corridors studied are realistic and should help focus and expedite further study efforts and site-specific analyses. However, it should be cautioned that any tendency towards a rigid delineation of these corridors should be rejected in favor of a more flexible approach which will recognize that changing circumstances and opportunities may lead to new or modified alignments.

Assuming the steering committee is continued, as is recommended by ERT, to ensure that "appropriate interagency coordination and future planning efforts are implemented," it would be strongly advisable to explore the possibility of involving one or more representatives from the coal mining and transportation industries in the committee's work. Union Pacific would like the opportunity to discuss this matter at further length with the Bureau. The inclusion of industry representatives would give an added dimension to the group and would allow it to be more responsive to a wider range of resource interests.

Transportation Corridors and the Wilderness Review Program

Rail access to the coal-rich Kaiparowits Plateau is complicated for several reasons, including both institutional and physical constraints. With respect to the former, it may be said that the Plateau is literally encircled by several state and federal recreation areas, both existing and proposed. Just as constraining is the extremely rugged terrain of the region which severely limits the number of corridors which railroads can successfully utilize.

For those seeking to access the Plateau from the West, the Cockscomb stands as a very real geologic barrier. Only one suitable corridor through this barrier has been found by our engineers—the Paria Box. Here the Cockscomb is breached by the Paria River, which forms a natural corridor through the rugged terrain (Sections 20 and 29 of Township 41 South, Range 1 West). This route would permit the construction of a rail line with a maximum grade of 1 percent against the loaded movement, a practical necessity for unit coal trains. Other alternatives have been examined, but none has proven feasible. One seemingly obvious corridor that has been studied in detail is the Highway 89 route across the Cockscomb. Upon close examination, it was found that this corridor would necessitate grades and curves far in excess of our engineering standards, even on the best alignment.

Because of the criticality of this corridor, its proposed inclusion within an area of land designated for wilderness study poses a serious threat to the viability of a rail transportation option. This obstacle was the most significant potential constraint to rail transportation identified in the ERT study. The concern was expressed as follows: "Designation of the Paria Box as a wilderness study area would severely

restrict the development of a rail line to Milford or Cedar City. Engineering and economic constraints at a different crossing of the Cockscomb could be prohibitive." (Page 4–73). Because of the potentially serious nature of this constraint, the wilderness review program and its possible ramifications on coal transportation are summarized below.

Section 603 of the Federal Land Policy and Management Act of 1976 directs the Secretary of Interior to determine which public lands have wilderness characteristics (as described in the Wilderness Act of 1964), and to report to the President his recommendations as to the suitability or nonsuitability of each such area for preservation as wilderness. To qualify as having wilderness characteristics, an area must: 1) generally appear to have been affected primarily by the forces of nature with the imprint of man's work substantially unnoticeable; 2) have outstanding opportunities for solitude or a primitive and unconfined type of recreation; 3) have at least 5,000 acres of land or be of sufficient size as to make practicable its preservation and use in an unimpaired condition; and 4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

It is the Bureau of Land Management's responsibility to develop these required recommendations and to forward them to the Secretary of Interior who will, in turn, submit them to the President (before the 1991 deadline). The President must then report his recommendations to Congress by 1993. Only Congress can designate an area as wilderness. To aid in carrying out its wilderness mandate, the BLM has developed a wilderness review process with three phases: inventory, study, and reporting.

During the first phase (consisting of initial and intensive inventories), BLM attempted to identify those areas which met the definition of wilderness as defined by Congress. Following a period of intensive inventory which terminated in early 1980, the BLM developed its preliminary recommendations for wilderness study area (WSA) designations which were then circulated for public comment. These recommendations, which were in part attributable to the assistance provided by state and local governments and industry, reflected a significant reduction in the acreage initially considered for wilderness values. However, contained within one of the inventory units (UT-040-247) proposed for WSA status was the Paria Box.

Union Pacific responded to this proposed designation by pointing out certain factors which it felt would disqualify the area from further consideration. These factors centered on the absence of certain criteria necessary for wilderness status. In addition, the necessity of this corridor for transportation purposes was also mentioned, although it was realized this could not be used as a basis for changing the recommendation.

In November of 1980, after scrutinizing the comments received, the Bureau issued its final decision on the WSA's. In summary, the decision retained the Paria Box corridor within the aforementioned WSA unit, thus providing interim protection and preventing rail construction. The final WSA decisions were scheduled to take effect December 15, 1980, assuming no protests were filed. However, protests were received on all units in the Kaiparowits area, and these are currently being considered by the Utah state director. Once protests are ruled upon, these decisions would be subject to review by the Department of Interior Board of Land Appeals (IBLA) following normal administrative procedures.

In any event, the next phase of the wilderness review process is scheduled to begin shortly. During this study phase, all resources and activities will be evaluated and considered in relation to each other. A draft wilderness study policy outlining these procedures has already been issued by the BLM and is under study by Union Pacific and other interested parties. In an attempt to balance various resource values and uses, the policy would evaluate the suitability or nonsuitability for wilderness on the basis of several factors, including the potential impact on energy and mineral resources. Also, to avoid the legal troubles that plagued RARE II (the U.S. Forest Service's wilderness review program), the BLM intends to prepare site-specific environmental impact statements as part of its wilderness review.

In light of the importance of the aforementioned transportation corridor, and since the acreage in question is small, and only minor adjustments in WSA boundaries would be needed to resolve the conflict, it is hoped that some accommodations will eventually be reached concerning the Paria Box. However, it is also important that the decisions regarding wilderness suitability be made in a timely fashion.

BLM has already indicated its willingness to study and resolve the status of "high resource conflict areas" well in advance of the 1991 deadline. Under its proposed policy, BLM plans to process studies relatively quickly on sensitive areas such as energy sites and transportation routes. Those studies will be done as amendments to existing land management plans. Recommendations could then be presented to Congress as they are developed rather than waiting to present one comprehensive proposal as occurred under the RARE II experience. BLM has projected that each amendment could take about two years to complete, so that recommendations could begin to flow as early as 1984. They will soon publish a schedule for completion of studies on each WSA.

If development of Kaiparowits Plateau coal reserves is to become a reality, provisions must be made for transportation access. And, while actual mining and transportation activities may be several years distant, a reasonable basis for planning should be provided now. To summarize, our concern is twofold. The first is the possibility that the ongoing wilderness review process may delay either the acceptance or processing of applications for rights of way across federal and state lands; the second is that, if the Paria Box and other key corridors are finally included in wilderness areas, this may prevent rail access and, hence, development of the Kaiparowits Plateau even though such development would not be precluded on other environmental grounds.

Domestic Coal Markets

The economic feasibility of southern Utah rail transportation was originally linked almost completely to domestic markets in the Pacific Southwest. The single largest potential market was envisioned to be southern California. It was believed that California, with its dependence upon oil and gas for electrical generation, would be forced to turn to other fuels in order to provide both for new growth and replacement of existing facilities. National energy policy and price considerations were viewed as contributing factors. Because of the uncertainty surrounding nuclear plant construction and the scarcity of suitable new hydroelectric sites, the coal option was considered to be a practical necessity. Air quality constraints were viewed as a possible negative factor, but it was believed that coal-fired plants could be built in selected areas of the state which would comply with all applicable standards. The southern California desert contained several prime sites.

Potential markets in Arizona, Nevada, and central California were also identified. When the utility and industrial markets in these areas were combined with southern California, total demand amounted to over 50 million tons by the year 1995, climbing to over 100 million tons after the turn of the century. Kaiparowits coal was deemed a strong competitor in several of these markets.

While many of the original premises upon which the projected demand was based still hold true, there have been new developments which affect the outlook for domestic markets. Over the last few years, the growth in electrical demand has slowed, both in these markets and elsewhere. Conservation measures, together with more efficient load management techniques and the application of cogeneration, which have been spurred on by rising energy prices, are thought to have played a role in this, along with a general downturn in the economy. In any event, it appears that within the timeframes considered here, the need for new generating capacity will be somewhat less than once expected. Also affecting the outlook for coal are new policies on the part of utilities which emphasize the development of power sources which are renewable rather than finite. Southern California Edison Company, the largest utility in the southern California area, has recently announced such a policy change. Wind, geothermal, solar, and fuel cells are among the renewable resources which will play a role in meeting future electrical demand.

Nevertheless, for Southern California Edison Company and other utilities, coal will play a part in the total mix of fuels upon which new capacity will be based during the decades of the 1980's and 1990's. The size and timing of its contribution will depend to some extent on the speed with which the alternate resources program can be implemented. Efforts to accelerate conservation and alternate energy programs will be neither easy, nor certain, nor cheap.

In addition to the demand from utility power plants, there will also be industrial markets in the Pacific Southwest, and here the outlook is promising. Industrial consumers are considering obtaining their coal supplies by rail either directly from the mine to the plant, or through delivery to a bulk handling facility from which trucks would distribute to the plant.

Also encouraging are the proposals to locate synthetic fuels plants (using coal) in the southern California area. These plants would produce medium-Btu gas, either for delivery to generating and industrial users, or as a process fuel for on-site combined-cycle operations. Significant quantities of coal would be required to operate these facilities. Again, the high quality and abundant reserves of the Kaiparowits Plateau, combined with its locational advantages, make the area a logical source of supply, were transportation available.

Export Coal Markets

The long-term outlook for export markets in the Pacific Rim area, once thought to be marginal, is presently causing a flurry of excitement. Part of the reason for this excitement is the fact that, beginning in April of last year, Western U.S. steam coal started moving into Far Eastern markets for the first time. As of the end of 1980, approximately 1 million tons of steam coal had moved over the Union Pacific system on its way to Far East consumers. Shipments originated in central Utah, western Colorado, and southern Wyoming and moved through the West Coast ports of Los Angeles and Long Beach. Most was destined for industrial consumers in Taiwan, Japan, and Korea. Some short-term contracts have also been signed with these users. Long-term contracts involving substantially greater tonnages will await development of the coal-fired electric generating capacity which is scheduled to occur starting in the mid- to late-1980's. What is the nature of this long-term export potential and how does it relate to the southern Utah area?

Japan is said to represent the world's fastest growing coal market. This is directly tied to its efforts to reduce its reliance on costly imported oils, as well as to base the expansion of new generating stations and industrial facilities on coal. It is also a reflection of limited domestic coal reserves. In all, Japan is planning 24 coal-fired units in 12 different locations which will increase its coal-fired generating capacity by over 17,000 Mw. Steam coal imports should grow from a few million tons per year currently, to in excess of 40 million tons by 1990. Industrial coal use will push total 1990 imports to well over 50 million tons per year.

When Japanese demands are combined with those of other major consumers such as Taiwan and Korea, and the lesser demands of other Pacific Rim nations, the totals are even more encouraging. The World Coal Study (1980) projected a total

demand for the Far Eastern region of approximately 44 million tons per year by 1985, expanding to 95 million tons per year by 1990. A recently released report of the Interagency Coal Export Task Force (directed by the Department of Energy) contains similar estimates of the Pacific Rim demand. Others have been even more optimistic for the long term, projecting total 1990 imports of over 100 million tons per year.

Due to its low-cost mining conditions, and the proximity of coal deposits to both ports and markets, Australia should continue as the primary source of coal supply for the Pacific Rim area. South Africa, another current supplier, and new suppliers such as China will also contribute a portion of the total supply. There is, nevertheless, a potential for significant contributions from the United States. Two fundamental reasons have commonly been offered: a desire by Far Eastern countries to diversify coal supply sources so as to protect themselves against disruptions, and a desire to improve the balance of trade with the United States. In addition, it has been pointed out that Australians have a tendency to adopt governmental policies designed to limit export of their raw materials and to price these materials near world market levels by imposition of export taxes and permits. Thus, although Australia could capture the whole Far Eastern market on the basis of price, other considerations will act to stimulate U.S. coal exports.

Far Eastern countries themselves have projected that up to one-fourth or one-third of their total demand could be supplied by U.S. sources. However, others have wisely opined that the size of the U.S. share will be largely determined by the effectiveness of its marketing effort, and its ability to provide an adequate export infrastrucutre.

Coal from the Western U.S. is a logical choice to supply this U.S. share, whatever it might be. And, while there are several Western fields in competition, Utah must be viewed as a leading candidate because of its location and the quality of its reserves—both of which will have a favorable impact on its price competitiveness. Quality is a vital consideration. Far Eastern consumers in general are looking for low-sulfur, low-ash coal with a heating content of 11,000 Btu's or higher. These specifications limit the potential for most Western coals, particularly the enormous reserves of subbituminous and lignite which are found in parts of Wyoming, Montana,

and North Dakota. Among those deposits which do generally meet these criteria (some New Mexico, Colorado, Utah and southern Wyoming deposits), other factors such as location will ultimately determine their relative competitive strengths. Location is particularly important since suitable Western coals are found several hundred miles inland, and land transportation costs will be an important element of the overall delivered costs. Table I shows the approximate rail-route miles from various coal fields to major West Coast ports. It can be readily seen that Utah, and especially southern Utah, holds an advantage over other Western coal deposits because of its relative proximity to port areas.

TABLE 1

Coal Source	Approximate Route Miles to Export Locations			
	Seattle/ Tacoma, Washington	Portland, Oregon	San Francisco, California	Los Angeles/ Long Beach California
Southern Wyoming (Hanna Basin)	1,280	1,135	1,310	1,200
Southern Wyoming (Rock Springs)	1,115	975	1,150	1,035
Central Utah (Price)	1,160	1,015	1,050	860
Southern Utah (Kaiparowits Plateau)	1,755	1,610	1,650	735
New Mexico (Star Lake)	1,955	1,785	1,190	825
Northern Wyoming (Powder River Basin)	1,190	1,235	1,730	1,570

Some have argued that the low mining costs associated with lower quality strip mine coals (i.e., in the Powder River Basin) can offset their locational disadvantages. However, on a Btu basis, the transportation costs associated with these low-quality coals would be much higher, ultimately resulting in higher delivered costs. The bottom line, as expressed recently by one observer, is that "Far Eastern utilities are in the business of producing cheap electricity rather than buying cheap coal." It may be that a market for these coals will be developed over time, but it is likely that they would be among the last Western coals to move.

Before this export potential can be realized, Pacific Rim nations must be assured of a dependable supply chain. With respect to southern Utah, mining and transportation infrastructures must, of course, be developed. In addition, and this is important regardless of the source, adequate port facilities must be made available. Presently, the only two bulk loading facilities on the West Coast are located at the Port of Los Angeles and the Port of Long Beach. It is through these outlets that exports are now moving. Combined capacity of these ports is presently limited to about 5 million tons per year annual throughput, far below the level of expected exports.

The excitement over potential coal traffic has spawned a multitude of proposals for export facilities up and down the West Coast. Several of these would be accessible by either the Union Pacific Railroad or its proposed merger partner, the Western Pacific. The following remarks are confined to the southern California ports, which are those best positioned to serve southern Utah coal fields.

The bulk-loading facility at the Port of Los Angeles is served by a 51-foot channel depth capable of accommodating vessels of approximately 100,000 deadweight tons. An estimated 4 to 5 million tons of export coal could be handled each year through expansion of this operation. Union Pacific rail service is available directly to this facility. A comprehensive master plan has been developed by the port which includes a 200 acre landfill project on Terminal Island, a proposed 100 acre dry-bulk loading facility, and a project to dredge the channel to a 60-foot water depth. Union Pacific would be in a position to provide reliable unit coal train service to this proposed facility.

The Port of Long Beach also has the capability of accommodating vessels of approximately 100,000 deadweight tons. It is anticipated that the bulk loading facility could be modified to handle 4 to 5 million tons of export coal per year. Planning by the Port of Long Beach has indicated a need for additional bulk loading capabilities, and Union Pacific stands ready to support future trends toward the greater export of fossil fuels. Union Pacific Corporation's Upland Industries subsidiary has extensive land holdings in this area and is presently conducting a feasibility study to determine the appropriateness of constructing a coal export facility to handle up to 30 million tons per year.

A remaining obstacle to the full realization of export potential will be eliminated when the current "chicken-and-egg" stalemate is broken. That is, foreign customers are awaiting assurances that supply, transportation, and logistics systems will be developed and in place before entering into long-term contract agreements. Meanwhile, producers, transporters, and port developers are awaiting long-term contracts to justify the sizeable capital investments which are required to develop the infrastructure. An encouraging sign is the apparent willingness of some, including prospective foreign customers, to financially support this development and to thereby provide the necessary impetus to break the deadlock.

Expediting Applications for Right-of-Way Grants

Before significant quantities of coal can begin moving from southern Utah to either domestic or export markets, a major transportation system must be constructed. Any such system will require right-of-way applications and other government permits, which brings us to the theme of today's conference. Even before an application is filed, however, there is an important period of planning and analysis which must be conducted by a prospective applicant. The government's opportunity to assist in expediting applications for rights of way will actually begin at this stage, before formal applications are filed, and will then continue throughout the approval process.

Coordination (which implies both communication and understanding) among the various federal, state, and local agencies, which are either directly or indirectly involved, from the very earliest stages of preapplication activity, may be the single most important factor in expediting the required procedures and processes. At appropriate stages of the application process, public participation is also vital. That the applicant (or prospective applicant, as the case may be) must have the procedures clearly explained and must know precisely what is required of him throughout this process, goes without saying. Every attempt must be made to avoid wasteful or duplicative effort on the part of applicant and agency alike. The following paragraphs contain a brief description of the various application processes, as they now stand, together with some suggestions for improvement. The emphasis is on the environmental review process. It will be seen that there are already several provisions which, if properly followed, can serve to expedite this review.

In the case of major new rail construction, the transportation company would file with the Interstate Commerce Commission (ICC) an application for a certificate of public convenience and necessity. The application would contain, in addition to several informational items pertaining to the applicant and the proposed project, an Environmental Report, the contents of which are spelled out in detail in 49 CFR, Part 1108. Generally stated, the environmental report should contain a description of the environmental effects of the proposed actions and alternatives which are also to be considered. Impacts on air and water quality, transportation systems, land use plans, energy, noise, safety, wildlife, historic sites, and communities are among those to be addressed. Prospective applicants are encouraged to consult with the Energy and Environmental Branch of the ICC before beginning work on the environmental report; but in any event, contact should be made at least six months prior to the date an application is to be filed. Following the filing of an application, the ICC staff would then make a determination as to the form its own environmental review would take, and whether an environmental impact statement would be required.

The application for a right of way across federal lands is to be filed with the Bureau of Land Management simultaneously with the filing of an application with the ICC. As with the ICC's application, there are several informational items which would be presented, such as: the applicant's qualifications and financial capabilities, a detailed description of the project, and the lands to be included in the right of way. Insofar as an environmental submission by the applicant is concerned, the BLM regulations are less precise. The only specific requirement involves the submittal of a plan for the protection and rehabilitation of the environment during each phase of the project (if the authorized officer determines that an environmental statement will be prepared by the agency). Under the BLM's right-of-way rules (43 CFR, Part 2800) early contact with the agency is encouraged so that "potential constraints may be identified, the proposal may be considered in land use plans, and processing of an application may be tentatively scheduled." This "preapplication activity" is important since it presents an opportunity for the applicant and the agency to sit down together and discuss the requirements and procedures to be followed. It is also intended that coordination with federal, state, and local government agencies be initiated at this time. Once the application is filed and reviewed by the agency, an environmental analysis would be conducted.

Fortunately, there are provisions in the BLM's right-of-way regulations for appending or referencing pertinent information from other applications in the right-of-way application so as to minimize duplication. Presumably, this accommodation would apply to the environmental submission as well as to certain other parts of the application. A genuine opportunity is therefore presented for coordination of the respective applications. Through early consultation with the agencies, and the coordination between the federal agencies themselves, the applicant would be assured of an environmental submission which would serve double duty. The concept of preapplication teamwork is logical given the fact that, once the applications are filed, the agencies would be required to work together in progressing the environmental analysis required under the National Environmental Policy Act of 1969 (NEPA). In this regard, it is assumed that the construction of a rail line to access southern Utah coal fields would require the preparation of an environmental impact statement (EIS). Either the Bureau of Land Management or the ICC would bear primary responsibility for preparing this document. Generally, the lead agency would be designated by agreement among the agencies themselves. The Council on Environmental Quality (CEQ) would be called upon to make the selection should a dispute arise.

Regardless of which agency assumed the lead, it would be a distinct advantage to have, at the outset, as complete an environmental documentation as possible. With this in mind, the applicant's own environmental submission should be designed to help expedite the agencies' preparation of an EIS. Therefore, special care must be taken to assure that the submission contains a thorough treatment of the environmental issues and that it is prepared in such a manner that its accuracy is evident and easily verifiable, since the lead agency would otherwise be under no obligation to incorporate its data and findings into the EIS. Needless to say, this would require considerable consultation with both the ICC and BLM during its preparation.

One factor which could serve to limit the participation of the BLM in this process, and thus partially undermine the value of the environmental submission, is the cost reimbursement provision found in the Bureau's right-of-way regulations. Simply stated, an applicant for a federal right of way is required to reimburse the agency for administrative and other costs incurred in processing the application, including the preparation of reports and statements pursuant to NEPA. Because of this, the

preapplication guidance it is permitted to render a prospective applicant may be severely curtailed. It is suggested that procedures be developed in advance to eliminate this potential barrier. The fact that an applicant must reimburse the BLM for the environmental analysis it (the agency) conducts in conjunction with the preparation of an EIS underscores the importance of maximizing the usefullness of the applicant's initial environmental submission.

With respect to the preparation of an EIS, the CEQ's guidelines offer additional features designed to expedite, as well as to improve, the NEPA process. Establishment of time limits for each stage of the environmental review, and early "scoping," a process which assures that the EIS will focus on the most critical issues, are just a few of the measures which can be applied. If these are used as they were intended, the goal of expediting applications for rights of way will be realized for the benefit of all.

Although the above comments have centered on the roles of the ICC and the BLM, it should be noted that several other federal, state, and local agencies will also play vital roles in the environmental review process. Furthermore, in addition to the right-of-way grant across federal lands and the certificate of convenience and necessity, several other permits and approvals may need to be acquired for rail line construction, including: Utah Division of State Lands--right of way across state lands; U.S. Corps of Engineers--Section 404 permits; Federal Communications Commission--permits for communication system components; State Department of Transportation--permits to cross state highways; State Engineer--permits for water use during construction; State Department of Environmental Health--various permits depending on proposed ancillary facilities; local governments--building permits. All of these efforts must be coordinated and progressed simultaneously if the establishment of a transportation system in southern Utah is to become a reality.

Summary and Recommendations

The long-term prospects for Western coal reserves generally, and for southern Utah coal in particular, have been enhanced by the export market potential attributable to Pacific Rim countries. Certainly, much ground work will need to be laid in order to take advantage of this opportunity. At a minimum, an adequate mining,

transportation, and port infrastructure must be provided. This will require that the current "chicken-and-egg" syndrome be overcome through the willingness of all participants to commit financial backing. In addition, alliances must be formed, uniting government and industry, that are dedicated to furthering coal exports and expediting resolution of the attendant obstacles and problems. An example of such an alliance is the relationship that currently exists between the Western Governor's Policy Office (WESTPO) and the coal industry. WESTPO has opened channels of communication linking American and Far Eastern industries and is actively promoting the development of an expanded coal export business. Activities similar to those in which WESTPO is engaged will be critical to the realization of export coal trade.

Questions regarding the environmental feasibility of mining development and of rail line construction and operation have been partially answered by the BLM-sponsored Kaiparowits Coal Development and Transportation Study. We now know that sizeable tonnages of coal can be mined and transported from the Kaiparowits region without violating present environmental regulations, if proper mitigating measures are applied. As might be expected, there are tradeoffs, including some degradation of the environment and socioeconomic problems. Here the study serves another purpose, it provides a foundation which now can be used, in conjunction with other supporting evidence, to chart a course for the Kaiparowits area and to help guide the advanced planning effort which will be required to minimize these impacts.

One serious question which remains unanswered involves the interface of coal development with wilderness areas. The inclusion of a critical rail transportation corridor (The Paria Box) in a wilderness study area is one cause for concern. Although the prospects for a resolution of this conflict during the study phase of the wilderness review process seem good, the timing will be crucial. It is vital that the study of "high resource conflict areas" such as the Paria Box be accelerated to the greatest extent possible. Without these decisions, there cannot be a reasonable basis for planning. And, while actual mining and transportation activities may be several years distant, this basis is needed now.

To expedite applications for rail line construction, there must be a concerted effort to coordinate the required environmental analyses and other reporting requirements of the BLM and the ICC and other agencies from whom approval must be

obtained. In many cases, there are already provisions designed to accomplish this objective, and these should be applied. It may, however, be necessary to modify provisions which stand in the way of this coordination. Specifically, some arrangement should be devised to allow the BLM to be consulted at length during the preparation of an environmental submission prior to the filing of a right-of-way application.

Without transportation access, the development of Kaiparowits Plateau coal reserves cannot become a reality. The rail option makes sense for several reasons—such as its ability to move large volumes of coal while avoiding adverse impacts on an area's water resources. Adaptability and flexibility are also characteristics unique to railroads and further justify the rail option as one particularly well-suited to serve as the primary means of transporting coal from the Plateau.

Certainly, the challenges are great. For this reason, and the fact that governmental processes are both complex and time-consuming, progress in advancing the cause of southern Utah development has been slow. Nevertheless, there is some favorable news. A recent policy decision by the Department of Interior provides for a possible five-year extension of the diligent development requirement for federal coal leases issued prior to August 4, 1976. This may help to compensate somewhat for the delays. It does not mean that planning efforts can be relaxed, nor does it mean that resolution of potential wilderness conflicts can be delayed.

ELECTRIC UTILITY PLANNING PROCESS

The electric utility planning process is a very complex methodology, which results in an overall plan for the resources of a utility for its future needs. I will go through the elements of this methodology briefly, and then concentrate on those particular areas which impact the generation planning model, particularly in its relationships with energy transportation related aspects of the utility business.

Before any utility can do any meaningful planning, it must have some idea of its future needs. Of course, it is impossible to predict the future completely, but relatively good predictions can be made using well established techniques. The condition of the market place is a constantly changing mix of factors which will have varying effects of electricity demand. Some of these factors can be predicted quite well, while others may not be predictable at all. A number of these factors include weather-related items, such as space heating and space cooling requirements. Demographic trends and economic growth trends can be estimated through economic models, which will provide a fairly detailed estimate of the growth characteristics of electricity due to population increases, changes in the formation of households, geographic disbursement of the population, the mix of industrial customers, general levels of employment, personal income, the types of appliances people are using, and general life-style characteristics. In addition, the availability of alternative energy forms, such as natural gas and new technologies will have an impact on the ultimate demand for electricity.

Some price elasticity has already been evident in electricity usage. Recent data has indicated that electricity prices are reaching the point where people are beginning to curtail their use to some extent to minimize their costs. This situation may be expected to accelerate in the future, as costs continue to rise, and as changes in utility rate structures become more wide spread. The effect of rate structures on electricity use is not only limited to rates for electricity, but also is dependent upon rates for other energy forms, which may be used instead of electricity. The effects of the factors relating to load growth can be mathematically modeled and incorporated in a load-forecasting model from which is derived a forecast of the utility peak load and energy demand for the foreseeable future. This estimate of future electricity demand serves as a basis for examining what the utility will then need to serve in the future. The purpose of the generation planning model

is to provide realistic approaches to meeting the future needs of the utility through additional generation of electricity. Once a number of realistic resource plans have been developed using the generation planning model, plans for the transmission to carry out the generation plan can be established. The candidate generation plans can then be tested by a computer simulation method to determine the expected costs of generated energy and the system reliability for each plan. These data, along with the capital costs related to each generation plan, can then be fed into a utility corporate model, which provides the basic financial calculations for the company, resulting in revenue requirements which will be used in designing new rates. The decision on which generation or resource plan to adopt lies in examination of all these factors mentioned.

The remainder of this presentation will deal with the generation planning procedure, since it is so central to planning for the utility's future needs. As Figure 3 illustrates, generation planning consists of three basic parts: generation goal establishment, unit selection, and site selection.

In order to establish a generation goal, the results of the load forecasting analysis are analyzed on a yearly basis to determine the comparison between the utility's available generation and its future needs. A reserve criterion is invoked, which provides that a certain system reliability be maintained. Currently the basic system reliability criterion provides for a probability of a loss of load on the system of approximately one day in ten years. This can be related mathematically and through experience approximately to an installed reserve margin of roughly 20%. This margin is necessary to provide for the adequate resources in the event of unit outages, curtailments, and retention of the ability to control the load. Once the margin has been established, then it is a simple matter to determine the needs of the utility in terms of generating capacity to be able to meet the system firm load plus the reserve margin. These utility needs can be covered either through purchases of additional energy from other utilities, or by constructing additional generating capacity.

Once it is decided to embark on a program of generating capacity additions, the form of generating capacity must be decided upon. The available list of types of units is quite large, ranging from base load coal or nuclear units to combustion turbines for peaking use.

The fundamental consideration in determining the type of generating unit for a utility is the characteristic pattern of the load for which the unit is to be used. In general, generating plants are divided into three basic types: base load, intermediate load, and peaking units. As part of the generation planning methodology, the utility will determine,

from its load characteristics, what types of units are required for meeting its additional loads. The base load units generally have large capital costs, but are operated with relatively low-cost fuels. Most large coal plants and nuclear plants would be included in the base load category. Peaking units, on the other hand, would have generally low capital costs, but very high fuel costs, or operational characteristics, which require frequent outage periods. Intermediate units would range between the peak and base units and usage of such units will be determined through the interplay of the various selection criteria.

The interplay between the various criteria for unit selection is sufficiently complex that a number of scenarios must be studied from an economic and an operational standpoint before final decisions can be made. Obviously, economics play a heavy role in such criteria as fuel, operating, and financial considerations.

Fuel availability may limit the range of choices available between the different types of units, and the cost of fuel will factor heavily in considerations of unit load factor to be expected.

The size of units to be constructed is determined by the impact of such units on the reliability of the existing system. For example, if a unit is selected which is large in comparison with the system it is being added to, the loss of that single unit might result in an unacceptable system reliability, thus loss of load probability and ready reserve requirement considerations, as well as the system existing interconnection capabilities, must be assessed in order to determine the appropriate unit size, which will provide the necessary resources for the future, but also enable the system to retain its inherent reliability.

It is generally recognized in the utility industry that larger units cost less per unit of output than smaller units, thus a utility is tempted to use the largest size units on its sytem, which are commensurate with its reliability requirements. Thus, capacity is added to a system in discrete chunks, while the system load varies in a more continuous fashion. However, in a system with a substantial summer or winter peak, the system load of a utility has a discreteness of its own, in that for a summer peaking utility, one summer's peak will be higher than such peak for the previous summer. Yet, the demand on the system will be less between the peaks. Thus, such discreteness in adding additions to the system will need to be considered only for unit addition spacings greater than one year. In determining when units should be added, an assessment must be made of the potential for purchase of firm power and energy from neighboring utilities. If it is evident that such power and energy can be purchased, then unit additions may be delayed somewhat to more closely follow the actual projected load curves. If the probability of significant firm purchases is small, then the utility will have to provide its unit additions more in advance of the actual needs.

Operating considerations play a very large role in determining the type of unit to be selected. If a unit is required to closely follow the utility's load, then such large base load units as coal or nuclear plants may be eliminated from consideration because of their limitations in load following or overnight cycling. In addition, the requirements for maintenance are important, since availability of units is a critical parameter in determining overall unit costs.

The financial condition of a utility may well determine its ability to construct new generating capacity. As was mentioned above, certain types of units are much more capital intensive than others. If the financial condition of a utility is uncertain, it may have great difficulty in raising the necessary capital to construct a nuclear plant or a large coal-fired power plant. It may be possible, however, to carry forward a project involving a lower cost unit, such as a combustion turbine. Such decisions involving financial considerations are implicit in the treatment of a utility by the state regulatory commission. It may be false economy to limit the rate of return of a utility to the point where it has difficulty raising construction funding, just so that the utility rate payer may enjoy slightly lower rates. If a utility is forced to buy low capital cost, but high operating cost units, when it really needs higher capital cost base load units, rates may be initially lower but will likely be higher in the long run, if such strategy is forced on the utility.

Once a type of generating unit has been decided upon, a suitable site must be determined. The site selection process may be very lengthy and involved, particularly in those areas where interface with governmental entities is necessary. Figure 4 lists the basic site selection criteria which a utility must apply in order to determine viable sites for its power plants. There is a strong tendency to build several units of the same type at a particular site, due to economies of scale, construction efficiencies, and last, but not least, minimization of the regulatory process, which is very heavily site-dependent. It is much easier to carry out all of the analysis and permitting required for a site with four 500 MW power plants than for four discrete sites with the same size power plants. Thus, a utility will first look at sites where power plants already exist or where considerable work has been done in a site screening procedure.

The major considerations in determining a site, in advance of any other considerations, will be the air quality limitations in the case of fossil-fired units, geological requirements in the case of nuclear units, and cooling water availability for all thermal power plants. Once a number of sites have been chosen which satisfy these basic requirements, then consideration can be given to the requirements for the construction process itself, such as the transportation facilities available, including railroad, waterways, and adequate highways. Construction manpower considerations must be fully reviewed to determine the impact on the surrounding environment and sociological structure.

Potential transmission rights-of-way must be assessed for each potential site to determine if it is possible to transmit the energy generated to the load centers under restrictions currently in effect or which may potentially be in effect on such rights-of-way due to governmental regulatory action. In addition, the site location will have an impact on the existing transmission system in terms of transmission adequacy and reliability.

Each site will have its unique set of characteristics, which will create a footprint of environmental and socioeconomic considerations. The major environmental considerations relate to the physical effect of the plant on the environment, such as air quality and the visual effect of the plant itself on those people residing in the surrounding area. Also, the effect of consumptive water use at the plant on the regional water supply picture must be assessed. The disturbance to the plant site environment due to the construction activities is another factor which will impact on plant and animal species residing there. A major impact is the disruption of the surrounding community due to an influx of large numbers of construction workers and operating people after the plant is complete. The mitigation of these environmental and socioeconomic difficulties will have to abe addressed for any site location.

In the final analysis, once a number of sites has been prequalified on the basis of design, construction, and transmission requirements, and environmental and socioeconomic considerations, a final selection must be made in terms of the economics unique to each site. Basically, these involve four major areas: delivery of fuel, proximity of site to the load center, site preparation costs, and water requirements. Each one of these major areas can impact the overall cost of building a power plant in a particular site. Currently, the major trade off is between fuel delivery and transmission requirements to deliver the electrical energy to the load center. However, in any given situation, water requirements may be a very significant factor. In the case of nuclear units, proximity of the site to major transportation facilities may be a major factor in determining the actual construction costs due to the necessity of transporting extremely large items of equipment from manufacturing facilities to the plant site.

The final site selection will be made on the basis of economics, provided that all the other criteria are satisfied. That site which will provide the lowest net cost of power to the load center will be the logical site for installation of a generating plant.

Transportation considerations weigh heavily on power plant siting decisions. Major facets of the transportation problem which must be addressed include transportation (transmission) of electricity from the plant, and transportation of fuel and water to the plant. In addition, transportation of people to the construction site and the operating plant will have an impact on existing highway transportation systems.

When a number of sites are being examined for potential location of power plants, the construction costs for the plants themselves will be very comparable. Those differences which render some sites more attractive than others will be the tradeoffs between transmission, fuel transportation, and water transportation requirements.

Current cost estimates dictate that power plants be built close to the fuel source in the absence of some overriding concern to the contrary.

III. PROJECT PLANNING

Page

Transportation & Utility Corridor Planning

ENERGY TRANSPORTATION SYSTEMS CONFERENCE
"TRANSPORTATION AND UTILITY CORRIDORS PLANNING" 1/

SALT LAKE CITY, UTAH

February 3, 1981

Title V of the Federal Land Policy and Management Act of 1976 (FLPMA) authorizes the Forest Service (FS) and the Bureau of Land Management (BLM) to designate (through the Secretary concerned) transportation and utility corridors. The Secretaries concerned have issued regulations containing the criteria and procedures to be used in designating corridors (DOI at 43 CFR 2806 and USDA at 36 CFR 219). Existing transportation and utility corridors may be designated as transportation and utility corridors pursuant to FLPMA Section 503 without further review. New corridors will generally be designated through the respective land management planning processes of the Bureau of Land Management and the Forest Service. The BLM planning process mandated by FLPMA is described at 43 CFR 1601. The FS planning process is mandated by the National Forest Management Act (NFMA) and is described at 36 CFR 219.

Response to western energy interests led to a FS/BLM Interagency Agreement (IA) for corridor planning, executed in February 1980. While progress under the IA has been positive and beneficial, problems have surfaced. I want to brief you on the current status of our joint efforts, discuss some of the concerns, problems, and opportunities that have emerged, and pose some solutions. Speakers which follow will augment and reinforce many of the topics I will mention only briefly.

Western energy interests, spearheaded by the Western Utility Group (WUG), requested a meeting with BLM Director Frank Gregg in November 1979, to present and to discuss a proposal for a west-wide transportation utility corridor study leading to an interagency coordinated designation of corridors or "corridor net" in the western States. Mr. Gregg asked the Forest Service to participate in the meeting.

The reason for Study -- was that WUG was concerned that BLM's wilderness review might foreclose trans-utility corridor options. The WUG was not aware of the NFMA planning Regulations. The Forest Service stated it could deal with the corridor issue only through NFMA, i.e., the Regional and Forest planning process. The FS invited WUG to meet for a discussion and explanation of the FS planning process. The BLM explained to WUG that it was more flexible in dealing with corridor matters, i.e., had more options not strictly bound by their planning regulations.

The BLM and FS felt it imperative to cooperate in corridor planning and designation process, and consequently WUG was advised that BLM/FS would develop a cooperative agreement (IA).

1/ Presented by Larry Hill, USDA/Forest Service, Land Management Planning Washington, DC 20013

The IA was executed in February 1980, and a meeting was held in Salt Lake City with WUG, BLM, FS, and the general public to explain it. FS/BLM also met in a workshop to discuss generally how to implement the IA. Letters to the field followed in March and July giving instructions on implementation, particularly concerning workplans, data and information collection, and inter-regional coordination.

The principle features of the IA are as follows:

(1) Defines responsibilities of FS and BLM in gathering information and data, and using it during planning actions prerequisite to designating corridors.

(2) Assigns BLM "lead state" Director to work with the Regional Forester as a co-leader for corridor work in each FS Region.

(3) Requires co-leaders to obtain State and user participation in corridor planning. A number of workshops have been held to obtain public and user group input to the corridor designation and planning process.

(4) Requires co-leaders to develop a plan of work to implement the IA. Several meetings, between FS and BLM co-leader and staffs have taken place, including attendance of State personnel.

(5) Defines data and information needs which should be satisfied under the IA to assist in designation process, such as:

- Existing and proposed routes and alternates.

- Compatibility requirements and limitations.

- Lands and resources impacted by existing or proposed corridors.

- Criteria for corridor locations.

(6) Makes it clear that actual designations of corridors will be made by the agencies according to their respective planning and decisionmaking processes.

Another agreement has been entered into to further the corridor planning and designation decisionmaking process -- the tripartite agreement between the FS, BLM, and the Western Interstate Energy Board (WIEB)

WIEB's membership, organization, and activities qualify it to undertake work for FS and BLM concerning use of the public lands for energy purposes. This tripartite agreement provides that any of the parties may identify tasks WIEB might undertake. Under the agreement, WIEB recently submitted a work plan for accomplishing several tasks, generally to design ways and means FS and BLM can improve responses to requests for use of public lands for energy purposes. A key task is to help organize and implement a joint State - Federal review process

involving applications for interstate-interregional rights-of-ways (corridors) and for increased State involvement in FS/BLM corridor designation process. You will here more about this later from Doug Larson, WIEB's Executive Director.

While progress under the IA has been positive ("togetherness" -- groups who seldom in the past spoke to each other are now cooperating with each other!), there are a number of problems and concerns which have emerged ... some would call them "opportunities." While we have managed to bring diverse energy interests together to assist the BLM and FS in transportation and utility corridor planning -- essentially by providing data and information -- it has become very clear that industry, State and local government and Federal land management agencies perceive corridor designation, rights-of-way grants, and energy facility siting issues in different ways. Because the views differ and because the issues are complex, there may be unwarranted delays and duplication of work regarding agency authorizations of public lands and National Forests for corridors and other energy purposes. Thus, these differing views focus need to quickly resolve the concerns as regional and Forest-level planning moves ahead.

Current Problems Needing Attention

1. Individual State approaches to corridor planning are relatively independent from each other, and some States are not yet thoroughly or effectively involved with BLM and FS in corridor planning. We need to find and implement innovative ways to bring about effective State participation.

2. Federal designation of corridors influences State decisions about facility siting. The States are perhaps fearful that designations of corridors by BLM and FS across public lands constitutes defacto facility siting, a State, not a Federal function. Thus, States must be involved early on in agency decisionmaking concerning corridor designations.

3. Joint BLM/FS corridor planning appears to lack national direction, particularly with regard to interstate-interregional coordination. Establishing this relationship is critical to the overall planning process and a mechanism is needed to effectuate it.

4. FS-BLM land management plan completion schedules are not synchronized. Incompatible designations of corridors might result unless corridor planning is well coordinated. More attention is needed in this area to insure that the agencies do not overlook critical corridor needs and locations.

5. WUG has been very helpful in providing maps, but detailed information BLM and FS requested of users has not been forthcoming. We need some dialog on this matter. While the angenices are professionally competent in land management planning matters, we do not necessarilly have the all engineering and other technical knowledge that may be neeed to make the best corridor decisions, or which rights-of-way should go into one once established.

6. Energy concerns nationally provoke sentiments for speeding up Federal decisionmaking about rights-of-way, oil and gas leasing, and related matters. Pressures will rise for making corridor designations quickly (and not necessarily within mandated planning processes) unless we all work together diligently and expeditiously to accomplish direction given in FLPMA and NFMA.

7. BLM-FS corridor planning was initiated due to expressed interests of the Western Utility Group, essentially electrical transmission interests. Expanded interest from coal slurry, oil and gas pipelines organizations, and others, along with political pressures to speed up rights-of-way granting, indicates a need to rethink the current BLM-FS approach to corridor planning. Some sort of expanded coordination or more precise direction from the Washington Offices of BLM and FS may be needed, or western area level supervision of the corridor effort provided for. Responsibilities for energy related matters resides now in various Washington Office, Regional, and State staffs of BLM and FS. Coordination is generally informal and on a "need to know" basis. Accelerated corridor planning and designation work will require more formalized coordination and direction. We need to accomplish this soon, and we are looking at ways to amend the current Interagency Agreement to bring this about.

8. All work plans required by the IA have not been developed and implemented, and those that have been vary considerably as to scope and intensity. Also, as FS Regional and BLM Resource Management Plan planning moves ahead, there is concern that transportation and utility corridor standards and guidelines need some degree of "standardization."

9. Other questions have surfaced the answers to which may not be easy, or even possible to formulate right now. For example:

- Do we all understand and agree to the definition of certain terms -- such basic terms as "corridor" and "right-of-way."

- Does industry or the States really want the agencies to formally designate corridors? Once made, the land is allocated for that purpose, but so is other nearby land allocated for other purposes which may preclude future consideration for corridors. Though plans in which corridor designations may be made can be revised or amended, this process may be no more easier than the original planning effort.

- Must we confine our attention to designating "lineal" corridors, or could we also look at options for leaving "open windows" in allocation decisions. Such an approach might help solve the dilemma facing Federal agencies that their corridor designation decisions dictate State decisions about facility citing.

- Must we do an environmental analysis on every request for a right-of-way within a corridor once a corridor has been designated (using NEPA analysis)? Or once we have decided corridor location based on NEPA analysis, can we simply grant the request? Think of the potential time and money savings if we opt for the latter! It seems that all interests benefit -- applicants get quick response, probably affirmative, and agencies are not required to undertake redundant environmental analyses. We need to explore with the Council on Environmental Quality the concept of catagorical exclusions for rights-of-way under specified circumstances.

It is my hope -- and I am sure also the hope of my colleagues in the FS and BLM -- that this conference will help to answer some of the questions I have raised, and help to solve some of the concerns I have disclosed. If all we do while here is raise more questions, the week will be wasted. If questions are raised here his week, let us promise to also recommend some solutions.

ENERGY TRANSPORTATION SYSTEMS CONFERENCE
February 3, 4 & 5, 1981
Salt Lake City, Utah

Transportation and Utility Corridor Planning

What we are doing - Earl Hindley, Bureau of Land Management, Utah State Office

Transportation and utility corridor planning in the context of Federal land use planning can best be described as a hit or miss situation. If there were specific right-of-way proposals being advanced at the time of a planning effort or if a manager, a planner, or realty specialist happened to think about it, some consideration to transportation or utility needs were made part of the plan. Otherwise, these needs and opportunities were not considered. Sometimes these were purposeful omissions, as there are many problems associated with linear land use allocations. For example, land ownership and administrative patterns are difficult to deal with. Federal corridor designations across public lands leading to private ownership is a highly controversial subject. Such designation would affect land use and property values on private lands.

In addition, Federal land management agencies have not had the expertise to assess the priorities, engineering problems, and costs, which must be considered when locating transportation and utility routes.

As a result of all this, as far as utility and transportation routes are concerned, there is little continuity between land use plans, sometimes even within districts.

They deserve better treatment. The concern is fundamental, if portions of the public lands are to receive land use allocation designations (wilderness, wilderness study areas, or areas of critical environmental concern) which would preclude rights-of-way, where are the corridors mentioned in Section 503 of the Federal Land Policy and Management Act to be located? As a legitimate use of public lands, utility and transportation needs must be considered and balanced with other land use opportunities.

In order to emphasize the importance of and provide for continuity in Federal land use planning process regarding corridor planning, the Bureau of Land Management and the Forest Service entered into an inter-agency agreement in February 1980.

As a result of that agreement, several significant actions occurred. First, industry, through the Western Utility Group, were requested to complete a corridor inventory of existing and planned corridor needs to the year 2020. As most of you know, this inventory, which involved over 100 right-of-way users, was completed in May, 1980. Second, Federal and state land use managers formed committees which coincide with Forest Service regional boundaries. These committees were established to carry out the intent of joint corridor planning. The committee established for Region 4 consisted of Forest Service personnel, state government representatives, and BLM personnel from Utah, Idaho, Nevada, and Wyoming.

The group held several meetings among themselves and with the Western Utility Group's state coordinators. The information given by the utility group was clarified, modified where needed in terms of type and size of proposed transportation or utility use, schedule, and location. Known physical and institutional constraint areas were mapped. This information was given to BLM districts and will shortly be distributed to Forest Service supervisors' offices for use in their land use planning programs. This solves some of the problems we have previously had. For the first time, we know, westwide, where and when various utility and transportation entities desire rights-of-way. Thus, the consideration of right-of-way needs will not be on a hit-or-miss situation. In each of our land use plans now in the process of being developed, transportation and utility needs, as identified on the utility groups inventory, are being analyzed. These rights-of-way issues have surfaced in each new plan as questions which must be answered.

However, several problems still exist with the process of corridor planning. First, the land ownership situation with the potential of predetermining land use on private acreage. Secondly, there is a major problem with land use planning schedules between Federal agencies, BLM districts, and BLM states. This wide schedule variance is making it difficult for land managers to analyze long linier corridor proposals at the same time.

Also, it is evident from our state and Federal committee meetings that there are questions as to what corridors are, and what does a corridor designation actually mean.

For example, are corridors narrow land areas where all types of rights-of-way are to be confined? Are corridors several miles wide to allow for incompatibility between type of utilities? Once a corridor is established, will all future rights-of-way be confined to that location regardless of supply and market locations?

In order to solve these problems, we must analyze the objectives of corridor planning. They are:

1. Minimize adverse environmental impacts and proliferation of separate rights-of-way in compliance with the Federal Land Policy and Management Act.

2. Give utility and transportation needs full consideration in the multiple-use planning process, To allow for delivery of needed energy, goods, and services.

3. Decrease the time period required to process right-of-way applications.

4. Provide early identification of areas where legal or environmental constraints will not allow rights-of-way, and

5. Provide for continued use of critical access points.

In the absence of an overall west-wide corridor study which would be very difficult to complete, it seems the most logical approach would be to identify and establish critical access points ("windows").

It appears that the critical access point concept can satisfy the corridor objectives and overcomes most of the disadvantages of the linear concept.

The critical access point analysis can easily be integrated into BLM's existing planning and decision-making process. This approach allows for multiple-use analysis, with the identification of crucial access for ROW's by industry as planning proceeds; identification of sensitive areas by the BLM with other agency and public input; and then tradeoff analysis to determine the best and compatible uses.

Advantages of this approach are:

1. Designation of critical access points would provide protection so that future management decisions for these areas do not preclude use for rights-of-way.

2. Reasonable flexibility would be retained so that source to market needs could be satisfied;

3. Critical access point designation would not result in a presumption of land use on non-Federal administered lands.

4. Since this approach can easily be incorporated into the land use planning process, the expenditure of money and manpower will be kept lower; and

5. The use of critical access points and avoidance of sensitive areas will reduce environmental impact.

Other regions are looking at this approach (New Mexico, Arizona) and this is the method we will use as the next generation of land use plans are developed.

ENERGY TRANSPORTATION SYSTEMS CONFERENCE
(February 2-5, 1981)

Transportation and Utility Corridor Planning:
"Industry Perspectives"

Commentary by Michael P. Ingram
Pacific Gas and Electric Company
San Francisco

My name is Mike Ingram. I am the Pacific Gas and Electric Company representative to the Western Utility Group, an organization of major investor-owned utilities in the eleven western states. The Group was originally formed in 1977 to provide a coordinated industry response to the FLPMA Title V regulations developed by the Bureau of Land Management and U.S. Forest Service. More recently, the Group's purpose has been expanded to selectively provide utility industry perspective on federal legislation effecting land use on public lands.

This morning I have been asked to represent our perspective on comprehensive planning for federal lands. In particular, our participation in the planning processes of the Bureau of Land Management and the U.S. Forest Service. Before I proceed, I offer a brief statement in the form of a general release from liability for omission or misrepresentation. The users of the public lands are as diverse as the lands themselves. The possibility of concisely representing all of the diverse interests, concerns, and points-of-view within the industry is remote. My comments are a synthesis, of remarks from meetings, conversations, and correspondence from many westerners over the past year. These remarks do not necessarily represent a recent change in point-of-view, but a change in emphasis, and of concerns, clearly articulated in the "Sagebrush Rebellion" and the colorful rhetoric of the past Presidential campaign.

Comprehensive planning on public lands is necessary, we are told, for conservation of resources, for expeditious and efficient development of these resources, to establish responsibility for the impacts of industrial development (socioeconomics) on local economies, and of course, to implement the Law. Associated with any comprehensive planning process is public participation, whereby, public comments are solicited at several key points within the process. These comments are used to identify issues and concerns, to establish decision-making criteria, and finally, to review the validity of the decisions made.

In recent comprehensive planning efforts, many special interest groups have characterized their special concerns relative to natural resources as being dominate or more important than all other interests. The energy industry and the future of substantial domestic energy production was being clearly subordinated or precluded by proposals for strict preservation or for extreme controls on development.

The energy industry is also a special interest group with very special concerns. Our concerns are not in opposition to special protection through land use designations on certain lands. However, our opposition to extreme and inmoderate proposals is well documented. Our position of moderation and balance is in contrast to the positions taken by some special interest groups. The reasons for these contrasts are divided into four general areas:

(1) Firstly, national legislation and priority mandates that we take action to pursue our special interest, the development of domestic energy resources;

(2) secondly, our product directly benefits all members of the public; and next, therefore,

(3) we are an industry with a necessary social responsibility; and finally,

(4) political climatic changes will not have a dramatic effect on the way our industry does business.

We are not "one time" developers and, therefore, cannot afford to take unsubstantiated environmental positions. We will be back asking for another permit, license, or easement. When a poor decision is made, the public knows where to find us, and the public has a long, unforgiving memory. All of these elements of national priority, social responsibility, and long term development combine to support our moderate role in the seemingly conflicting national priorities of domestic energy production and environmental protection.

To clearly present our position and to provide documentation of our concern to government land planners, the Western Utility Group coordinated the formation of a broadly-based industry organization to compile an industry contribution to comprehensive planning on public lands. This organization, called the Western Regional Corridor Committee composed of over 100 energy or energy-related organizations interested in linear rights-of-way development on public lands, drafted and published the Western Regional Corridor Study. The Corridor Study is actually an inventory of existing and projected corridor needs. The projections were based upon the best estimates available from the committee members. To further illustrate industry concerns, many of the same organizations involved in the Corridor Study provided the resources and expertise necessary to develop federal land use maps. These maps graphically depict the constraining effects of land use related legislation on energy transportation and generation.

In retrospect, the success of this industry-wide cooperative effort is attributable to several components: a sincere interest in the information by the federal land managing agencies, the special commitment made by all contributing organizations, and, finally, the ability to put the project into a manageable perspective. This perspective is the planning process. The completion of the Corridor Study and the accompanying public land use constraint maps provide a permanent public record of our concerns and proposed solution. This document assists the government planners in identifying issues, illustrates areas of conflict, and provides all of us with a basis to establish policies and decision-making criteria.

The next step in the process will be the development of these decision-making criteria, leading a procedure for resolving possible land use conflicts. Decisions will have to be made on the acceptability of existing corridors for expansion and the feasibility of opening planning corridors. These decisions should be made with the involvement of all effected parties. However, the industry recognizes that the ultimate findings and determinations will be the responsibility of the federal land managing agencies.

After the decisions are made, we expect the documentation will take the form of an element or a component of the Resource Management Plan (for the BLM) or the Forest Management Plan (for the Forest Service). This component should be a general plan or policy statement, amendable to reflect public attitude changes and technological advances. The Plan will not offer property entitlement or legal interest for either industry or the federal land manager. The document will provide planning policy for future

expansion minimizing environmental, technological, social, and economic impacts. These planning policies are not legally binding until conditioned in a permit, license, or easement. Therefore, project consistency with the policies of the land use plans cannot assure project approval, but could minimize environmental documentation. However, inconsistencies between a proposed use and the goals and objectives of the comprehensive plan could provide a significant negative factor in the project review and approval process and substantially lengthen environmental documentation requirements.

Though the work, time, and fiscal commitment by industry is substantial, we should remember that participation in the development of this policy document is necessary. Primarily because most public land policy is made in an environment removed from and by those who may be unfamiliar with the western concerns. Other than the need to provide a regional perspective to policy-makers, continued participation in the planning process provides benefits including:

1. Personal Contact. We have an opportunity to meet and to deal with agency staff and administrators. This type of contact substantially reduces problems developing from misunderstandings or misinterpretations.

2. Education. Through personal contact, information relating to the constraints that the industry and the federal land managers must operate under is exchanged. As an understanding of mutual concerns is achieved, a relationship of informal consultation prior to action is developed. This relationship alleviates the causes of delay and nonproductive exchange.

3. Economics. This concern applies particularly to investor-owned utilities. Many of our projects have met with delays, last minute expensive mitigation requirements, and even project cancellation after a commitment of significant fiscal resources. A concern that no longer can be ignored, is the effect of these hidden or surprise expenses on investor confidence. To anticipate and to accommodate these expenditures prior to the commitment of financial resources to a project and then, to have that project progress on schedule, will enhance investor confidence, support high bond ratings, reduce the cost of money, and assist in the reduction of the high cost of energy production.

4. Public Relations. The use of public lands and public resources for the public benefit (while making a profit) implies a social responsibility. The review and subsequent commentary by the public, when appropriate, of current and proposed projects, plans, and corporate policies can only be beneficial in our advocacy role of moderation and balance. Neither the industry, or the government should under estimate the tenacity, activism, or innovation of the western public.

In summary, the comprehensive planning process provides for an exchange of ideas and concerns before they become project related, and cause severe economic hardship. Practically, our involvement in this process will assure that our concerns will not be omitted from resource management plans. Such omissions could contribute to future uncertainty, expense and delay.

The final test of any process is practical application, that is, "does it work?". The answer depends on the result or final product of the process. However, the level of success of any planning effort is directly proportional to the degree of commitment by those involved. In short, the more we put into it, the more we get out of it. Enthusiasm in investor-owned utilities, public utilities, and industry organizations is high. Cooperation

among the current and potential users of linear rights-of-way on public lands is evident in the commitment illustrated by the development of the Western Regional Corridor Study. Perhaps the best evidence of industry commitment is that after thirteen months, the organization of the Corridor Committee is intact and functional.

As to those agencies responsible for plan development, significant progress has been made through formal and ad hoc agreements. Federal land managing agencies have signed formal memoranda of understanding with each other, with individual States, and with the Western Interstate Energy Board. However, where Corridor Plan development seems to be progressing best is in States with informal working committees of four constituents: the State Coordinator for industry, the BLM and Forest Service representatives, and a state energy office representative. In these ad hoc committees, each member coordinates with the organization he or she represents to facilitate information exchange and dissemination. Recognizing that in no way does this activity abridge the rights of individuals or individual organization to provide direct commentary, the central committee provides a manageable coordination, that will eventually lead to a decision-making process.

As with any comprehensive effort, there tends to be an intensity differential among the constituents. For example, some States or planning regions have yet to designate "co-leaders" as suggested in the February, 1980, Memorandum of Understanding, between the Bureau of Land Management and the U.S. Forest Service. Some States may have mistakenly thought this planning effort could possibly abrogate State routing or siting laws. At the federal level, there is a substantial difference between the two major federal land managing agencies FLPMA Title V regulations dealing with corridor designation.

The designation of "co-leaders" will assist the state coordinator for the Study in assuring commentary will be received by the appropriate individuals. Further, upon notification of the identity of the "co-leaders", the state coordinator can rapidly provide the federal land managing agencies with the commentary and expertise of one hundred energy or energy-related organizations. The opportunity is then available for the formation of a committee to provide coordination of government and industry planning concerns. In a real sense, this ad hoc advisory committee could provide the documentation necessary to justify land use decisions made by the federal land managers.

In some areas, a tendency has surfaced to make the plan a technical document for transmission line routing and system planning. The plan to be developed should address issues generically. For example, instead of thinking in terms of electric conductors, structures, and pipelines, the general perspective of "energy development and transportation systems" should be used. The possibility of writing an encyclopedia based upon all current knowledge in transmission, environmental, social, and economic engineering is beyond the scope and intent of the planning legislation.

Perhaps State concerns that this Plan could possibly preempt traditional jurisdiction in some way, can be best answered by language from FLPMA:

> "Sec. 202(C.9) to the extent consistent with the laws governing the administration of public lands, (the secretary) shall coordinate the land use inventory, planning, and management activities of or for such lands with the land use planning and management programs of ... the State and local governments."

The Corridor Plan is not intended as a guide on "how to build, route, and operate your own transmission line", any more than it is a legal entitlement to operate such a facility. Locating inside a corridor would not release an organization from any licensing, permitting, or property acquisition responsibilities. These issues are "project specific" and will be reviewed, not on a policy or general plan level, but later at the project certification level.

These problems occurring within the planning process are easily resolved. Most are no more significant than a minor hiatus in communication, a problem inherent in any comprehensive effort soliciting such diverse concerns. Continued cooperation between industry and government will lead to solutions to these problems and improvements in the process. The publication of land management plans is not the end of the planning process. Changes in legislation, technology, and population centers will require the plans to be living documents. Deregulation of the price of natural gas will have its effect on exploration for and knowledge of new resources. Emphasis on the priority of domestic energy resource use created by the Industrial Fuel Use Act could cause a redistribution of many energy generation centers from coastal locations to interior areas. Changes in technology could soon put strains on the plans we create today ... introducing concerns unaccounted for in these initial plans. Slow growth projections could possibly become instantly outdated by the emerging domestic energy industry.

To plan for this imminent economic, industrial, and population growth and to allow for unforeseen events, while preserving our western environment, is our present concern. Our industry will continue in its support of the Bureau of Land Management and U.S. Forest Service in their planning efforts. Our industry will continue in its role of advocating moderation, balance, cooperation, and growth. We understand our responsibility and our task is great. However, we are confident that through the use of our collective abilities and resources our objectives will be achieved.

Thank you.

Remarks By
Douglas Larson, Executive Director
Western Interstate Energy Board
to the
Energy Transportation Systems Conference
February 3, 1981

My name is Douglas Larson. I am the Executive Director of the Western Interstate Energy Board. The Energy Board is an organization of 16 Western state governments--that's state governments, not the federal government. The members of the Board include all of the major public land states in the country. There is one Board member per state appointed by the Governor. The Governor usually appoints the head of the state energy office or his/her personal advisor on energy and natural resources. The Board has existed since 1977 in its current form.

The Board has emphasized:

(1) Solving on-the-ground regional energy issues. We do not do original research or engage in any esoteric studies and we are not politically visible, so we do not find ourselves in a position of having to do political posturing.

(2) Forging a partnership between the Western states and the federal government on energy development issues. Such a partnership is absolutely necessary in the West where the federal government owns a huge portion of the country and probably an even larger percentage of the energy resources.

There are at least two major factors affecting energy development in the West. One is that development is rapidly accelerating and that every state in the West, no matter what their individual development desires may be, wants to see that development proceed in an orderly fashion. This is obvious in coal. Basically, all the growth in coal production in the country in the last ten years has come from the West and there is no foreseeable change in that for the future. Indeed, Western coal production is expected to rapidly accelerate in the future.

In conventional oil and gas production, we are seeing the benefits of decontrol and higher world oil prices resulting in rapidly accelerating development. The Overthrust Belt, which is a geologic formation that runs from Canada to Mexico, is perhaps the lower 48 states' Prudhoe Bay. In particular, within the Overthrust Belt, western Wyoming and northeastern Utah are very hot drilling areas. The Williston Basin in Western North Dakota is perhaps the hottest drilling area in the country with major new discoveries being made in that old basin. In California, heavy oil production is increasing.

A third area of development, which has potentially always been there, but which is now a little closer to fruition than it has been in the past, is synthetic fuels. We've been here before, in the sense that the synthetic

fuels industry is about to take off, but in another sense we've never been this far before. We may be on the verge of actually building some of these facilities.

The second factor affecting Western energy development is the radically escalating cost of building anything, including power facilities. The pace of inflation in the cost of energy projects makes the delay of a project a very important factor in corporate decision-making.

The rate of development and the accelerating cost of delays have combined and created pressures in Washington, D.C. and elsewhere for more expeditious permitting of major energy facilities. From my perspective, last year we saw the worst embodiment of that pressure in the Energy Mobilization Board, which I believe in its final form, was nothing more than another layer of bureaucracy that would not have expedited decisions, but would have squeezed out the permitting innovations currently underway.

Fortunately, there are numerous creative innovations taking place in the West with regard to expedited permitting.

- In Utah, for instance, we have the Intermountain Power Project, the world's largest coal fired powerplant. It was the subject of a unique partnership between the Interior Department and the State of Utah in finding alternate sites for the project.

- In Colorado, the State Department of Natural Resources has instituted a joint review process which is an attempt to bring together all of the state, federal and local permitting agencies on a project to coordinate their activities instead of each one operating in a vacuum. They have four major projects in that process.

- We have seen the establishment of the new federal coal leasing program which is an unique departure from how we have done business in the past. It is essentially a joint decision-making process between the federal government and the state. That process has recently been extended to oil shale leasing.

-In most of the Western states, the past five years have witnessed the institution and refinement of state facility siting laws.

- We have seen an expedited joint state-federal review of geothermal projects in California.

- The State of Oregon is now engaged with the Bureau of Land Management in a joint review of a transmission line from Medford to Eugene.

- The BLM has established a Special Projects Office to expedite major energy projects.

The point is, there are many innovations going on. There are a few important threads that run through these innovations and one of the most important threads is early input--early communication among all of the

agencies which permit these facilities as well as with the applicant and those who are likely to oppose the facility.

The Western Interstate Energy Board has been involved in some of these expediting efforts, most notably in the area of federal coal leasing. This is an area which has historically been extremely contentious. For a decade we had no leasing. The history of coal leasing during the 1970's was characterized by a leasing moratorium, at least two debilitating lawsuits, two false starts on new programs--in short a general disaster. The new program, with which the states are fairly pleased and which we think is in large part successful, has been characterized by no lawsuits--at least no lawsuits which have stopped the program. There is every expectation that once an area is leased under the program, it will be rapidly developed by the higher bidder.

The key to the coal program is the fact that there is joint decision-making by the federal government and the states. The process includes the establishment of a regional coal team for each coal basin in the West. The team consists of representatives of the governors and the state BLM directors from the involved states plus a team chairman appointed by the BLM Director in Washington, D.C. The teams are responsible for making recommendations on all major coal decisions, such as: how much to lease; where to lease; under what conditions to lease; etc. A major advantage of the teams is that the state, as well as the federal government, brings all of its permitting people into the review of areas considered for leasing so that when a lease is issued, the developer has some assurance that there is agreement that the area should be developed (barring some unforeseen endangered species that sneaked through the analysis). The developer's job then is what it ought to be, to dig and move coal rather than haggling over permits.

From the lessons learned in the coal program, the Energy Board has begun to seek ways to institutionalize that kind of process in other energy areas. That is why we are interested in the issue of corridors.

As part of the effort to institutionalize this type of state-federal partnership, the Energy Board has signed a cooperative agreement with the BLM and the Forest Service. The agreement is broadly written to permit cooperation between the agencies on any energy-related issues of mutual interest.

Under the cooperative agreement, the first item on the agenda is corridors. The reason corridors are the top priority is in large part attributable to the industry's efforts. The Energy Board met with BLM, the Forest Service and the ad hoc industry corridor group and was pleased to find that all parties were anxious to involve the states in the corridor process. As a result the Board established a Corridor Committee chaired by Utah. In July, 1980 the Committee met again with BLM, Forest Service, and the industry group representatives. At the same time the Committee met with the Bonneville Power Administration and the Western Area Power Administration on a related corridor issue. Last month, we signed a workplan with the BLM and Forest Service.

I would like to discuss some of the state objectives regarding corridors. First, we want to establish a state-federal corridor review program where there is an application for a major interstate right-of-way. This program is in the interest of the federal agencies as well as the industry. Many of the ad hoc expediting processes in the past have been just that--very ad hoc and hit and miss. We want to institutionalize those expediting processes where we have a major application. The second objective is to improve state input into BLM and Forest Service planning efforts in the absence of an application. Finally, we want to insure that all parties who are building transmission lines and pipelines comply with state siting laws. This goes directly to the Western Area Power Administration and the Bonneville Power Administration which have claimed they are exempt from state siting laws by virtue of being federal agencies.

Regarding the cooperative review program, it is in the early stages of development and we solicit your advice. We are anticipating applying it to major interstate right-of-way applications and designing it to be sufficiently flexible so that a participating state can choose to do as much or as little as it desires. For example, if a state wants to get involved in doing a joint state-federal EIS which would meet the state's environmental review requirements as well as NEPA, the process can accommodate it. If a state only wants to be involved in the end decision-making, that can be accommodated. We also want the program to be flexible from project to project. Some projects demand a lot of attention from the state while others are routine. We are hopeful that the program will lead to more coordination on EISs, public hearings, etc. and that the coordination of decision schedules of permitting agencies will reduce the aggregate time needed to permit a project.

Regarding our effort to provide greater state input into the BLM and Forest Service planning efforts absent an application, there are individual state efforts going on which we fully encourage. Three states, Montana, Oregon, and Utah, are ahead of the rest. Montana has developed and is now implementing a detailed workplan on corridor planning and designation; Oregon has adopted a modified version of the Montana plan and is already instituting a joint review effort on a specific application; Utah is cosponsoring this meeting.

Regarding our last objective, which is compliance with state siting law, this has a long history. Briefly, there is a transmission line built in Washington State by the Bonneville Power Administration. BPA did not secure a permit from the state and the state took them to court for failure to comply with the law. The court case is still pending. Now, in Montana, we may be on the verge of an instant replay of the Washington problem.

This is not the way to expedite energy projects and provide for orderly development. States must protect their perogatives. States are in the best positions to balance decisions on energy projects with state development objectives and siting laws is one of the ways to do that. To balance those development decisions one group building energy facilities

cannot be exempt while others go through the process.

On all of these items we invite your input. For your information, I would like to point out some of the key state corridor contacts in the room. They are: Buzz Hunt of Utah; DeWitt John of Colorado; David Maul of California; Peter Paquet of Oregon and Randy Moy of Montana. I encourage you to talk with them. If you need to know who the corridor contacts are in other states, please come and see me later.

Thank you.

III. PROJECT PLANNING

Page

Project Planning for Energy Transportation Systems

INTRODUCTION
Project Planning Panel
Energy Transportation Systems Conf.
Salt Lake City, Utah
February 3, 1981

Earlier today were discussions on long-range planning, as well as the regional planning that provides the guidelines for planning at the project level. This panel will discuss specifically project planning for oil, natural gas and coal slurry pipelines.

Pipelines are the hidden energy transportation system, though I'm certain the word hidden isn't that acceptable to those involved in such systems. Their importance as a system of energy transportation can be shown by the example that the single natural gas transmission system that serves the Pacific Northwest can transport as much energy in a day as generated by hydroelectric power generation plants on the Columbia River in a day.

To illustrate the capital investment in pipeline systems; in 1975 the total physical investment in plant and equipment for pipelines in the state of Wyoming was equal to the total capital expenditures on the Wyoming interstate highway system for the period from 1955 to 1975.

As energy development proceeds to meet national energy demands, pipelines will become an even more important part of energy transportation systems.

To address project planning for pipelines we have a panel of representatives from industry and resource management agencies. Each panel member will give an overview of the planning process from his point of perspective, focusing on the problems addressed. These overviews will illustrate how planning by industry and the agencies must and does interact, and the need to identify problem areas and concerns before they become road blocks to the process. It should also illustrate the need to recognize the common goal of completion of a successful project.

It is our intent to generate a better understanding of the position and roles played by both industry and the agencies through a general discussion, and perhaps see possible ways to improve the process we all must go through.

The panel members are:

Gerald Magnuson
Chief of Planning and Environmental Coordination
Utah State Office of the BLM

Mr. Magneson's education includes forestry at the University of Idaho, and a Bachelor of Science in Regional Planning from the University of Wisconsin.

His assignments with the BLM in planning and the environmental area have been in Spokane, Washington, Denver, Boise, Washington, DC and Salt Lake City. His early involvement with the environmental analysis process includes the EIS for the Jim Bridger Power Plant Project, and most major power generation projects in Utah.

Haven Van Heusen is a lands manager assigned to the petroleum group of Bechtel International at the San Francisco office. The Bechtel lands department serves all Bechtel divisions acquiring lands and rights-of-way for energy and heavy industry projects on a world-wide basis. Successful planning of any project includes the planning for the acquisition of land and rights-of-way.

Mr. Van Heusen will discuss the problems of Right-of-way acquisition for a specific coal slurry project, show a particular aspect of project planning that must be addressed in the early stages of a project.

Matt Elliott is the Chief of Project Management in the California State Office of the BLM.

Mr. Elliott's education is in petroleum engineering, with undergraduate work at Northwestern and a B. S. in Petroleum Engineering from the University of Oklahoma. He is a registered engineer in the state of California. He has a broad background of experience in industry; having worked for consulting and construction firms in the fields of petroleum processing and cryogenics. He has been project engineer and project manager on projects in Europe and the Far East. He is presently coordinating BLM activities with the Office of Federal Inspector for the western leg of the Alaska Natural Gas Transportation System.

Jack Lewis is Manager of the northern division for supply and distribution for Chevron Pipeline Company. His education includes a Bachelor

of Science Degree in Mechanical Engineering from the University of Utah and further work in business management at UCLA.

His experience includes thirty years in pipeline design, construction and operations. His experience provides a basis for planning not only for construction, but also for the operational aspects of pipelines.

Reed Christensen is Forest Supervisor for the Manti-Lasal National Forest. He is a graduate of Utah State University in Forest Management and a native of Utah.

He has broad experience in forest management in Idaho, Washington, and Oregon as well as Utah.

In his present position he is deeply involved in energy transportation systems, as the Manti-Lasal National Forest is experiencing much development of energy resources.

Remarks of Gerald E. Magnuson

Energy Transportation Systems Conference

(This was the panel on Energy Project Planning, February 3, 1981.)

Significant changes have occurred over the last 10-year period. There has been a significant change in demand for resources on public lands, particularly energy resources. Also, there has been significant change in the way that energy projects are planned and reviewed. The National Environmental Policy Act (NEPA) has been a major factor in these changes. NEPA has shifted emphasis to all other legislative mandates related to endangered species, air quality standards, and archaeological values. However, I believe the most significant change that has occurred is that of public awareness with respect to energy projects. At this point in time, the public is very familiar with resource issues that occur related to energy development, issues including air, water, land, animals, and social-economic factors; in fact, our publics at this point are very sophisticated. In the 1960s, by comparison, we were actually dealing with a more or less closed system. Energy projects were conceived, planned, designed, reviewed, and implemented in many cases without surfacing public issues. In the 1980s we find that the public is involved directly in the decision process.

Also, at this time it is very clear that a high national priority is attached to increasing energy supplies and the availability of those supplies. The nation obviously needs good energy projects, projects that can proceed with a minimum of delay and move through the process quickly. Good projects are "clean" projects. They have technical, economic, and environmental advantages. They are logical and defensible and they warrant and receive political support.

How can we obtain good projects? My premise is that the time required for project review and decision is directly correlated to the adequacy of project planning; that is, good project planning equals a short schedule. Also, good planning will yield a "clean" project.

There is no question that project design is the responsibility of the energy industry. However, my Bureau has had over 10 years of experience dealing in project review responsibilities and I would like to share some observations:

We have found that scoping or pre-planning is an extremely crucial element. Scoping is the process of advanced discussions with concerned parties to identify areas of concern, the objective being to resolve fatal flaws which could kill or slow down a project prior to a decision. I believe we are fortunate here in Utah in having the State/Federal/Local Siting Task Force as a scoping and pre-planning mechanism for project proponents. This task force, appointed by the Governor of Utah, involves all the principal parties that will be involved in the decision process on particular projects. This includes State and Federal agencies and local elected officials. The idea is that the task force reviews preliminary project proposals and they are provided with staff information on preliminary impact assessment which is discussed with the project proponent. At the end of the task force process the proponent has a very good idea of the problems that his project faces. He has a very good idea if his project has fatal problems.

The second area I would like to mention is the subject of energy project alternatives. As you probably know, NEPA and CEQ regulations require the identification and analysis of alternatives. We have noticed in some cases a reluctance by the industry to identify alternatives. We realize that this additional analysis by the companies does involve an element of cost--no question. Also, there seems to be a thought in some cases that the identification of alternatives is perceived as making the preferred proposal somehow less desirable. In my view, the project alternatives are simply a very good insurance policy. If unforeseen problems are identified during the review process and no alternatives are available, reviewing agencies are faced with a very tough decision which may mean life or death to the project. However, if alternatives have been identified, it often represents viable options whereby the project can be implemented, avoiding the problem area.

I hope I have illustrated some thoughts to demonstrate why project planning and project alternatives are very crucial to both the industry and my agency. BLM is as interested as anyone in expediting schedules. We realize that time is money to the project proponents and we are anxious to arrive at decisions quickly. We stand ready to discuss project plans at any time and to provide any information that we have that might assist the project planning.

ENERGY TRANSPORTATION SYSTEM CONFERENCE/
SALT LAKE CITY, UTAH

February 3, 1981 (Tuesday):
Session Project Planning for
Energy Transportation Systems
(Oil & Gas Pipelines - Coal Slurry Pipelines)
1:30 P.M. - 3:00 P.M.

I. BRIEF INTRODUCTION

As Lands Manager, I am assigned to Bechtel's Petroleum Group headquartered at our San Francisco home office. Our Lands Department serves all Bechtel divisions on a worldwide basis in acquiring land and land rights for both energy and heavy industry related projects. In our view, we in the land acquisition business play a vital and important role in the successful planning and construction of any project in which we are engaged. Rather than take any more of your valuable time and to speed up this session, I have additional information relative to the role we play within the Bechtel organization and after this session I will give it to those who would like to learn more about our Lands Department operation and organization.

II. SLURRY PIPELINES

Brief History

Slurry pipelines are not new; in fact, the concept of moving coal by pipeline dates back to 1891 when the first U. S. coal slurry patent was granted to Wallace C. Andrews. Prior thereto, in

1890 Mr. Andrews exhibited a working model of a slurry pipeline at the Columbia Worlds Fair in Chicago. He also constructed a pilot plant with a connecting pipeline in New York City to prove that the system would operate successfully. The first to be constructed was in 1957, a 108 mile coal slurry line in Ohio, followed by the construction of a 273 mile line in Arizona in 1970. Therefore, this so-called new technology has actually been in use for 23 years.

How they Operate

All slurry pipelines basically are simple in design and operate the same, regardless of what material is being transported. Therefore I'll use a coal pipeline system as an example to explain their operation.

Coal is received from the mine, is cleaned, thereby reducing the sulfur; is crushed to the approximate consistency of sugar, mixed with water (approximately 40% water, 60% coal), and then pipelined to its destination. Booster stations are located 80 - 100 miles apart which push the slurry along, maintaining a velocity of about 3.6 miles per hour. The operating pressure of course varies, but the average is about 600 pounds per square inch. In all respects, the pipeline construction itself is conventional and even the

pump stations use equipment which is off the shelf. At the discharge end, the coal is de-watered by centrifuge. The water is clarified to 5 to 10 parts per million suspended solids purity and the water used in the power plant cooling tower circuit. The slurry water makes up about 1/8 of the power plant cooling water supply.

Where Are They?

Today, as shown in Exhibit 1, slurry pipelines are located throughout the world. These pipelines transport a variety of materials such as coal, iron concentrates, copper, limestone, phosphate and the like.

Probably the most talked about slurry line in the U.S. is the Black Mesa Pipeline in Arizona. This 18 inch, 273 mile pipeline has been in continuous operation since 1970 (99.8% availability). It delivers about 5 million tons of coal annually to the Southern California Edison Mohave Power Plant in southern Nevada. The experience of this system has been excellent.

The pipeline mentioned earlier that began operation in 1957 in Ohio operated successfully for six years. It was shut down when it had completed its primary mission of forcing down rail rates for coal deliveries in that part of the country.

Other slurry projects on the drawing boards are the 180 mile Alton line from Utah to Nevada and the Energy Transportation Systems Inc. 1400 mile 38 inch pipeline system from the vast coal reserves in Wyoming to Arkansas with possible extensions into Mississippi and Louisiana. Both of these projects are in the advance planning stages, with the right of way acquisition and environmental work now in progress.

III. FILM TITLED "QUIET RIVERS" (29 minutes)

Now that you have had this brief overview of slurry pipelines I'm going to show you a film about slurry pipelines. It will give you a broader view and more knowledge as to their concept, construction and operation.

IV. CONCLUSION OF FILM

Major Obstacle to Be Overcome in Constructing Slurry Pipelines

Railroads present the only serious obstacle and threat to the building of slurry pipelines. Presently they transport nearly 75% of the total coal tonnage from mines to users, some 500 million tons per year. For this reason they do not want to lose this monopoly for it has proven to be extremely profitable. Thus far they have been able to maintain that monopoly by refusing to let slurry lines cross their rights of way.

Since they steadfastly refuse to grant crossing permits, there are three methods which may be used to lay a slurry pipeline across railroad rights of way: Federal Eminent Domain legislation, State Eminent Domain legislation, and private acquisition. A segment of the industry, comprised of the Slurry Transport Association, an assortment of construction giants, electric utilities, coal mine companies, manufacturers and financial firms, have banded together in an all out effort to get Eminent Domain legislation passed at the State and Federal level which would then remove this primary stumbling block which confronts these projects. These efforts are proving successful and by year's end it is hoped that the U. S. Congress will pass the Federal Eminent Domain law that will give the green light to several major slurry projects which are now in the planning stages.

V. AN INOVATIVE PLAN TO "BEAT THE RAILROADS"

Mentioned earlier was the coal slurry pipeline project developed by Energy Transportation Systems Inc. (commonly referred to as ETSI). This company is jointly owned by Bechtel, Kansas-Nebraska Natural Gas Co., Lehman Bros., and Houston-based United Energy Resources. In the early 70's ETSI developed a plan to transport 25 million tons per year of low sulfur pulverized coal through a 1400 mile 38 inch slurry pipeline from the vast coal reserves of

Wyoming to power plants located in Oklahoma, Arkansas and Louisiana. This project was blocked by the railroads from the very start and it was impossible to select a pipeline route that would not have to cross railroad rights of way which, as you all know, crisscross our nation like a giant spiderweb. ETSI had to come up with a solution to this problem or the project would have to be cancelled. Unable to resort to Eminent Domain action, they developed a unique plan, commonly referred to as the "window program". An explanation of this program follows:

A "window" is a segment of railroad right of way in which it is contended that the railroads possess a no greater land right than a non-exclusive surface easement, thereby permitting owners of the land underlying this railroad right of way to grant additional easements, i.e., a subsurface pipeline crossing of the railroad rights of way, that would not compromise the railroads' rights and uses of such rights of way for railroad purposes.

Location Engineers and Right of Way Agents moved into the field and located these windows along the pipeline route. The crossings finally selected and approved by legal counsel consisted of 65 crossings, involving 10 railroads. Options for easements from the owners of fee title to the land underlying the "windows" at each

railroad crossing were swiftly acquired. This work had to be accomplished in the shortest possible time and in complete secrecy in order to minimize the likelihood of any effective railroad intervention.

With the "windows" acquired the battle was only half over since the success of this "window program" would ultimately depend on the rulings of the U. S. Courts as to the legality of crossing the railroads at these "window" crossings. Such litigation was first initiated by ETSI in the U. S. District Court in Cheyenne, Wyoming. They petitioned the Court to declare that ETSI, having obtained the necessary land rights from the parties owning fee title to the land underlying the railroad right of way, now had the absolute rights to install their pipeline under and across the railroad right of way. At the same time they brought similar actions in the other states along the pipeline route to confirm their title at the remaining railroad crossings. After a period of several years, during which a great deal of cost and effort was put forth, ETSI won favorable judgements covering all 65 railroad crossings. ETSI's alternate solution to this problem in no way diminishes the urgent need for Eminent Domain legislation to be enacted to cover coal slurry pipelines.

This unique and painstaking alternative process followed by ETSI was time-consuming and costly. In addition, the less direct route of the pipeline, to utilize crossings under the railroads' tracks at the "window" locations, adds costly miles to the system.

For these reasons, and because this course may not be appropriate or available for all pipelines, ETSI has continued to work with others and has supported the Slurry Transport Association in seeking Federal as well as State Eminent Domain legislation for coal slurry pipelines.

We anticipate the commencement of this project later on this year.

VI. CONCLUSION

Coal slurry pipelines would relieve the terrific impact imposed on communities by the railroads if they transport the coal. Just one pipeline moving 25 million tons of coal per year will replace 5,000 unit trains (100 cars each) moving back and forth loaded and empty through the towns along its route with a train passing through every hour and forty-five minutes day and night of each year. On the ecology front, a pipeline is far superior to rail transportation, for it is buried three feet under the ground and out of sight. It is also

an economical energy saver compared to rail transportation. Other advantages would be help to restrain inflation by holding down transportation costs, allow the conversion of generating and industrial plants from oil to coal, thus improving our nation's balance of payments by increasing the use of coal, and decreasing our use of foreign oil.

QUESTION AND ANSWER SESSION

2800
940.6
M. Elliott

ADDRESS TO ENERGY TRANSPORTATION SYSTEM CONFERENCE, FEBRUARY 3, 1981

Good afternoon ladies and gentlemen:

I have been requested to address Project Planning for Energy Transportation Systems (Oil and Gas Pipelines). I would like to digress for a few moments to discuss some items that will help whenever we develop the necessary documents leading to issuance of the right-of-way grant.

There are three standards which I try very hard to pursue whenever I have been assigned to do the work on an energy project. The first is to establish a very firm and broad system of communications with all interested parties of the project. This includes all federal, state and local agencies, and all of the project sponsors. I maintain constant communications, which will lead to the next item - cooperation. When all entities feel you are interested in their problems and take time to discuss the aspects of the projects' problems with them, they most always will give you full cooperation.

The third item is integrity. I have found that <u>if</u> you deal honestly with most people, they will return it in kind, expecially if it will help them with their problems. The Sohio pipeline and the Alaska natural Gas Pipeline-Western Leg projects were fine examples of all three of the above mentioned items. We had a fine rapport going at all times with all persons involved in these projects, but communications was foremost. Another example of this is that in the early 1950s I was requested to go to Thailand and head up and develop a program to build an oil refinery in Northwestern Thailand about 6 miles from the Burma border and 5 miles from the Laos border, deep in the teakwood jungles, 900 kilometers north of Bangkok. Oil had been found there and they wanted to exploit it. The initial portion of the program was a rather austere situation. They were somewhat dependent upon what was later on laughingly called our pioneer spirit. At any rate, I entered this situation with my mind wide open, and as I look back, my eyes were completely closed. Having been the first one there on this particular job, I was advised by the Thai liaison officer, everything was anxiously awaiting my arrival, except they had a problem getting me a translator from Bangkok. But I was assured they had two Chinese engineers that could read and write English very well. (This comes back to the integrity part.) Their ability was extremely limited. I learned real fast, if I were to survive, I had better learn to communicate or else I would probably be served up some very exciting Oriental culinary delights; and believe me I was. I will not go into that since we just had lunch.

I have here a list of items that must be accomplished before a right-of-way grant can be issued. It is rather lengthy and I seriously doubt that many of you realize what has to be done prior to the grant issuance.

STEPS NECESSARY FOR PIPELINE RIGHT-OF-WAY PROCESSING

I. Receipt of Right-of-Way Application

A. Notification of Congress of Application (24' or larger pipelines)

B. Determination of a lead agency by the Department's Office of Project Review.

C. Determination of a lead State Director for ES preparation.

D. Advance billing to applicant for cost reimbursement.

E. Review application to determine deficiencies.

1. Submit deficiency list to applicant

2. Determine what BLM's contracting needs will be.

F. Scoping the ES

1. Determine preliminary issues, i.e., wilderness, known impacts.

2. Determine preliminary alternatives.

3. Hold Public Scoping meetings

4. Determine and make contacts with applicable Federal agencies.

G. Preparation Plan

1. Develop plan to include input from scoping meetings.

2. Submittal to WO for approval.

H. Organization of ES Team

1. Determination needed expertise

2. Acquire office space.

3. Complete necessary personnel actions.

4. Determine and obtain other agencies'assistance

II. Development of Environmental Statement

A. Development of the Preliminary Draft

1. Issue and monitor component contracts for preparation

2. Review by applicable Federal agencies.

3. Review by BLM WO and the Department to assure compliance of all applicable laws and guidelines.

B. Development of Final Draft ES

1. Make changes in accordance with reviews.

2. Submit to WO for clearance to print.

3. Print ES.

4. Submittal to EPA and the Public

C. Public review of Draft ES

1. Schedule and hold public meetings.

2. Meet with applicant to incorporate any recent changes of the application for final preparation.

D. Development of Preliminary Final ES

1. Review comments with applicable Federal agencies.

2. Incorporation of comments into the document

3. Incorporate any changes in the application.

4. Review by WO.

E. Development of Final ES

1. Incorporate changes resulting from Review.

2. Submit to WO for clearance to print.

3. Print ES.

4. Submittal to EPA and the public.

III. Decision

A. Preparation of Secretarial Issue Document (SID)

1. Review and approval by BLM WO.

2. Submittal to all Assistant Secretaries for comment

3. Changes made resulting from comments

4. Submitted to all Assistant Secretaries for vote.

5. Submitted to the Secretary for decision.

6. Notice of intent made to Congress (for 24' or larger pipelines.)

7. Decision.

IV. Terms and Conditions

A. Cooperative Agreement

1. Develop cooperative agreement with applicable land management agencies, for processing the terms and conditions, and compliance.

2. Submittal to WO for approval

B. Preliminary Terms and Conditions

1. BLM develop draft terms and conditions

2. Preliminary review and comments from Federal agencies and incorporate changes.

3. Preliminary review by company and make needed changes.

4. Secondary review by Federal agencies.

5. Submittal to the Solicitor for comment

6. Final negotiations with company.

V. Grant Issuance

A. Complete required adjudication

B. Complete appraisal

C. Obtain concurrence from the land management agencies.

VI. Project Compliance

1. Develop needed compliance contracts

2. Develop compliance staff

3. Review company's design plans

4. Issue Notices to Proceed.

5. Monitor construction in accordance with the terms and conditions.

6. Issue and monitor temporary use permits.

VII. Operations and Maintenance

1. Monitor initial operation very closely for violations in the terms and conditions.

2. Monitor rehabilitation to assure vegetation and structures are established.

3. Continue to coordinate with land management agencies to assure compliance to the terms and conditons.

VIII. Abandonment

A. Review and approve companies Abandonment Plan

B. Develop terms and conditions for abandonment

C. Review and obtain concurrence from the land management agencies the abandonment terms and conditions.

D. Issue terms and conditions to company

E. Project inspection to assure compliance

F. Followup compliance to assure rehabilitation is established.

G. Then you retire - - - -

Project Planning
For
Energy Transportation Systems

Presented To:
Energy Transportation Systems
Conference
Salt Lake City, Utah
3 February 1981

BY:
Jack D. Lewis
Chevron Pipe Line Company
Northern Division
Salt Lake City, Utah

Project Planning For Energy Transportation Systems

by Jack D. Lewis
Chevron Pipe Line Company

Introduction

First, let me explain that I am a petroleum pipeliner and my remarks will be confined to crude oil, refined products, and natural gas pipelines rather than other modes of energy transportation. Regarding the importance and size of the U.S. pipeline industry, there are 169,000 miles of liquid petroleum lines and 260,000 miles of natural gas lines in operation. This compares with 191,000 miles of railroad track miles in the United States. In 1978 there were 600 billion ton-miles of liquid petroleum moved by pipeline compared to 900 billion net ton-miles of freight moved by rail. Also in 1978 there were 1159 billion ton-miles of crude oil and petroleum products transported by all modes in the U.S. Of these total movements, 50.5% were transported by pipeline, 45.8% by water carriers, 2.6% by motor carriers, and 1.1 % by railroads.

Regarding the importance of planning for pipeline projects, the Oil and Gas Journal issue of January 19, 1981 states that there are 15,618 miles of gas, crude, and products pipelines scheduled for construction in the U.S. in 1981 and a total of 23,701 miles planned for 1981 and beyond. In addition, there are about 9 major coal slurry pipeline projects with 10,790 miles proposed for the U.S. The six sponsors of this conference are to be complimented on anticipating this activity, and sincerely trying to expedite the rights of way and permitting applications for energy systems.

Planning-Project Economics

The basic cause of an energy transportation project is that a given energy supply is in a different location from its proposed use. There is a sort of Murphy's Law of the oil industry which says that "Oil is always found in remote or inaccessible areas". Therefore, the transportation economics is normally the first

CONSIDERATION FOR ANY PROPOSED PROJECT. IN TODAY'S HIGHLY REGULATED SOCIETY, THERE INVARIABLY HAS TO BE A COMPROMISE OR TRADE-OFF OF ECONOMY FOR ENVIRONMENTAL PROTECTION AND FOR PUBLIC CONCERNS FOR THE ENVIRONMENT. THERE IS A DEFINITE NEED FOR A FULL EXPLANATION TO, AND A CONVINCING OF, THE PUBLIC AGENCIES ON THE ECONOMICS OF A PROJECT. SOMETIMES INDUSTRY HAS NOT DONE THIS EFFECTIVELY SO THAT PERMITTING AGENCIES CAN FULLY SUPPORT PROJECT PROPOSALS.

A MAJOR GOAL OF PROJECT ECONOMICS AND PLANNING IS TO CONSIDER GETTING THE ENERGY INTO THE MOST ECONOMICAL FORM FOR TRANSPORTATION. EXAMPLES OF THIS APPROACH ARE DEHYDRATION OF GAS FOR TRANSMISSION LINES, CONSTRUCTION OF MINE-MOUTH ELECTRICAL GENERATING PLANTS SO THAT ELECTRICITY CAN BE TRANSPORTED RATHER THAN COAL, AND CONVERSION OF COAL TO A SLURRY SO THAT IT CAN BE MOVED BY PIPELINE RATHER THAN BY TRUCK OR RAIL.

ANOTHER OBJECTIVE OF PROJECT ECONOMIC ANALYSIS IS TO EVALUATE ALL AVAILABLE TRANSPORTATION ALTERNATIVES. CONSIDER MY COMPANY'S CRUDE OIL PIPELINE SYSTEM CONSISTING OF TWO 10-INCH LINES EXTENDING 182 MILES FROM RANGELY, COLORADO TO SALT LAKE CITY AND MOVING APPROXIMATELY 60,000 BBLS/DAY OF CRUDE OIL. IF THIS VOLUME WERE MOVED BY TRUCK INSTEAD OF BY PIPELINE, IT WOULD REQUIRE 226 TRUCKS BASED UPON 8400 GALLONS PER TRUCK, 16 HOURS PER ROUND TRIP, AND 243 HIGHWAY MILES. TRUCKS WOULD PASS BY ANY GIVEN POINT ALONG THE ROUTE EACH 3-1/4 MINUTES. AT 335 HORSEPOWER PER TRUCK, A TOTAL OF 76,000 HP WOULD BE REQUIRED. OUR PIPELINE HORSEPOWER IS ABOUT 5,000. WE ESTIMATE THAT THE TRUCK TARIFF WOULD BE OVER $2.00 PER BARREL. THE PIPELINE TARIFF IS $0.285 PER BARREL. AT LOW VOLUMES, TRUCK OR RAIL MAY BE MORE ECONOMICAL THAN PIPELINES FOR SOME PROJECTS. WE HAVE NO BASIC OBJECTION TO THESE MODES OF TRANSPORTATION, WE UTILIZE THEM ALSO, AND ONLY EMPHASIZE THAT EVERY ALTERNATIVE SHOULD BE REVIEWED.

PLANNING-PIPELINE SIZE

SELECTION OF PIPELINE DIAMETER IS ALSO AN ECONOMIC MATTER. IT IS DEPENDENT PRIMARILY UPON THE VOLUMES TO BE TRANSPORTED WITH LENGTH

being a factor as well as any future additional capacity desired. Pipe size availability can also influence selection decisions. Within definite limits, the selection is usually an economic matter of balancing a larger pipe size and higher initial investment against a smaller pipe size with more pump or compressor stations and higher energy costs spread over future years.

Planning-Route Selection

In past years the most economic route for a pipeline was a "straight line" between origin and destination with deviations only for extreme terrain difficulties such as rock or large natural obstructions. An examination of pipeline construction costs will illustrate the desirability of a "straight line". The August 11, 1980 issue of Oil and Gas Journal gives a project cost breakdown of a crude oil line as follows:

Line pipe and fittings	32%
Main line construction	40
Pumps, tanks, manifolds, meters	21
Land, R/W, communications, vehicles	7

Thus main line construction is about 72% of a project cost in this example. A quick review of the other Oil and Gas Journal pipeline cost data given for 1980 and indexing these upward for 1981 gives very rough approximate average costs for pipelines in the 12" to 24" size range of $17,000/inch/mile and for lines in the 24" to 36" size range of $22,000/inch/mile. Therefore construction re-routing or deviation costs would be:

12" size	$200,000/mile	$1,000,000/5 miles
24" size	$500,000/mile	$2,500,000/5 miles
36" size	$800,000	$4,000,000/5 miles

While construction cost over a "straight line" route is still the prime consideration in route selection, it now must be tempered by permitting considerations, recognizing that permitting delays may cost more than alternate routes. Therefore, initial route selection can fall into three steps:

1. Consider the more or less "straight line" route and estimate costs.
2. Investigate any nearby "corridors" - existing utilities, roads, railroads, power lines, or pipelines for the possibility of sharing a right of way or obtaining an adjacent right of way and estimate costs.
3. Investigate the routes considered in (1) and (2) above more thoroughly by the usual means such as flying, driving, walking, aerial photos, and various maps. Consult other R/W occupants and permitting agencies to determine permitting difficulties. Select other alternate routes and/or route deviations that will materially reduce permitting difficulties.

Planning-Ordering Materials

Fifteen years ago it was common practice for pipeline companies to order pipe and materials as soon as preliminary route selection and initial right of way investigations were complete. This is no longer done. Most carriers do not commit for pipe and materials until they are far enough through the permitting process to assure that final permits will be issued, unless they have an alternate use for the pipe. A classic case of delay in use of delivered materials happened to Alyeska Pipeline when in 1969 they announced the 800 mile 48-inch line from the North Slope to Valdez and thereafter ordered the pipe. The pipe arrived in Alaska in 1970 at the beginning of what was to be the greatest series of permitting problems faced by any pipeline ever. Pipe laying did not begin until early 1975 and was not completed until late 1976. Thus it is now a difficult matter of judgment as to when in the permitting process long-delivery material items should be ordered so they are available to meet the completion schedule.

Planning-Permitting

With the pipeline project defined, sized, and various route alternatives selected, the carrier is now ready to work on

DETAILS OF DESIGN AND CONCURRENTLY SERIOUSLY APPROACH THE PERMITTING PROCESS. MOST OF YOU ATTENDING THE CONFERENCE ARE FAMILIAR WITH PERMITTING REQUIREMENTS AND OTHER SPEAKERS HAVE LISTED PERMITTING PROCEDURES IN DETAIL, SO IN THE REMAINING TIME I WILL LIST ONLY A FEW OF THE CARRIERS' CONSIDERATIONS FOR PIPELINE PERMITTING:

1. ALL CROSSING OWNERSHIPS AND PUBLIC AGENCY JURISDICTIONS HAVE TO BE ESTABLISHED FOR THE ENTIRE ROUTE SUCH AS PRIVATE LAND OWNERSHIPS, HIGHWAYS, ROADS, RAILROADS, UTILITY CROSSING OWNERS, AND PUBLIC LAND OWNERSHIPS. ALSO ALL PUBLIC AGENCIES AND REGULATORY AGENCIES THAT HAVE PERMITTING OR REGULATORY AUTHORITY OVER ANY PART OF THE PROJECT, WHETHER OR NOT THEY OWN PROPERTY CROSSED, HAVE TO BE ESTABLISHED.
2. ALL PERMITTING REGULATIONS OF ALL AGENCIES HAVE TO BE OBTAINED AND THE PERMITTING PROCESSES DISCUSSED WITH THE AGENCIES.
3. SOMEWHERE ABOUT THIS STAGE OF THE PERMITTING PROCESS, A CRITICAL PATH SCHEDULE (NETWORK DIAGRAM) CAN BE CONSTRUCTED TO ESTABLISH A PROJECT TIMETABLE AND AT WHICH STAGE TO ORDER MATERIALS.
4. THE LEAD AGENCY HAS TO BE ESTABLISHED, SCOPING MEETINGS HELD, AND ALL OTHER PERMITTING PROCEDURES STARTED IN THE PROPER ORDER.
5. INITIATE DATA GATHERING AND ALL OTHER WORK NEEDED FOR ENVIRONMENTAL CLEARANCE. THIS MAY INCLUDE ARCHEOLOGICAL, HISTORICAL, GEOLOGICAL, ZOOLOGICAL, BIOLOGICAL, AIR QUALITY AND NOISE DATA. COMPLETE ROUTE SURVEYS, FACILITIES DESIGNS, AND ALL DRAWINGS, MAPS, AND ATLAS SHEETS. INCORPORATE THE NEEDED INFORMATION IN THE ENVIRONMENTAL ANALYSIS/ENVIRONMENTAL IMPACT STATEMENT.

THE PIPELINE COMPANY CAN NOW BEGIN THE FORMAL PERMITTING PROCESS WITH ALL AGENCIES. THE PROBLEMS ENCOUNTERED WILL BE DIFFERENT FOR EACH PROJECT. AT SOME POINT IN THE PERMITTING SEQUENCE THE

PIPE AND MATERIALS MUST BE ORDERED SO THAT CONSTRUCTION CAN BEGIN UPON FINAL PERMIT CLEARANCE.

I HAVE ENJOYED BEING WITH YOU TODAY AND HOPE THAT THESE ITEMS FROM A PIPELINER'S VIEWPOINT HAVE BEEN OF INTEREST.

OVERVIEW OF TRANSMISSION & DISTRIBUTION LINE PROJECT PLANNING

BY JOHN A. BOHLING

OVERVIEW OF TRANSMISSION & DISTRIBUTION LINE

PROJECT PLANNING

Step One: Electrical Load Growth

The initiating incident or cause of essentially all transmission or distribution line construction is growth in the electrical load. The Rocky Mountain States, unlike much of the rest of the nation, continues to attract new industry resulting in employment opportunities and resultant increases in housing and support businesses. The result is an increasing electrical demand that utilities are required by law to provide.

Step Two: Decision To Construct A Generating Plant

When the system wide projected load growth exceeds Utah Power & Light Company's capacity to generate, a new plant is required. Note should be given to the fact that the total environmental and construction lead time for a power plant is approximately eight years. Consequently, changes in the factors discussed in Step 1 can result in a need to either accelerate or delay the project some time.

Step Three: Selection of A Plant Site

After exhaustive water and air quality studies, and detailed consideration of coal and water supply costs, the site for the power plant is selected.

Step Four: Preliminary Corridors For Transmission

After the plant site is selected an alternative study is undertaken wherein a preferred, and one or more alternate corridors, is selected. Preference is given to existing corridors in an effort to eliminate or minimize environmental impacts in pristine or

Step Four: Preliminary Corridors For Transmission - Continued

relatively undeveloped areas. Normally, the first part of this preliminary corridor study is done on U.S.G.S. or Army maps and following that a helicopter evaluation of each proposed corridor is made.

Step Five: Detailed Corridor Study

Based on the results of preliminary analysis discussed in Step 4, a detailed corridor study is undertaken for the preferred routing and any alternative routes that are to be submitted for the environmental permit applications.

Step Six: Specific Line Routing

Once the detailed corridors study and evaluation have been completed, the actual route of line is selected. This involves an on-the-ground analysis of all relevent topographical and environmental features so that a precise route can be determined.

Step Seven: Preliminary Involvement of Relevent Government Agencies (Normally B.L.M. or Forest Service."

An early contact with the governmental agencies responsible for administering the lands over which the route is to pass is very useful at this point. The purpose of the contact is to obtain recommendations as to where the specific routing should go to minimize any adverse impacts that may not be obvious to the line router in his evaluation. Examples of such an area might be a nesting area for endangered species or some other condition that the land administering agency would be aware of that the utility would not.

Step Eight: Preparation Of Environmental Analysis Record

Once the line route is selected and accepted alternatives have been itemized, an environmental analysis record is prepared. This is normally done by the utility, in our case Utah Power & Light Company, and involves a thorough analysis of environmental impacts that the proposed project will have. Specific studies that will normally have to be contracted or done by utility experts as part of the environmental analysis record are: 1) Archaeological and Paleontological, 2) An analysis of any wilderness areas that may be near to a proposed routing, 3) A specific analysis of any areas of critical environmental concern.

Step Nine: Permission To Survey

Concurrent with the preparation of environmental analysis record is a request for permission to survey the chosen line route. Surveying is necessary so that an accurate description of the right-of-way request can be included in the federal application. The survey is also obviously necessary so that the line to serve the load can be constructed.

Step Ten: Survey Of Line Route

Once permission to survey is obtained, the actual survey on the ground is taken by the responsible utility.

Step Eleven: The Federal Application

Once the survey is completed, the actual application is made to the cognizant federal or state agency to grant the easements or special permits necessary to construct and maintain the line. The environmental analysis record prepared in Step 8 is included with the federal applications as well as the specific description of the proposed surveyed route.

Step Twelve: Notification and Involvement of Local City and County Officials

At this stage cities and counties that have jurisdiction over areas through which routing passes should be notified so that necessary hearings can be held, questions answered, and necessary adjustments made in planning maps and also the line routing. This step, which frequently is undertaken late in the planning process, needs to be as early as possible so that the citizens and officials of various cities, towns and counties are not surprised by the construction of the project.

Step Thirteen: The Federal Agency Stipulations

After the cognizant federal agency has done the necessary environmental analysis and evaluation, the proposed stipulations required of the utility in order to construct the facility are issued. These stipulations are reviewed, discussed, and signed by the utility, then returned to the federal agency so that the actual permits can be issued.

Step Fourteen: Issuance Of Permits

After the stipulations are signed and agreed upon, the B.L.M., Forest Service, counties, cities, Public Service Commissions, or Public Utility Commissions issue the permits so that construction can begin.

Step Fifteen: Pre-Construction Meetings

After necessary permits are issued a pre-construction meeting is held with the utility, the lead government agency, and the construction contractor to insure that stipulations are clearly understood and to designate field representatives for the utility, the contractor, and the government agency.

Step Sixteen: Construction Of The Project

As soon as practical after the pre-construction meeting, actual construction of the project is commenced and proceeds for the time necessary to complete the project. Construction time can vary from a few weeks to over a year on transmission lines depending on the magnitude of the line project, the terrain through which it passes, and the weather that construction is done in.

Step Seventeen: Post-Construction Cleanup and Restoration

After the project is completed, the utility's contractor working with the utility and federal agency completes necessary restoration so that construction damage is minimized. Roads not needed for maintenance are closed, and reseeding is done to the federal agency's satisfaction.

LOCAL GOVERNMENT - INDUSTRY RELATIONSHIPS TO FACILITATE ENERGY PROJECT DEVELOPMENT

The expeditious handling of energy development projects often can be tied to the existence of cultivated personal relationships with interested local elected officials. Such relationships should be marked by mutual respect for the problems and concerns of the opposite party, and respect for existing legal limitations and guidelines.

Generally, it can be said that each individual industrial interest must do its share to establish its own relationship with local government. Although industrial development is generally supported and encouraged by local officials, it is with individual components of development, as well as their attendent secondary impact, that local officials must deal on a day-to-day basis.

The purpose of this discussion is twofold. First, there will be an attempt to present several examples of selected actions on the part of industry that tend to create either positive or negative responses from local government. Secondly, several possible courses of action, as well as several corporate attitudinal postures will be presented for your consideration.

Numerous examples of corporate effort toward positive local government relationships may be cited. The following represents only a sampling:

1. Regular informational contacts with local government - Coastal States

2. Prepayment of sales tax for essential community services - Utah Power and Light

3. Donations to local projects - Emery Mining Corporation

4. Public facilities construction - Desert Generation and Transmission

The positive aspects of this kind of corporate citizenship on local relationships is obvious. On the other hand, gains made through this type of gesture can be wiped out by actions such as the following:

1. A major company, after having operated in a particular county for a number of years and considered to be fully versed on existing laws, ordinances and licensure requirements, initiated a major expansion without initially satisfying any of the existing state or local requirements.

2. A state lease was granted to a major coal developer without any preliminary contact with the affected local officials. The lease was withdrawn when county officials protested and it was demonstrated that inadequate notice of a public hearing had been given.

3. A major energy production construction project is underway without having received the locally required building permit despite protests from the county.

4. A major energy transportation construction project is being delayed pending submittal of an adequate environmental impact statement. Corporate officials maintain that socio-economic impacts are the county's problem.

In considering the above, it can be seen that such actions take their toll on mutual trust and respect as they bear on the relationship between industry and local government.

Cultivation of constructive relationships with local government is generally a matter of basic communication with perhaps a few attitudinal changes thrown in.

Specific actions that may be employed include the following:

1. Close ongoing coordination and communication with existing local government planning bodies, including regional Associations of Government and county and city planning and zoning commissions. Since the regional associations deal regularly (in most cases) with local PZC's, time and cost can be reduced by dealing with these organizations.

2. Regular personal contacts between authorized corporate representatives and local elected officials, including commissioners, mayors, special service district chairmen and school board chairmen.

3. Timely updates on projected employee levels (construction and operation), production levels, construction schedules, etc., to facilitate local impact mitigation planning.

In addition to the suggested actions above, it may be well for industry representatives to consider the following observations in terms of the attitudes they represent:

1. Partnership - As long as there is industry making substantial change in communities, particularly small rural communities, there is going to be government attempting to respond to that change. The appropriateness of this response can, to a degree, be tied to the level of participation industry chooses to take in the response through a partnership attitude with local government.

2. Local Government Responsibility - Corporate leaders should demonstrate an appreciation that local officials are charged with the delivery of an important and costly set of public services. A keen sense of responsibility is felt for the expeditious and efficient delivery of these services. Rapid

and/or extensive energy development poses a serious threat to efficient, effective service delivery.

3. Corporate Citizenship - Quality corporate citizenship, particularly in sparsely populated rural communities should be included as a top priority in corporate plans and actions.

At this point it might be well to reiterate five "salient" lessons put forth by James I. Morgan, Plant Manager, Pacific Power and Light Company. The following was contained in a speech presented in 1978 at the Stone and Webster Socio-economics - Communications Workshop in Denver:

1. Any organization or person who thinks socio-economic impact problems are overrated--is wrong.

2. Any organization or person who thinks everyone in the community will welcome his project--is wrong.

3. Any organization or person who thinks that impacts can be handled ad hoc--is wrong.

4. Any organization or person who thinks they're not going to have to spend dollars [dealing with impact problems]--is wrong.

5. Any organization or person who thinks they can plan for <u>all</u> impact problems requiring action and money--is wrong, and

in wrong field of endeavor.

In the final analysis, it is my belief that constructive personal relationships between local government and industry must be cultivated through tangible demonstrations of mutual respect and sensitivity for the problems and concerns of the opposite party. Actively cultivating such relationships will, I think, go a long way toward minimizing costly delays and toward expediting energy development projects.

UTILITY-AGENCY COMMUNICATION - A TRIED APPROACH

ALLAN R ANSELL - ENVIRONMENTAL BIOLOGIST

IDAHO POWER COMPANY

Idaho Power Company is an investor-owned utility which provides electric service to a portion of Idaho generally known as the Snake River Valley. The service territory extends from the Pocatello-Blackfoot area in eastern Idaho westerly through south central Idaho to the eastern portion of Oregon. The southern service boundary includes portions of northern Nevada, while the northern boundary extends into north central Idaho as far as the town of Riggins. The company presently serves over a quarter-of-a-million customers, including industrial, agricultural and residential loads.

It has been long recognized by the company that early and continuous contact with land management agencies is an essential ingredient in the acquisition of transmission line rights-of-way. In an effort to assure this contact, the company has intitiated a pioneering program designed to inform appropriate agencies of the company's long-range plans and forecast. This program has been in place for over five years and has proven to be quite useful and mutually beneficial.

The electric utility business is governed by dynamic circumstances, often far outside the control of an individual company. Idaho Power's efforts to keep appropriate agencies informed of these changes consist of a two-prong program.

First, a summary document outlining the projected long-range expectations of the company is prepared. Secondly, in conjunction with the publication of the document, a meeting of key land management personnel is held and the contents of the document are explained and discussed in detail. These activities take place on a biennial basis and a forecast period of ten years is discussed.

The planning document, known as the Long Range Systems Plan, contains a variety of subjects pertinent to the land manager. It is a summary of what customers are demanding of the utility and the ability and plans of the company to meet those demands.

The basic factors of long-range planning are discussed, emphasizing customer demands based on social and economic parameters. Projected industrial, agricultural, commercial and residential demands are outlined. Idaho Power's ability to meet these projections with existing electrical resources are illustrated. Included is a description and short discussion of the several projects presently under review to make up

the deficit between expected demand and existing supply.

The continued growth of customer load and the development of new generating resources requires additional transmission capacity to deliver power to the load centers. Major new transmission proposals are explained as well as plans to renovate and update the existing transmission system where possible.

Idaho Power attempts to contact individual land management districts in a timely manner in order to alert them to specific proposals which will affect them. This usually takes the form of a letter of intent to the district followed closely by a visit by the transmission planning staff. The specific project is explained in detail, as well as alternatives to the project. This provides an opportunity for early agency feedback into the company's transmission planning process. From that point on, close coordination with the land management agency is the order of the day. This approach allows the agency to have direct input into the quality and contents of the company's formal application for the required right-of-way.

If public meetings are required, the company works as closely as possible with the agency to assure that interested members of the public have a clear understanding of the proposed project. Occasionally, in cooperation with an agency, joint public meetings may be held.

In addition, several company policies have been developed which act as guidelines for the development of transmission projects. These policies may affect portions of the public lands.

It is the practice of the Idaho Power Company to uprate existing transmission lines to obtain needed additional capacity whenever an existing line is in the proper location and of adequate design so that uprating, rather than new line construction, is the most feasible way to obtain the additional transmission capacity.

Over the past few years, approximately two-hundred miles of existing transmission lines have been uprated, rather than requiring a new right-of-way.

New line construction will incorporate design features to allow uprating when it is required. Idaho Power's Borah-Midpoint transmission line is a case in point. This line is being constructed at 500kV capacity, but will be operated at 345kV until such time as the additional capacity is required as part of a projected 500kV system.

The continued growth of customer load and development of new generating resources will require additional transmission capabilities to deliver power to the various load centers. New transmission circuits also are required to augment inter-company

transmission connections. Intercompany connections maximize the ability of one utility to transfer energy from one to another, thus minimizing the need for additional generation facilities. Since the location of the transmission line is dependent on the location of the load centers and the generation source, it is often difficult to forecast the extent of those needs. The company's current long-range forecast identifies no less than a dozen proposed electric generating stations, a three-fold increase in the number of proposed plants in the previous forecast. Each of these power plants, if built, will require additional transmission lines. However, it should be pointed out, that in today's regulatory environment, it is extremely difficult to identify with accuracy those projects which will be allowed and those which will fall by the wayside. It is likely that future forecast will include additional, but as yet, unidentified new electrical resources. It is necessary that public land administrators recognize the difficulty in providing them with accurate forecasts which may involve the public lands and that land management plans be flexible enough to accommodate these uncertain conditions.

Whenever feasible, it is the practice of the company to utilize existing transmission corridors to accommodate new line construction. The company has recently completed a thirty-five-mile-long line between Dillon, Montana and Tendoy, Idaho, utilizing this concept. Segments of other new lines also incorporate existing rights-of-way when practical. The concept of "corridoring" has apparently gained wide acceptance in both the industry and among land management agencies. The concept is a useful planning tool, but it must be remembered that it is not a panacea to all transmission conflicts. For example, in southern Idaho, the company's backbone transmission system was built several years ago across vast tracts of public lands. These lands were mostly huge areas of sagebrush desert and considered of little value in the social and economic philosophy of the time. As the state grew, and with the advent and economic feasibility of highlift irrigation pumping systems, more and more of this land came under the plow and was developed for agricultural purposes. Today it is one of the economic cornerstones of the State of Idaho. As the farmland developed, it often came to surround existing transmission facilities. Thus it is not unusual to see a transmission line traversing a piece of prime agricultural real estate, an undesirable practice by today's standards.

If one or more new transmission lines were to parallel some of these older existing lines it is possible that a severe land use conflict would develop. It is the company's practice to avoid prime agricultural lands in the routing of new transmission lines, even if the concept of corridoring must be violated. This is to avoid an unacceptable impact to valuable farm lands, a finite resource.

I would like to mention one additional practice the company attempts to follow when practical. That is, the dismantling of an existing transmission circuit and replacing it

with a double-circuit configuration rather than building two parallel circuits. In essence, this is combining two transmission needs into one transmission right-of-way. The practice is expensive and not always practical or desirable, but it is possible. This method of construction has been used once in the past two years and is anticipated as the preferred method of construction for portions of the proposed North Fork Payette River transmission line. When evaluating this method of construction, as well as the concept of corridoring, it is essential the system's reliability receive a fair evaluation. Reliability is exactly that. How susceptible is the transmission system, and thus the flow of power, to transmission failure? Parallel circuits or double-circuit configurations may expose the transmission system to unacceptable risk. A catastrophic event, or even something as common as a range fire, can jeopardize system's reliability. If certain chain of events were to occur, it is inconceivable that a large section of the nation could experience a power outage. At least twice within the recent past the northwest has experienced extensive blackouts, a condition which exists when the regional wide electrical system fails. Very recently, a trash fire burning beneath a transmission line created an ionized path which allowed electricity to flow between two conductors, causing the line to trip and blacking out the entire state of Utah. It is remarkable that a large section of the Nation was not affected. The possibility of a regional blackout is enhanced with the increasing exposure of multiple circuits to the same hazard.

One last comment I would like to make to this group concerns the land management planning process. If the end of the process is so inflexible that unforeseen events cannot be accommodated, the process is of little practical value. The difficulty with planning is that no matter how hard we try or how certain we are, we are all dealing with a flawed crystal ball.

PROCESSING RAIL LINE CONSTRUCTION APPLICATIONS AT THE INTERSTATE COMMERCE COMMISSION:

PROCEDURAL AND ENVIRONMENTAL CONSIDERATIONS

Robert M. Maestro
Assistance Chief
Energy and Environmental Branch
Interstate Commerce Commission

Delivered at Energy Transportation Systems Conference
February 2-5, 1981
Salt Lake City Utah

When John Bohling introduced me, he failed to mention that my Master's in Wildlife Ecology was obtained at Utah State University. During the two years I spent in Utah, I developed a great affection for the Intermountain West; from what I have been hearing at this conference, I now also have great sympathy for the Intermountain West. Hopefully, logical minds will allow for development which preserves the area's identity.

I have heard a lot of concern expressed today over the need for a more expeditious permitting process by federal and state agencies. The processing of applications at the ICC has been significantly expedited by some recent events and is reflected in our certification process for rail line construction.

As you may or may not be aware, the deregulation fever has hit the ICC. During the latter portion of this past year, two deregulation bills were signed into law; one for the motor carrier industry and the other for the railroads. Both reduce the regulatory burden on the applicant. We also published our revised Environmental Rules in January which further reduce the reporting burden on an applicant and help expedite the certification process. The Commission is also currently revising it's regulations for issuance of a certificate for rail line construction to accomplish the same goal.

The procedure for obtaining a Certificate of Public Convenience and Necessity at the ICC for rail line construction is dictated by two sets of rules -- the Railroad Acquisition, Operation and Construction Rules (49 CFR 1120) (Railroad Certification Rules), and the Commission's Environmental Rules

(49 CFR 1108), which provide direction for preparation of environmental documentation in compliance with the National Environmental Policy Act (NEPA), CEQ regulations and related governing authorities. Due to the nature of this type of proceeding, issuance of the Certificate of Public Convenience and Necessity relies heavily on the environmental documentation. Its preparation is also typically the most time consuming and costly aspect of the certification process, for both the Commission and the applicant. The time, as well as tax payer's money, required for preparation of the environmental documentation has been significantly reduced as a result of our revised Environmental Rules.

The proceedures under our old Environmental Rules required an applicant to submit an Environmental Report as part of its application which provided the applicants' environmental review of the proposed action and alternatives. We then took approximately 8-12 months to prepare and issue the Draft EIS, which was built upon the applicant's Environmental Report.

With our recently revised Environmental Rules, the first step to be taken by an applicant is to contact our Energy and Environment Branch at least six months prior to filing an application. The six months prescribed in our revised Environmental Rules is intended as <u>minimum</u> notification. Realistically, 10 to 18 months notification is needed, depending upon the length and complexity of the proposed construction.

We now require early contact by the applicant so that we can work with them and their consultants (and cooperating agencies) to develop one document (the Draft EIS) instead of two. Our last two rail line construciton cases took 12 months for a 10 mile line and 16 months for a 90 mile line to complete the Draft EIS utilizing this approach.

In order to produce one document, we must provide guidance in its development, verify the data and draw our own conclusions and recommendations. This approach is consistent with CEQ regulations and other authorities. Contact with the Energy and Environment Branch must also be made prior to consultant selection. In conformance with CEQ regulations, if a consultant is used for preparation of the EIS, the agency must select the consultant. We typically request a "short list" of consultants from the applicant from which we identify those we feel are qualified. The typical disclosure statement specifying that the consultant has no financial or other interest in the outcome of the project is then prepared.

Our procedure not only expedites the certification process by 8-12 months, but also allows for a closer working relationship between the applicant and the agency, helping to ensure that a more comprehensive document is produced, and saves taxpayer's money. Under our old procedure we had to budget consulting funds to assist us in preparation of railroad construction EIS's after receipt of applicant's Environmental Report due to our limited staff resources. Utilizing our new procedure eliminates the need

for us to contract separately with a consultant and has allowed us to eliminate consulting funds entirely in our budget requests. This has resulted in over a $1,000,000 savings the year we initiated this procedure.

Upon completion of the Draft EIS, an applicant submits a Summary Application in accordance with the Commission's Railroad Certificate Rules, along with the jointly prepared Draft EIS instead of an applicant-prepared Environmental Report.

The rest of the proceedure remains unchanged. The Commission, upon receipt of the application, develops a Notice initiating the proceeding and requesting protests to be filed within 30 days. The Notice is sent to the applicant for publication in local newspapers. The Commission concurrently publishes the Notice in the Federal Register. The applicant then has six weeks from receipt of the Notice to file a Return To Questionnaire. The questionnaire poses additional questions to the applicant deemed necessary for a complete application.

At this stage the ICC will designate the application for either a Modified Procedure or Oral Hearings. During Oral Hearings testimony is received verbally before a Commission Administrative Law Judge (ALJ) who decides on the case after all evidence (including the EIS) is submitted and cross examination completed. An 180 day Evidentiary Period is provided for receipt of all evidence, which initiates upon designation of the application. A Modified Procedure accomplishes the same purpose with written submittals and no hearings. In the latter case, the

decision is rendered by our Section of Finance rather than an ALJ. The Commission has 120 days to draft a Final Decision from the close of the Evidentiary Period. An Initial Decision usually preceeds the Final Decision.

A Commission decision can be appealed. However, the appeal must be filed within 20 days after the Initial Decision is rendered. The Commission then has 180 days to decide on the appeal.

From the time an application is designated, it takes approximately four to six months via the Modified Procedure or 6-12 months via Oral Hearings to issue a Cerificate of Public Convenience and Necessity for construction and operation of the rail line, if no appeals are filed.

With respect to the Commission's upcoming revised Railroad Certification Rules, I can not give you many details at this time because they are only in draft form. I can, however, tell you that a new provision will be incorporated which will allow the Commission, upon a justified request from the applicant, to waive certain reporting requirements. Waivers can be requested where specific requirements are not applicable, information to answer a specific question is not available, or the Commission does not need the information to make the statutory findings. The reporting requirements will also be reduced and made more meaningful. It is anticipated that the revised Rules will be made public by the summer of 1981 in either interim or proposed

form. If they come out as proposed rules, it will take approximately another six months before they become final.

We have experienced two major recurring problems with processing rail construction applications. The first concerns determination of Commission jurisdiction. Not all rail line construction is subject to Commission jurisdiction. Certain types of rail line construction obviously require a Certificate of Public Convenience and Necessity such as a line to be constructed and operated by a common carrier. In other cases, such as when the line will be privately built and operated, jurisdiction becomes questionable. The problem of jurisdictional authority can easily be overcome through contact with the Deputy Director, Section of Finance at the earliest opportunity.

A more frequently occuring problem is applicants delaying contact with our Energy and Environment Branch. As indicated earlier, an applicant should contact the Branch approximately 10-18 months prior to filing an application for rail construction so that the Draft EIS can be developed during this time. It should also be noted that the rest of the Commission does not initiate its portion of the certification process until the Draft EIS is completed. Delaying contact with the Branch invariably results in either a delay in filing the application or imposed delays as a result of a quickly produced and less professionally competent Draft EIS which becomes subject to greater criticism and susceptible to "fatal flaws." Examples of the latter from the

ICC and other agencies clearly demonstrates that the potential "gain" anticipatd by applicants is nearly always outweighted by the delay created when initial agency contact is postponed.

In conclusion, potential applicants can ignore everything I have said except contact us as soon as plans are formulated for construction of a rail line and prior to selection of a consultant to perform their environmental analysis. Guidance for all aspects of application preparation can be provided at this time and expeditious processing assured through early contact.

Conference on Energy Transportation Systems
February 2-5, 1981
Railroad Energy Transport, Highways, Electric
Generation and Transmission Lines: Project Planning

Lawrence R. Wolfe
Rural Electrification Administration

The agency I represent - the Rural Electrification Administration or REA, as it is usually referred to, was created by an Executive Order in 1935 but, did not become part of the U.S. Department of Agriculture until 1939. The function of REA is best summed up in Section 2 of the Rural Electrification Act of 1936 which states in part: "REA through its Administrator is authorized and empowered to make loans in the several states and Territories of the United States for rural electrification and the furnishing of electric energy to persons in rural areas who are not receiving central station service . . . ."

REA does not make loans or guarantee loans to individuals but to rural electric cooperatives and associations. The Borrowers are non-profit organizations which are owned by the consumers they serve. There are two types of electric power cooperatives and associations which obtain financing from REA: The Distribution Borrower which actually serves the rural consumer and the Generation and Transmission Borrower (G&T) which is responsible for providing an adequate power supply to its member distribution systems. For example six (6) distribution borrowers in the States of Utah, Nevada and Colorado have formed and are members of Deseret G&T Cooperatives which is headquartered in Sandy, Utah.

To give you some idea of the extent of REA involvement particularily in the West, I have compiled some statistics for the eight (8) Mountain States (Slide 1). As of December 31, 1979, there were a total of 119 borrowers serving over 613,000 consumers. This required almost 181,000 miles of energized line. This last figure includes high and low voltage transmission as well as distribution and subtransmission lines.

Another example of a large western G&T Coop is Colorado-Ute Electric Association which is headquartered in Montrose, Colorado. It provides electric power and energy to 14 members whose service territories are located principally in western and southern Colorado. Colorado-Ute and its Distribution Members constitute the second largest electric supply system in Colorado. Approximately 1,040 miles of high voltage transmission lines are utilized by Colorado-Ute to supply its Members which in turn serve their individual retail consumers over an aggregate of approximately 22,700 miles of distribution and subtransmission lines. Add to these totals the approximately 400 miles of high voltage transmission line that Colorado-Ute proposes to install in the next 3 years and you have some idea of the magnitude of the impact of one REA G&T Cooperative on Federal, state and private lands in the West.

As a Federal agency with a mandate to impliment the provisions of NEPA as interpreted by the CEQ Regulations, REA has promulgated detailed instructions to the Borrowers covering all types of transmission line projects. However, I intend to concentrate on high voltage transmission line projects (230 kV and above).

As you are undoubtedly aware, every major transmission line project which receives REA loan guarantees requires an Environmental Impact Statement. One of the key elements that is often repeated throughout the EIS process is the agency contacts. This aspect of the project is probably more critical in the Mountain States due to the wide divergence of jurisdictional responsibilities and land ownership.

Recently an REA Borrower directed its Consultant to make initial contacts with Federal, state and local agencies relating to a proposed generation and transmission project in Arizona. As you can see (Slide 2) a total of 18 Federal agencies were contacted, ranging from the Army Corps of Engineers to the Federal Highway Administration. In the same study (Slide 3) a total of 20 state agencies were also contacted. Each of the agencies listed plus a number of local agencies were requested to provide input in the initial stage of a site selection study.

At this point, I would like to back up slightly and lead you through the more important aspects of the right-of-way selection process as practiced by REA (Slide 4). As it indicated in item No.1, once the load flow studies are completed and the overall system needs are determined, required end points which usually are substations are selected. The entire general area between these points then becomes the study area. The study area is then subjected

to a "constraints" analysis by the Borrower and/or its Consultant. By locating various environmental constraints within the study area, tentative exclusion areas - areas of extreme sensitivity with respect to one or more environmental or legal factors, and tentative avoidance areas - areas of potential sensitivity as to one or more environmental or legal issues, can be identified and hopefully avoided.

This is an example of an environmental constraints map which was prepared for a siting study in the State of Arizona (Slide 5). Some of the more obvious constraints identified include: Class I PSD Areas, Non-Attainment Areas, Federal Military Reservations, National Monuments and Wildlife Areas. REA feels that constraint maping is a valuable tool in the initial siting process and has prepared a report entitled "Metholology for Identifying Environmental Constraints in Power Plant Siting." The borrowers and their Consultants are urged to utilize this report or similar methodology provided it accomplishes the overall objective of pinpointing constraints to siting.

Returning to the Siting Process (Slide 6), namely item No. 5, preliminary corridors can then be plotted based upon the accumulated data from the constraint maps and the initial agency contacts. These corridors may be as narrow as 50 meters (164 ft.) or as wide as 16 kilometers (10 miles). Terrain and land use characteristics largely determine the appropriate corridor widths. The selected corridors are then subjected to further evaluation, a process which is usually accomplished in stages to systematically narrow the number of alternatives. It is recommended that normally at least three viable alternative corridors be identified. The end product of this analysis is the Macro-Corridor Study.

Once the Macro-Corridor Study is approved by REA (item No. 7), it is submitted to cooperating and potentially affected Federal, state and local agencies for review. At the same time, invitations are extended to these agencies to attend an interagency meeting on the project. The Interagency Meeting (item No. 9) convened by REA is generally held in the offices of the Cooperative or at a location convenient to the study area. The first part of the two phase meeting includes a presentation of the project followed by the designation of lead and cooperating agencies and a discussion period. In the second phase, all the participants at the meeting are invited to a tour of the study area. The main emphasis of the tour is to visually inspect the various corridor alternatives.

The next step (item No. 10) is to solicit public comment on the project. REA accomplishes this through a series of Scoping Meetings, which are held at selected locations within the study area. Whether these meetings occur at the same time as the Interagency Meetings or are scheduled one to two months later is largely dependent upon the scope of the project and on the status of REA's travel budget. Incidently, while REA encourages comments from the public at the scoping meetings, the record is kept open for an additional period so that written comments can also be submitted to REA.

Information and comments received at the interagency and scoping meetings are utilized in the preparation of the Environmental Analysis by the Borrower and/or its Consultant. This document, which can also be referred to as a Micro-Corridor Analysis, presents a detailed evaluation of the most viable corridor alternatives. The preliminary draft of this document is made available to cooperating agencies for review and comment. When submitted to REA in final draft form, the Environmental Analysis becomes one of the primary support documents which REA uses to prepare the Draft Environmental Impact Statement, provided we are the lead agency.

Unlike some other Federal Agencies, REA does not have a field staff with special environmental expertise. All of our Environmental Impact Statements originate from Washington, D.C., therefore, REA must depend heavily on the information contained in the Siting Study and Environmental Analysis plus the comments received from affected agencies and the public. As I have pointed out earlier, there are four distinct points in the Corridor Selection Process where agency comments are specifically requested. REA also encourages the Borrowers to make additional agency contacts where appropriate.

The theme of this Conference is "Expediting Right-of-Way Applications." One aspect of the Siting Process which REA feels is critical to the successful completion of any transmission line project and which may also help to expedite the process is an expanded involvement by and coordination with the appropriate Federal, state and local agencies in the early stages of the project (i.e., prior to the completion of the Environmental Analysis). In the past, there has all to frequently been instances where there has been confusion among the affected agencies and REA as to whether or not the most viable corridors have been identified and the degree of project planning that is required for the Draft EIS (Center line Analysis vs. Corridor Analysis).

The confusion has led to misunderstandings and unnecessary conflicts particularily with and in some cases, among various land management agencies. This has resulted in Consultant studies of questionable value and duplication of effort to meet similar requirements of different agencies.

These actions or lack thereof not only have added weeks and even months to project schedules but have also have on occasion ultimately increased project related costs thousands of dollars. And as is the case with the investor owned utilities, these costs are ultimately passed on to the consumer. It becomes very difficult for the REA Borrowers to both rationalize and justify needless increased costs to their consumers who must pay the electric bill, when there appears to be no corresponding substantive environmental benefit.

In summary I would like to emphasize these areas in which the projects of REA Borrowers in the Mountain States can be both improved and expedited:

1. Greater involvement and input from the affected Federal, state, and local agencies in the Corridor Selection Process.

2. A careful and timely scrutinizing by each cooperating agency of any additional or special studies required by that agency for a particular project. This scrutiry should include a careful weighing of available input, total cost and potential benefits.

3. Agreement between the cooperating agencies concerning the degree of sophistication and detail contained in the Draft EIS.

(Slide 1)

REA Involvement in the
Western Mountain States *

State	Number of Borrowers	Miles of Energized Line	Number of Consumers
Arizona	13	10,252	70,397
Colorado	24	52,555	226,701
Idaho	10	10,493	37,956
Montana	26	39,892	81,415
Nevada	8	4,147	12,883
New Mexico	18	34,165	108,759
Utah	5	4,721	16,818
Wyoming	15	24,673	58,326
Total	119	180,898	613,255

* REA Bulletin 1-1:1979 Annual Statistical Report

(Slide 2)

Arizona Siting Study

Federal Agencies Contacted

- Department of Agriculture
  - Forest Service
  - Rural Electrification Administration
  - Soil Conservation Service
- Department of Commerce
- Department of Defense
  - Army Corps of Engineers
  - Military Installations and Reservations
- Department of Energy
- Department of the Interior
  - Bureau of Indian Affairs
  - Bureau of Land Management
  - Bureau of Mines
  - Fish and Wildlife Service
  - Geological Survey
  - Heritage Conservation and Recreation Service
  - National Park Service
  - Water and Power Resources Service
- Department of Transportation
  - Federal Aviation Administration
  - Federal Highway Administration
  - Federal Railroad Administration
- Environmental Protection Agency
- United States - Mexico Boundary and Water Commission

Burns & McDonnell
Engineers-Architects-Consultants

PROJECT STUDY AREA
REGIONAL ENVIRONMENTAL
CONSTRAINTS

(Slide 5)

(Slide 3)

State Agencies Contacted (Arizona)

Arizona Historical Foundation
Arizona Power Authority
Bureau of Mines
Department of Agriculture and Horticulture
Department of Economic Planning and Development
Department of Health Services
Department of Transportation
Department of Water Resources
Governor's Office
Governor's Commission on Arizona Environment
Highway Department
Land Department
Northern Arizona Council of Government
Oil and Gas Conservation Commission
Power Plant and Transmission Line Siting Committee
State Historic Preservation Officer
State Historical Society
State Museum
State Parks Board
State Water Commission

(Slide 4 and 6)

Transmission Line Corridor Selection Process

1. Select end points and any substation locations on basis of load flow studies and overall system needs.

2. Initial project meeting with REA to obtain the current status of environmental constraints and REA requirements.

3. Identify "environmental constraints" which would prevent or modify routing in a general area.

4. Provide Federal, state and local agencies with a copy of the "constraints" map and request additional data.

5. Plot out preliminary corridors based upon accumulated data from constraint maps and agency contacts.

6. Conduct project sponsored evaluations of the proposed corridors and prepare an alternatives analysis.

7. REA approved Macro-Corridor Study is sent to cooperating and potentially affected Federal, state and local agencies for review and comments. REA also issues an invitation to interagency meetings.

8. REA releases a Federal Register Notice announcing an intent to prepare an Environmental Impact Statement as well as the dates and locations of Public Information Meetings.

9. REA holds Interagency Meetings near the project area. Attendees are also given an opportunity to tour the proposed corridors.

10. REA holds Public Information Meetings within the project area.

11. More detailed engineering, economic and environmental studies are conducted on the most suitable corridors.

12. An Environmental Analysis, which is a detailed evaluation of the preferred and alternate corridors, is prepared by the Cooperative and/or Consultant.

13. Utilizing the EA and other available information, REA prepares the Draft Environmental Impact Statement.

Page

IV. STATUTES AND REGULATIONS

BLM & Forest Service Rights-of-Way Regulations

ENERGY TRANSPORTATION SYSTEM CONFERENCE

FEBRUARY 3-5, 1981

SALT LAKE CITY, UTAH

Introduction: The 1976 Federal Land Policy and Management Act provides the BLM and Forest Service authority under one law for issuing right-of-way grants. The Act replaced most of both agencies' right-of-way authorities and closely aligned many of their management policies.

Soon after the Act was passed, the two agencies started to work on the necessary regulations. Because the regulations would bring about changes in traditional operating practices which would have an impact on right-of-way users, the two agencies held four public meetings to get information on how rulemaking for managing rights-of-way should be developed. The meetings were held in Sacramento, California; Denver, Colorado; Washington, D.C.; and here in Salt Lake City, Utah. The Salt Lake City meeting was held in January 1978.

Forest Service final regulations to implement FLPMA were issued on June 6, 1980; BLM regulations were issued July 1, 1980. The two sets of regulations are similar in intent but worded differently. The Utah BLM and Intermountain Region of the Forest Service have held various meetings and workshops to discuss the variations in agency procedures and to resolve any problems in coordinating with each other in working with the utility companies involved.

Extensive analysis could be made comparing the wording and intent of

the conference. Instead, it is proposed to (1) describe the general variations in the agency regulations and then (2) display a flow chart showing the right-of-way processing procedures being followed by each agency. A second flow chart will also be displayed showing the general procedures for processing rights-of-way under the Oil and Gas Leasing Act.

A. General Variations in FLMPA Regulations:

- Forest Service regulations cover all types of land occupancies and related authorities including rights-of-way under FLMPA. BLM regulations cover only rights-of-way under FLPMA. other regulations of BLM cover other types of land occupancies.

- BLM regulations generally provide more specific requirements whereas Forest Service regulations are more general with additional specific requirements provided in Forest Service Manual instructions.

- "Definitions" of terms used are generally similar in the two regulations. The Forest Service uses the terms "easement," "lease," "special use authorization," and "term permit" for example which are not mentioned in the BLM regulations. The BLM uses the term "right of way grant" to describe right-of-way authorizations issued.

- BLM and Forest Service regulations are generally correlated in intent. Most of the requirements are similar but worded differently and/or worded more or less explicitly.

- There are two key items in the regulations which will require additional interagency coordination: reciprocal rights-of-way grants

and cost recovery.

- BLM and Forest Service will cooperate in implementing their respective regulations, so as to work effectively in administering conjoint right-of-way grants or authorizations. Any amendment or modification of the regulations needed in the future will be recommended to respective WO heads under a planned cooperative arrangement. (This may be necessary at a later date after the two agencies have had opportunity to work with the regulations.)

B. Flow Chart - Right-of-Way Processing Procedures.

FLPMA Authority

- BLM and Forest Service will carry out coordinated project planning.

1. Cooperate on preparation of environmental statement, with designation of lead agency.

2. Cooperate in preparing followup site-specific analysis, i.e., revegetation, fire control, clearing plan, tower location, etc.

- BLM and Forest Service will work on coordination of issuance of right-of-way permits and grants.

1. BLM and FS issue (1) letter of authorization for "nondisturbing" activities, (2) temporary permit for "disturbing" activities necessary for surveys and perfecting application, and

(3) final authorization on right-of-way grant based on location map, design and plans, and (4) operating plan.

2. The two agencies will cooperate in implementing site-specific analysis requirements in both the Forest Service and BLM operating plans. As appropriate, one operating plan will be developed for use in each agency's project authorization document.

- The two agencies will generally follow the steps in the flow chart, which shows specific times and places for project coordination, i.e., environmental statement; site-specific evaluation; temporary permit; final BLM grant and Forest Service special use authorization, including site-specific requirements.

- Forest Service and BLM will work on coordination of types of grants used:

1. Forest Service permit includes standard, mandatory, and optional clauses comprising approximately a 4-page document. An operating plan is also developed as an element of the permit, covering the clearing procedures, revegetation plan, fire plan, tower site prescriptions, and other site-specific requirements.

2. The BLM has been including within their grants various types of stipulations including site-specific requirements related to roads, stabilization and rehabilitation, solid waste disposal, revegetation measures, wildlife protection, water quality

protection, and other requirements. Their grants are being modified to include the site-specific requirements in an operating plan section..

3. Both agencies provide for similar resource and public safety protection measures.

OIL AND GAS LEASING ACT

- (Refer to chart)

APPLICATIONS FOR RIGHTS-OF-WAY

1. Planned uses by utilities and other proponents involve the following actions:

a. The proponent should contact the Federal agency early so the responsible official can identify constraints on the proposed use:

- Consider the proposal in land management plans.

- Tentatively schedule processing of the application.

b. The Federal agency should give the proponent guidance and information concerning the proposed use:

- Possible land use conflicts as identified by review of landownership records, land use plans, and other management planning information.

- Application procedures and time requirements to process application.

- Necessary qualifications of applicants.

- Fees, charges, and bonding requirements.

- Associated permits, licenses, or other clearances.

- Environmental and management considerations.

- Need for temporary use permits for on-the-ground studies and investigations.

- Special conditions.

c. The proponent should file his application with the official having jurisdiction over the land involved:

- Forest Service: District Ranger or Forest Supervisor

- BLM: Area Manager, District Manager, or State Director

(Applications for O&G pipeline ROW's crossing both BLM and FS lands will be filed with the State Office, BLM.)

d. The proponent should furnish the following information with his application:

- Applicant identification (see regulations for details)

  state and local government agency

  public corporation

  Federal agency

  private corporation

  partnership

- Technical and financial capability

- Project description, including maps

- Environmental protection plan

- Additional information, as needed

e. The Federal agency will process the application.

- Acknowledge receipt of application in writing.

- Assess qualificatons of applicant.

- Complete Environmental Assessment and/or Environmental Impact Statement, considering public and other agency input.

- Determine compliance with other laws, regulations, and orders.

- Make a decision to approve or deny the application.

- Determine suitable terms and conditions to be included in the authorization.

OIL AND GAS LEASING ACT
Right-of-Way Processing
BLM and FS Lands

BLM Application	Acknowledgement Letter	Temporary Use Permits	Environmental Assessment	Final Plans	Issuance of Right-of-Way Grant	Ancillary Facilities	R.O.W. Administration
Application may be filed at most convenient State Office of BLM. BLM coordinates with FS on processing of application.	——	Project surveys and investigations (soil disturbing).	BLM is normally the lead agency for EA and EIS, as necessary.	Design, maps, and plans	Develop stipulations for grant. Incorporate into grant stipulations as FS requests. 1/	Issue TUP or grant for ancillary facilities (any applications for ancillary facilities on National Forest land will be sent to FS).	Administer according to terms.

FS Application		Temporary Permits	Environmentsl Assessment	Final Plans	Issuance of Right-of-Way Grant	Ancillary Facilities	R.O.W. Administration
Applications filed with FS will be returned to applicant and applicant advised to file application with BLM.	——	Project surveys and investiga- (soil disturbing).	Forest Service provides input on National Forest portion of project.	Design, maps, and plans	Concur in BLM stipulations to extent possible. Request additional stipulations be included as needed. 1/	Issue permits for ancillary facilities outside ROW. Provide copy of permit to BLM for information as necessary.	Inspect and administer grants according to stipulations, except for final action on termination or suspension which will be handled through BLM.

1/ Operating Plan is to be included as part of the grant.

COMPARISON OF RIGHT-OF-WAY PROCESSING - FS/BLM

BLM									
Application	Acknowledgement letter. Authorizes nondisturbing activities.	EA as necessary	Temporary Use Permit. Land disturbing activities such as test pits, surveys etc., to perfect application.	Complete project EA. Determine compliance with laws and regs. Consult w/other agencies. Hold public meetings. Check applicant's qualifications. Make decision to approve or disapprove.	—	Final Design maps and plans	WAPA	Right-of-way grant (specifies lands to be occupied, permitted facilities, terms and conditions of authorization). Ancillary Facilities - temporary use permit	Notice to proceed Operating Plan 1/ (part of [redacted]) Site-specific requirements (fireplan, erosion control, revegetation, tower location, T&E, etc.)
					(WAPA) Issue ROW Grant w/stips that applicant will prepare plans for approval by BLM.	—	—	Final Design - maps and plans (prepared as required by grant). Ancillary Facilities - temporary use permit	Notice to proceed Operating Plan 1/ (part of [redacted], etc.)
FS									
Application	Acknowledgement letter. Authorizes nondisturbing activities.	EA as necessary	Temporary permit. Land disturbing activities such as test pits, surveys, etc. to perfect application.	Complete project EA. Determine compliance with laws and regs. Consult w/other agencies. Hold public meetings. Check applicant's qualifications. Make decision to approve or disapprove.	—	Final Design maps and plans	WAPA	Special use authorization - easement - lease - permit (specifies lands to be occupied, permitted facilities, terms and conditions of authorization). Ancillary Facilities - permit	Operating Plan 1/ (part of permit) Site-specific requirements (fireplan, erosion control, revegetation, tower location, T&E, etc.)

1/ Develop joint BLM/FS Operating Plan as appropriate

ENERGY TRANSPORTATION SYSTEMS CONFERENCE

Right-of-Way Regulations

Reimbursement Costs

by

Wayne Richards

Cost rimbursement was initiated by the Bureau of Land Management for all non-governmental rights-of-way in 1975 under existing authorities, including the Independent Offices Appropriations Act of 1952 (31 U.S.C. 483a). In 1976, section 304 of the Federal Land Policy and Management Act specifically gave the Bureau of Land Management authority to recover "reasonable" costs, including the costs of special studies and environmental reports, for applications relating to the public lands. The Secretary of the Interior determined that costs of special studies and environmental reports legally necessary for application processing were reasonable in Secretarial Order 3011 (42 FR 55280).

Since the issuance of that order, two court decisions have upheld the authority of the Federal Government to recover reasonable costs, including the costs of preparing an environmental impact statement under the National Environmental Policy Act of 1969 (42 U.S.C. 4331 et seq.). In Mississippi Power and Light Co. v. Nuclear Regulatory Commission, 601 F. 2d 223 (5th Cir. 1979), the court held that the Nuclear Regulatory Commission could, under the Independent Offices Appropriation Act, charge an applicant for a nuclear reactor license the full cost of expenses incurred by the Commission in processing the license application, including the cost of an environmental impact statement. Furthermore, the court specifically stated that it was not necessary to segregate the costs of the private and public benefits of an environmental impact statement holding that the Commission may recover the full cost of providing a service (i.e., application processing) to an identifiable recipient (i.e., the applicant), regardless of the incidental public benefits flowing from that service. The court virtually ignored

the contrary holding in Public Services of Colorado v. Andrus, 433 F. Supp. 144 (D. Colo. 1977). It is more appropriate to follow the interpretation given the Independent Offices Appropriation Act by the court of appeals rather than that all the district court and the rulemaking reflects that position.

In Alumet v. Andrus, 607 F. 2d 911 (10th Cir 1979), the court of appeals overturned the ruling of the lower court that section 304 of the Federal Land Policy and Management Act did not authorize the Secretary of the Interior to seek reimbursement from an applicant for any part of the cost of preparing an environmental impact statement. The decision of the district court below was substantially based on the analysis provided in Public Services of Colorado v. Andrus. The reversal of the Alumet district court decision cast further doubt on the holding of the district court in the Public Services case. While the court of appeals in the Alumet case left unanswered the question whether full costs of an environmental impact statement can be recovered, when Alumet is read together with Mississippi Power and Light, one can draw the conclusion that it is within the constitutional and statutory authority of the Secretary of the Interior to impose upon an applicant for a right-of-way the full costs of an environmental impact statement necessary to process the application. The comments on the proposed rulemaking suggest that because the authority of the Secretary of the Interior to seek reimbursement is discretionary, cost reimbursement should be eliminated or that certain organizations, presumably acting in the public interest, should be exempted from cost reimbursement altogether. It is clear that the language of Section 304 of the Act is discretionary. Nevertheless, the Secretary's ability to reduce or eliminate cost reimbursement is severely restricted by the Congress in the exercise of its authority over appropriations.

Monies paid by applicants for processing rights-of-way applications are placed in a revolving account at the Department of the Treasury:

> The monies received for reasonable costs shall be deposited with the Treasury in a special account and are hereby authorized to be appropriated and made available until expended***43 U.S.C. 1743(b) (1976).

On July 26, 1977, Congress implemented this revolving account through the Department of the Interior and Related Agencies Appropriations Act for Fiscal Year 1978, Pub. L. 95-74, 91 Stat 285, by authorizing the expenditure of monies collected under Sections 304(a), 304(b), 305(a), and 504(g) of the Federal Land Policy and Management Act. At the same time, Congress appropriated no other funds for processing right-of-way applications. The Senate in its report on the bill which hbecame Pub. L. 95-74 states:

> "This self-sustaining account, established under authority of the Federal Land Policy and Management Act, permits the Bureau of Land Management to finance required environmental study costs for rights-of-way applications, using fees assessed against the applicants***S.Rep. No. 276, 95th Cong., 1st Sess. 9(1977).

The House in its report stated:

> "This account uses the revenue collected under specified sections of the Federal Land Policy and Management Act of 1976. These include the collection of reasonable administrative and other costs, including environmental impact statement preparation costs in connection with right-of-way applications from the private sector. This includes such programs as the Trans-Alaska pipeline, and other energy casework functions where the costs of projects will be provided in advance by the applicant before the BLM initiates any work on the application. H.R. Rep. No. 392, 95th Cong., 1st Sess. 20-21 (1977).

This revolving account has been continued on the same basis by Congress through fiscal year 1981. Since no money for preparation of environmental impact statements is provided by Congress, all funds for such work must be provided by the applicant.

A related problem arose in Beaver v. Andrus, No. C-76-277 (D. Utah, 1979). There, the district court ruled that the municipalities engaged in the Intermountain Power Project were entitled to the exemption from the cost reimbursement requirements when appearing at 43 CFR 2802.1-2(a)(2)(i) (1976), for instrumentalities of local government where the lands involved will be used for governmental purposes and will continue to serve the general public. This was despite the fact that IPP would be competing with other generators and transporters of electric power. Although that decision is on appeal, it is necessary to close this apparent loophole to cost reimbursement by eliminating the exemption through an amendment to the rulemaking. This is necessary both to insure that there are adequate funds to process rights-of-way applications and to insure that all applicants are treated equitably. The exemption was originally created before the revolving fund in Section 304 of the Federal Land Policy and Management Act was established and is no longer practical. Furthermore, to provide a Federal subsidy because of governmental association where an applicant is acting as any private organization in providing services in the marketplace, was not the original intent of this exemption. In eliminating the exemption, it is noted that, in five years, only one applicant formally applied for it.

When an application is denied or withdrawn, the Bureau of Land Management will have expended manhours and money in connection with that application-money and manhours that it is entitled to recover. As stated above, the only funds available for processing applications are those recovered through this provision. Failure to recover the cost involved with applications that are denied or withdrawn would have an adverse impact on the total program and cannot be permitted.

Reimbursement of Costs 43 CFR (2803.1-1)

(a)(1) An applicant for a right-of-way grant or a temporary use permit shall reimburse the United States for administrative and other costs incurred by the United States in processing the application, including the preparation of reports and statements pursuant to the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347), before the right-of-way grant or temporary use permit shall be issued under the regulations of this title.

(2) The regulations contained in this subpart do not apply to:

Exemptions

State or local governments or agencies or instrumentalities thereof where the public lands shall be used for governmental purposes and such lands and resources shall continue to serve the general public, except (a) as to right-of-way grants or temporary use permits issued to State or local governments or agencies or instrumentalities thereof or a municipal utility or cooperative whose principal source of revenue is derived from charges levied on customers for services rendered that are similar to services rendered by a profit making corporation or business enterprise, or (b) as to right-of-way grants or temporary use permits issued under Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 180);

Road use agreements or reciprocal road agreements; or

Federal agencies.

(3) An applicant shall submit with each application a nonreturnable payment in accordance with the following schedule:

Each right-of-way grant or temporary use permit for crossing public lands (e.g., for powerlines, pipelines, roads and other linear uses).

Length	Payments
Less than 5 miles	$50 per mile or fraction thereof.
5 to 20 miles	$500.
20 miles and over	$500 for each 20 miles of fraction thereof.

Each right-of-way grant or temporary use permit for non-linear uses (e.g., for communication sites, reservoir sites, plant sites, and camp sites) - $250 for each 40 acres or fraction thereof.

(4) When an application is received, the authorized officer shall estimate the costs expected to be incurred by the United States in processing the application. If, in the judgment of the authorized officer, such costs will exceed the payment by an amount which is greater than the cost of maintaining actual cost records for the application review process, the authorized officer shall require the applicant to make periodic payments of the estimated reimbursable costs prior to the incurrence of such costs by the United States. Such payments may be refunded or adjusted as provided by paragraph (a) (8) of this section.

(5) Prior to the issuance of a right-of-way grant or temporary use permit, the applicant shall be required to pay additional amounts to the extent the costs of the United States have exceeded the payments required by paragraphs (a)(3) and (4) of this section.

(6) An applicant whose application is denied shall be responsible for administrative and other costs incurred by the United States in processing its application, and such amounts as have not been paid in accordance with paragraphs (a)(3) and (4) of this section shall be due within 30 days of receipt of notice from the authorized officer of the amount due.

(7) An applicant which withdraws its applicaiton before a decision is reached on said application is responsible for costs incurred by the United States in processing such application up to the dateuupon which the authorized officer receives written notice of the withdrawal, and for costs subsequently incurred by the United States in terminating the application review process. Reimbursement of such costs shall be due within 30 days of receipt of notice from the authorized officer of the amount due.

(8) If payment is required by paragraphs (a)(4) and (b)(3) of this section, exceeds actual costs to the United States, refund may be made by the authorized officer from applicable funds under authority of 43 U.S.C.

1734, or the authorized officer may adjust the next billing to reflect the overpayment previously received. Neither an applicant nor a holder shall set off or otherwise deduct any debt due to or any sum claimed to be owed them by the United States without the prior written approval of the authorized officer.

(9) The authorized officer shall, on request, give an applicant or a prospective applicant an estimate, based on the best available cost information, of the costs which would be incurred by the United States in processing an application. However, reimbursement shall not be limited to the estimate of the authorized officer if actual costs exceed the projected estimate.

(10) When 2 or more applications for right-of-way grants are filed which the authorized officer determines to be in competition with each other, each applicant shall reimburse the United States according to subparagraphs (3) through (7) of this section, except that those costs which are not readily identifiable with one of the applications, such as costs for portions of an environmental impact statement that relate to all of the proposals generally, shall be paid by each of the applicants in equal shares.

(11) When through partnership, joint venture or other business arrangement, more than one person, partnership, corporation, association or other entity apply together for a right-of-way grant or temporary use permit, each such applicant shall be jointly and severally liable for costs under #2803.1-1 of this title.

(12) When 2 or more noncompeting applications for right-of-way grants are received for what, in the judgment of the authorized officer, is one right-of-way system, all the applicants shall be jointly and severally liable for costs under #2803.1-1 of this title for the entire system; subject, however, to the provisions of subparagraph (11) of this paragraph.

(13) The regulations contained in #2803.1-1 of this title are applicable to all applications for right-of-way grants or temporary use permits incident to rights-of-way over the public lands pending on June 1, 1975.

After issuance of a right-of-way grant or temporary use permit for which fees were assessed, the holder thereof shall reimburse the United States for costs incurred by the United States in monitoring the construction, operation, maintenance, and termination of authorized facilities on the right-of-way or permit area, and for protection and rehabilitation of the lands involved.

(2) Each holder of a right-of-way grant or temporary use permit shall submit within 60 days of the issuance thereof a nonreturnable payment in accordance with the following schedule:

(1) Each right-of-way grant or temporary use permit for crossing public lands (e.g., for powerlines, pipelines, roads, and other linear uses).

Length	Payment
Less than 5 miles	$20 per mile or fraction thereof.
5 to 20 miles	$200.
20 miles and over	$200 for each 20 miles or fraction thereof.

Each right-of-way grant or temporary use permit (e.g., for communication sites, reservoir sites, plant sites, and camp sites) - $100 for each 40 acres or fraction thereof.

If a project has the feature of subdivision (i) and (ii) of this subparagraph in combination, the payment shall be the total of the amounts required by subdivision (i) and (ii) of this subparagraph.

(3) When a right-of-way grant or temporary use permit is issued, the authorized officer shall estimate the costs, based on the best available cost information, expected to be incurred by the United States in monitoring holder activity. If such costs exceed the payment required by paragraph (b)(2) of this section by an amount which is greater than the costs of

maintaining actual cost records for the monitoring process, the authorized officer shall require the holder to make periodic payments of the estimated reimbursable costs prior to the incurrence of such costs by the United States. Such payments may be refunded or adjusted as provided by paragraph (a)(8) of this section.

(4) Following termination of a right-of-way grant or temporary use permit, the former holder shall be required to pay additional amounts to the extent the actual costs incurred by the United States have exceeded the payments required by paragraphs (b)(2) and (3) of this section.

ADDRESS TO ENERGY TRANSPORTATION SYSTEMS CONFERENCE - JOAN RUSSELL

Thank you, John - Good morning, ladies and gentlemen.

In keeping with the purpose of this conference, that is the discussion of the Energy Transportation Systems and the expeditious processing of rights-of-way on the public lands, I have been asked to talk to you about one of the Bureau's current efforts in this regard.

With the passage of the 1973 amendment to the Mineral Leasing Act, which is our authority to grant oil and gas pipeline rights-of-way and the Federal Land Policy and Management Act of 1976, the Bureau sought public input into drafting regulations that would provide a working tool to provide better goods and services to the public. Coupled with the "Sagebrush Rebellion" and public criticism received as the result of the regulation drafting process, the Bureau has seriously committed itself to providing better goods and services.

In working with the public in drafting the right-of-way regulations, the Bureau consistently received comments to the effect that while the user groups were content with the end product, that is the terms and conditions contained in the granting document, it took too long to receive the end product. In its committment to provide better goods and services, task forces were formed to find out what was wrong and what could be done to improve our procedures. We talked with the user groups as well as to our own people. In essence, we found that there was a lack of accountability for the work being performed. When you, the user groups, make application to the Bureau for a right-of-way, your applications are filed at the State Office having jurisdiction over the public lands. There, the application is plotted to the public land records, monies are earned and the case if pre-adjudicated. If all is in order, the case is referred to the District having jurisdiction over the lands affected by the application. Once a management decision is made, the case is again returned to the State Office for implementation of that management decision, that is to grant or deny the application. In general, when the user groups call the Bureau to find out the status of their applications, the reply is usually that the case is before another office; and when it is returned, there will of course be prompt action taken. Clearly, there is a lack of accountability for the work being performed.

To rectify this, the Bureau is in the process of decentralizing, that is to place the implementation of the decision making at the field level. In other words, your applications will be filed with the District Office having jurisdiction over the land. You will deal with one office. You will file your application with the proper District Office; you will negotiate the terms and conditions of your right-of-way with that office and that office will grant you your rights-of-way. In so doing, that office will be accountable for the goods and services it performed.

This past year, the Bureau set up a pilot program at our Redding, Roswell, and Carson City District Offices. The purpose of the pilot program was not to find out if decentralization would work, but rather to find out what was needed to make it successful. The Bureau is committed to implementation of the decentralization this year. However, with the new statuatory authorities and new regulations, there will be an extensive training effort made so that you, the user groups, can look forward to consistency in the grants that you will be receiving. There will be

a quality control. My role and that of my staff will be to provide training and quality control over this effort. Inasmuch as our new regulations provide for a good deal of flexibility in the decision making process, the Bureau is preparing manuals and guides to the Districts. When these are developed, you, the user groups, will be afforded an input and review of these guidelines.

In summary, the Bureau is committed to providing better goods and services to the public. We ask for your patience in our implementing this program in the hopes that we may better serve you in carrying out our many responsibilities to the public.

Thank you.

Joan Russell

PAPER

JOHN W. ARLIDGE

CONFERENCE ON ENERGY TRANSPORTATION SYSTEMS

February 4, 1981
Salt Lake City, Utah

Statutes and Regulations
Rights-of-Way Regulations
Section 28 of the Mineral Leasing Act, Title 5
Federal Land Policy and Management Act; Cost Recovery

For the purpose of this paper, I will restrict my discussion to the Federal Land Policy and Management Act. Under that Act, land rights may be acquired by individuals under Title II, Title III and Title V. Regulations have been promulgated under these Titles for management of rights-of-way, leases, permits and easements and land exchanges. For the most part, these regulations follow in kind regulations under previous Acts for land right acquisitions on federal lands. However, the regulations promulgated under the Federal Land Policy and Management Act have in many ways been expanded from the previous regulations. This expansion has hindered and, in many cases, prevented individuals from obtaining the necessary land rights from the federal government and has placed the land users and the federal government in advisory positions. In particular, it has hindered the continuation of commerce and business within the western United States more than any other land regulation previously issued by the federal government.

Much of the problems experienced in the west in land acquisition are due to the provisions of the Act; however, many of the problems are due to regulations which go beyond the Act and the stated intent of Congress during a Congressional Conference review of the Federal Land Policy and Management Act. Probably the most onerous components of the regulations promulgated to date under the Federal Land Policy and Management Act have been the length of term allowed for leases and grants. The Federal Land Policy and Management Act, Title V, states "The Secretary should take into consideration the cost of its facilities, its useful life and any public purposes it serves in determining duration of rights-of-way...". The Congressional Record regarding this matter indicates that Congress fully intended to provide for obtaining the necessary land rights for the full term of need and use insofar as it would be consistent with public purposes.

An example, regulations promulgated to date specify leases shall be issued for a term not to exceed thirty years (43 C.F.R., Section 2920.1). Certainly this does not fulfill the requirements of the Act for facilities such as electric generating plants, coal gasification plants, etc., with useful lives of fifty years and more.

Lease regulations further state that the rental fee and terms and conditions of the lease may be adjusted every five years or earlier to reflect "current fair market value" (40 C.F.R., Section 29.20.7). A lease that is adjusted every five years at the sole discretion of the

federal government is in fact only a five year lease; certainly an onerous provision to an individual planning investments on such lands.

To further complicate this issue, the terms of the lease call for termination and suspension of the lease should the "authorized officer" determine there is noncompliance in the "terms and conditions of land use" (40 C.F.R., Section 2920.8-3). In large projects such as major electric power generating plants serving large sections of the general public an "authorized officer's" determination of non-compliance could result in shutdown of the generating station with a resultant lack of electric power to a community and major catastrophic impact on the general public. Such a situation could result in consequential damages of several million dollars, not to mention the potential impact on public safety.

The length of lease or grant should be consistent with the Act and for the useful life of the proposed use. Review of rental fees and adjustments of the terms and conditions during the lease period should be restricted to gross inequities. However, should the federal government pursue its desire for fee adjustment during the term of the lease, that adjustment should be based on specific adjustment formulas in the original lease document so that actual cost of lease to the leaseholder can be calculated at the outset of the lease period. Similar provisions are found in Federal Regulations regarding rights-of-way (40 C.F.R., Section 2800.0 through 2800.3). Thus, those regulations require similar revision.

Liability provisions of the federal land lease and right-of-way grant are awkward. The individual obtaining either lease or grant of right-of-way from the federal government is placed in a very awkward liability position due to the promulgated land-use regulations. Those regulations require that the leaseholder or holder of a right-of-way must allow physical entry on to the lease or right-of-way by the general public, other leaseholders or federal personnel. At the same time the regulations require that the leaseholder remain obligated for all liabilities to individuals entering onto the lease or right-of-way and at the same time leaseholder must indemnify the federal government.

Right of physical entry by others should not be a general provision to all rights-of-way or leases. The particular purpose of land grant must be taken into consideration as well as the type of facilities to be placed on the land. Certainly the opportunity for physical injury to an individual walking down a transmission line corridor is much less than an individual walking through a 2,000 megawatt powerplant facility. The promulgated regulations ignore such a difference.

The terms and conditions of both lease and right-of-way require the potential land user provide detailed descriptions of facilities for which authorization is sought (40 C.F.R., Section 2920.4). Facility description should be consistent with the stage of planning and the stage of design anticipated prior to receipt and authorization of use of lands. A generating station conceptual design can be provided

prior to authorization of use of lands. However, detailed designs cannot be developed until the lands are available. The Regulations further state that a legal description of the primary and alternative project location is required (40 C.F.R., Section 2920.2). Regulations by the Council on Environmental Quality on the National Environmental Policy Act, require a "scoping process" whereby the general public provides alternatives to the proposed action. The two regulations, when put together, would suggest that the potential land user must provide detailed descriptions for his proposal and all the alternatives proposed by the general public. A request to delay submission of detailed project descriptions until completion of the regulatory review process should be considered reasonable.

The above discussion does not identify all of the problems which the individual user of federal lands encounters under regulations promulgated in the name of the Federal Land Policy and Management Act. However, I believe the discussion does point out the fact that there are major concerns with the recently promulgated land acquisition regulations. To resolve these issues and other issues, it would behoove the federal government and potential holders of federal land rights to work together for the formulation of reasonable and workable land acquisition regulations.

The last subject to be covered in this paper is that of cost recovery (40 C.F.R., Section 2802.1 - 2803.1). Our attorneys consider cost recovery to be invalid and unconstitutional as it invokes a federal

tax formulated by the Administrative Branch of government. Requiring individuals applying for federal land rights to reimburse the land manager for "all cost" for the development of the environmental impact review and for the land right acquisition does not comply with the Federal Land Policy and Management Act, Section 304(d). Specifically, in the Congressional Record on development of the Federal Land Policy and Management Act, the conference committee had a lengthy discussion regarding the subject of cost reimbursment. Senator McClure stated "I assume what we are trying to do in this instance is to balance the equities that are involved, but we do not want to simply in every instance say that government will absorb all of the costs of studies and of the administrative procedures. But, on the other hand, to say that we don't always want the applicant to bear all of the costs. There has to be a reasonable balance between the two". In the Conference Report the House amendments used the adjective "reasonable" to modify charges and costs; the adjective "extraordinary" is imprinted in the Senate bill. Other citations are available to indicate that Congress did not intend that "all costs" would be reimbursed. But did intend that reimbursement would be limited to those costs incurred by the federal agent that are of benefit only to the potential land user. For example, under the Council on Environmental Quality regulations where alternatives are identified by the general public, the requirement for the potential land user to reimburse "all costs" for study of those alternatives introduced by the general public is ludicrous.

We can get into a number of areas of controversy such as the above which will result in individuals suing the federal government. This places the government and the individual in an adversary position. Would it not be better for individuals experienced in federal land acquisition to sit down with the federal land managers and assist in the development of regulations which will provide for "reasonable" reimbursement of costs for processing the proposed actions.

The theme that I have attempted to develop in this paper is that the federal land manager has not been able to fully consider all the ramifications of these land acquisition regulations. The federal land managers can and should join with potential land users to develop regulations for the obtaining of rights on federal lands that both the user and the land manager can accept as fair and equitable. Such a procedure is not a panacea but it's much better than the present adversary position which is time consuming, costly and completely unnecessary.

NORTHWEST PIPELINE CORPORATION

315 EAST 200 SOUTH
P.O. BOX 1526
SALT LAKE CITY, UTAH 84110
801-534-3600

Energy Transportation Systems
Conference, February 1981
Salt Lake City, Utah

Wilson M. Dietrich
Supervisor
Right of Way/Gathering Systems
Northwest Pipeline Corporation

Thus far we've discussed major transmission projects where Rights of Way are acquired on a one-time, all out effort. My responsibility is acquiring Rights of Way for natural gas Gathering Systems. At Northwest we connected over 300 wells last year. This is not an immense number of wells, but it requires acquisition of rights of way for over 1,000 projects a year, involving 2,500 seperate acquisition parcels. These rights are for buried pipelines 4½" to 16" O.D., averaging roughly ¼ to 1 mile in length and located in terrain ranging from sagebrush to heavily timbered mountains.

We are heavily involved on a daily basis with the B.L.M. in New Mexico, Utah, Colorado and Wyoming. I wish our Vice President could have heard Matt Elliotts' talk yesterday, about the B.L.M. granting procedures---he thinks I make up all this stuff. Somebody commented that it sounded like a horror story. I get to hear horror stories like that almost every day. In fact, of the 4 states we operate in, we deal with 7 district offices and 12 area offices. None of these offices operate the same. So, I'm rather fortunate, I can pick and choose the type of horror story I want to hear.

Really, since we do work with the B.L.M. on a daily basis---I can tell you there are some very conscientious people, concerned with doing a good job, want to be of service, but are frustrated by the regulations---Just as we in industry are often frustrated by the regulations. There are also some Bureau people that are uncaring and hide behind regulations to impede industry and abuse their authority.

Of the 4 states we operate in and actively deal with the B.L.M., we receive Rights of Way anywhere from 4 to 6 weeks from Utah and New Mexico, to 5 to 7 months from Wyoming and Colorado. What's so baffling, is that everybody operates from the same regulations.

The reason for the disparity, as I see it, is in the individual interpretation of the regulations and the Environmental Assessment and continious review process.

We have one unique situation between two District offices wherein one District wants buried lines, the other District insists on surface lines only. This makes for some rather interesting construction and operation procedures.

I know of other B.L.M. offices that are still writing 52 page Assessments for ¼ mile buried pipeline projects, located in the middle of established Gathering Systems that already have area Impact Statements and numerous Assessments completed for surrounding existing lines. This overkill Assessment will be reviewed by 9 different people in 6 different offices, by people who will tell you they shouldn't be reviewing this type of project and really don't know why they are required to review and re-review. It's no great surprise it takes 5 to 7 months to grant a Decision.

When we talk about this kind of delay---it discourages exploration and field development. I've seen numerous companies postpone and cancel drilling programs because of these delays. It now costs approximately ½ million dollars to drill a well and with interest rates at 105% of prime, you can begin to understand why operators cannot tolerate for their investment to be tied up in the ground for 5 to 7 months.

When we have to plan this kind of delay into our acquisition programs, we must speculatively design a system, survey and file for Right of Way,

months before a well is ever drilled or drilling programs ever budgeted.

This doesn't resolve the entire problem, as we wind up relinquishing 25% to 50% of what we file on and still don't have rights to every completed well. But, it's better than waiting 5 to 7 months for B.L.M. Right of Way to be approved, and we do guess right 50% of the time.

Presently, when we are faced with this delay situation---we work through the lease operator---get him to Amend his A.P.D. through the U.S.G.S. to include rights to lay the flowline. The U.S.G.S. runs the Amended A.P.D. through B.L.M. for surface disturbance stips, and the whole thing is approved within 4 to 6 weeks. I might add, the B.L.M. stips are identical to those we receive in a full blown B.L.M. decision, requiring 5 to 7 months to process. This is really a shame. We hear about the promising gas reserves in the overthrust belt. This is the way the overthrust belt is being developed, not with the help of our Government, but in spite of it.

Unfortunately, 'lease rights' and 'speculation designing' will not solve every acquisition problem in Gathering Systems. When the flowline crosses lease boundries or we guess wrong, we're back to the 5 to 7 month game.

So in closing, I would like to suggest a system that is working in some areas with a great deal of success. It's what I call the 'one field trip concept.' The B.L.M., U.S.G.S., pipeline company and lease operator make one field trip together---locate the pad, access road and pipeline. The construction stips are issued to the pipeline company by the B.L.M. subject to archaeological clearance. The Archaeological clearance is then completed for all facilities in one neat package. The U.S.G.S. or B.L.M. then write the Assessment and when the operator files his Total Depth notice---B.L.M. issues a grant to the pipeline company from the District Office.

Everybody makes only one field trip and only one Archaeological study is performed for the entire package.

I've simplified this somewhat in the interest of time, but we are doing this to varying degrees with different B.L.M. offices and I would be happy to furnish a flowchart to anyone who would be interested.

Thank You.

IV. STATUTES & REGULATIONS

Page

Certificates of Public Convenience and Necessity

THE RELATIONSHIP BETWEEN CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND FACILITY DESIGN

ROY MACART, SR. CERTIFICATES ENGINEER
NORTHWEST PIPELINE CORPORATION
SALT LAKE CITY, UTAH

Interstate Pipelines operate under the control of the Federal Energy Regulatory Commission, the requirements placed on facilities installed are that they be "used and useful" and provide service at a "just and reasonable rate".

The design of a pipeline system must balance the initial costs to provide the required service with the operating costs that will be required to maintain that service. To increase the capacity of their existing systems, the pipelines will install some combination of additional pipeline or additional compressor horsepower. That balance has come under increasing scrutiny by the Federal Energy Regulatory Commission.

The greatest impact has come in the form of increasing costs for the natural gas the pipelines transport. The implementation of the natural gas policy act, in its present form, will deregulate the wellhead price of natural gas, in phases, to be completed in 1987. During the transition, incentive prices are being applied to gas produced from Tight Sands and wells completed below 15,000 feet.

Past expansions of existing pipeline systems were designed to take advantage of what appears now to be low fuel prices and are generally fuel intensive.

Expansion of existing pipelines today are considering this increase in fuel costs. The western leg of the Alaska Natural Gas Transportation System involves the looping of Pacific Gas Transmission's existing 36-inch pipline with 42-inch pipeline without the need for any new compression horsepower. The policy decision to increase the size of the loop pipeline from 36-inch to 42-inch was based on fuel savings.

Proposed new pipeline systems that are anchored in the overthrust are large diameter lines with a minimum of compressor horsepower required to transport their threshold volumes.

As the existing pipeline systems acquire additional reserves from the overthrust area additional pipeline loops will be required to transport that gas supply in an efficient manner.

In conuclusion, the more fuel efficient pipeline systems of the future will require more pipeline and less compression horsepower than in the past. For existing systems to upgrade their capacity and newer systems to maintain their efficiency in the future will require more pipeline facilities and thus the acquisition of greater amounts of right-of-way than in the past.

MARKET AND SERVICE CONSIDERATIONS IN THE CERTIFICATE PROCESS AT THE FEDERAL ENERGY REGULATORY COMMISSION

Bob Nelson, FERC

As we discussed yesterday a number of major new natural gas pipeline projects have been proposed which are designed to transport natural gas from the Overthrust Belt, in particular, and from the Rocky Mountain Area, in general. */ These pipeline projects will require certificates of public convenience and necessity. I'd like to discuss market and service considerations in the decision-making process for these pipeline projects.

These projects are all structured within a general framework which I would like to briefly describe. Generally, the pipeline will be owned by a new corporate entity and will provide transportation services only for one or more established interstate pipelines. The pipeline will not own the natural gas which is transported nor engage in any sales services. The interstate pipelines whose natural gas is being transported will receive the natural gas into their systems and use the natural gas, along with other sources of supply, to satisfy their market requirements. Typically, the pipeline will be financed on a separate, or stand alone, basis which is conventionally known as "project financing."

---

*/ It goes without saying that the views expressed here are those of the author alone and do not necessarily represent the views of the Commission or any member thereof.

Now a key issue in determining whether a proposed pipeline should be certificated by the Commission is the question of the need for the pipeline. Resolution of this issue affects the basic certificate decision and the related environmental review process, and it is in this area that, I believe, a broader framework for analysis should be utilized.

All too often, the presentation on this issue begins and ends with a simple syllogism. Interstate pipelines are curtailing natural gas requirements in their markets. The natural gas which the interstate pipelines will receive as a result of this project exceeds natural gas requirements which are not being served. Therefore, the pipeline is needed.

Left unsaid in this analysis is the problem that the "requirements" which will be served with natural gas from the proposed pipeline are ones which may have made arrangements to burn fuels other than natural gas and, thus, may have no great desire to be served with natural gas. Moreover, the notion that the new gas supply, which is often significant, will quickly generate a market equal to that supply out of unfilled requirements is itself suspect when one considers that the delivered cost of this supply to the market will likely substantially increase the rates to be charged by the

INTERSTATE PIPELINE. WHEN ONE ALSO CONSIDERS THE RELATED FACT THAT THE SALES MARKET FOR NATURAL GAS IS ALREADY LARGELY DEMAND CONSTRAINED, THE CASE FOR CERTIFICATING NEW PIPELINES BASED ON A SHOWING OF NEED FOR THE GAS WOULD APPEAR TO BE SOMEWHAT QUESTIONABLE.

ON THE OTHER HAND, THE ABOVE DISCUSSION IS ITSELF RATHER NARROW AND NEEDS TO BE SIGNIFICANTLY LEAVENED WITH OTHER CONSIDERATIONS. CERTIFICATING A PIPELINE WHICH OPENS UP A NEW AREA OF NATURAL GAS SUPPLY GIVES THE INTERSTATE PIPELINE RECIPIENT OF THE NATURAL GAS VERY IMPORTANT FLEXIBILITY. THAT INTERSTATE PIPELINE CAN AVOID CURTAILMENT, PROVIDE GREATER SECURITY OF SUPPLY FOR MARKET DEVELOPMENT, AND, PERHAPS MOST IMPORTANTLY, OPERATE ITS SYSTEM TO MINIMIZE PURCHASED GAS COSTS, WHICH WILL INCREASINGLY DWARF TRANSPORTATION COSTS. ELECTRIC UTILITIES AND, MORE RECENTLY, NATURAL GAS DISTRIBUTION COMPANIES HAVE PRECISELY THIS FLEXIBILITY NOW. AS WE APPROACH THE TIME WHEN NATURAL GAS WELLHEAD PRICES WILL BE DEREGULATED, THIS FLEXIBILITY WILL BECOME MORE IMPORTANT FOR INTERSTATE PIPELINES; AND THERE IS NO REASON WHY THIS FLEXIBILITY SHOULD NOT BE AVAILABLE. IN SHORT, IT MAY BE FAR BETTER TO ERR ON THE SIDE OF CERTIFICATING NEW PIPELINES IN AN ENVIRONMENT WHERE DETERMINATIONS CONCERNING THE NEED FOR THE PIPELINE ARE SUBJECT TO SUBSTANTIAL FUTURE UNCERTAINTY.

There is one other aspect of the more or less typical new pipeline proposal that the Commission has been examining in the certificate process recently that I would like to mention. Persons who receive certificates from the Commission do not become common carriers. However, Congress has provided a mechanism in Section 7(a) of the Natural Gas Act whereby the person who receives a certificate may, under certain conditions, be required to connect its facilities to the facilities of a municipality and sell natural gas to that community.

In the situation where the transporting pipeline does not own any of the natural gas which it transports, the ability of municipalities to obtain natural gas service under Section 7(a) of the Natural Gas Act may be limited or non-existent. Because persons who receive certificates from the Commission may exercise eminent domain authority under the Natural Gas Act along the pipeline right-of-way, the potential inability of communities which are near the pipeline to obtain natural gas service from that pipeline appears to be a highly questionable result as a matter of policy. The result is one that may need to be remedied through the exercise of the Commission's conditioning authority.

NOW NOT EVERYTHING IS A MAJOR NEW NATURAL GAS PIPELINE. THERE ARE A LOT OF MORE MUNDANE MATTERS WHICH THE COMMISSION IS REQUIRED TO DEAL WITH IN THE CERTIFICATE PROCESS BECAUSE, TECHNICALLY, ALMOST ALL SERVICES WHICH AN INTERSTATE PIPELINE PROVIDES AND ALMOST ALL FACILITIES WHICH AN INTERSTATE PIPELINE CONSTRUCTS REQUIRE A CERTIFICATE. SO LONG AGO THE COMMISSION HAS HAD TO REFORM ITS DECISION-MAKING PROCESS IN ORDER TO SEPARATE THE WHEAT FROM THE CHAFF. WITHIN THE APPLICATION PROCESS APPLICANTS HAVE THE FLEXIBILITY NOT TO FILE CERTAIN INFORMATION REQUIRED BY OUR REGULATIONS WHERE THE INFORMATION JUST ISN'T APPLICABLE TO THEIR PROPOSAL.

LATELY, THE COMMISSION HAS TAKEN SOME FURTHER STEPS TO ADD FLEXIBILITY. NOT EVERTHING A GOVERNMENT AGENCY DOES REQUIRES AN APPLICATION FILING AND THE COMMAND CONTROL FRAMEWORK AND DELAY THAT THAT SYSTEM MAY ENTAIL. MOREOVER, ONCE YOU DEAL WITH PROJECTS THROUGH APPLICATIONS, YOU'RE LIMITED TO ADDING OR SUBTRACTING PROCEDURAL STEPS TO THE PROCESS. AS AN ALTERNATIVE TO THIS METHOD OF REGULATING, YOU CAN INSTITUTE PROGRAMS WHICH SET UP THE PARAMETERS OR CONDITIONS WITHIN WHICH COMPANIES CAN PROCEED WITH CERTAIN PROJECTS WITHOUT PRIOR GOVERNMENT APPROVAL.

I'D LIKE TO GIVE AN EXAMPLE. PIPELINES HAVE A CONTINUING NEED TO CONSTRUCT FACILITIES IN ORDER TO CONNECT NEW SOURCES OF NATURAL GAS SUPPLY INTO THEIR MAINLINE SYSTEMS AND THEY OFTEN NEED TO DO THIS EXPEDITIOUSLY. NOW THE COMMISSION DETERMINED,

WHERE $30,000,000 OR LESS OF THESE FACILITIES WOULD BE CONSTRUCTED BY A PIPELINE DURING A GIVEN YEAR, THAT THE EFFECT ON RATES WOULD BE MINIMAL; AND, WHERE EACH SINGLE ONSHORE PROJECT WOULD COST $1,500,000 OR LESS, THE EFFECT ON THE ENVIRONMENT WOULD LIKELY BE LIMITED. SO THE COMMISSION DECIDED TO ISSUE BLANKET CERTIFICATES TO INTERSTATE PIPELINE TO CONSTRUCT THESE FACILITIES WITHIN THE $30,000,000 AND $1,500,000 LIMITS. THIS ALLOWS INTERSTATE PIPELINE TO CONSTRUCT THESE FACILITIES WITHOUT PRIOR GOVERNMENT APPROVAL.

NOW WHAT HAVE WE DONE WITH THIS PROGRAM. YOU'VE GIVEN MORE PLANNING AND OPEATIONAL FLEXIBILITY TO THE COMPANY. YOU'VE SPECIFIED THOSE PROJECTS WHERE THE PUBLIC INTEREST IMPACT IS NOT SIGNIFICANT. YOU'VE LEFT TO THE APPLICATION PROCESS THOSE LARGER PROJECTS WHICH REQUIRE AN APPLICATION; AND YOU'VE FREED UP YOUR STAFF AND THE COMPANY'S STAFF TO WORK ON THESE MORE IMPORTANT APPLICATIONS. YOU'VE REDUCED PUBLIC AND PRIVATE REGULATORY EXPENSE. YOU'VE INCREASED THE GAS SUPPLY OF INTERSTATE PIPELINES. WE SIMPLY HAVE TO INJECT MORE FLEXIBILITY INTO THE DECISION-MAKING PROCESS, CONSIDER INNOVATIVE ALTERNATIVES TO THE PRESENT SYSTEM, AND PROVIDE INCENTIVES FOR GOOD OPERATIONS AND MANAGEMENT JUDGMENT. BLANKET CERTIFICATES AND CONDITIONAL EXEMPTIONS ARE WAYS TO DO THIS WITHOUT SACRIFICING THE BENEFITS OF THE REGULATORY PROCESS. IN SHORT, WE HAVE TO RETHINK THE DECISION-MAKING PROCESS IN GOVERNMENT. IT'S GOING TO BE REQUIRED OF US ALL.

THERE ARE MANY OTHER ASPECTS OF THE CERTIFICATE PROCESS, INCLUDING RATE, TARIFF, AND FINANCING TREATMENT, WHICH YOU MAY HAVE QUESTIONS ON. I'D BE HAPPY TO ADDRESS YOUR QUESTIONS IN THESE OR OTHER AREAS. COPIES OF MY PRESENTATION ARE AVAILABLE. THANK YOU.

Obtaining rights-of-way for pipelines across private and public lands is very costly in terms of revenue lost due to the time delays. The company would prefer crossing private lands rather than public lands because of the time differences involved to obtain the rights-of-way. Acquiring rights-of-way through private lands is relatively simple. The land owners main objections are route selection and the price the company offers to obtain the right to cross their land. In most cases the company and the land owners agree on a settlement and the right-of-way is obtained. Some land owners totally object to the offer and refuse to sign the agreement. After several attempts to negotiate an acceptable agreement, the company has no other alternative but to commence condemnation procedures. These procedures are timely and unfortunately we are at the mercy of the courts. At the time of the hearings, the court will grant the company an order of immediate occupancy.

Rights-of-way acquisition through public lands is very time consuming and cumbersome. A prime example is Mountain Fuel Resources proposed pipeline project in southeastern Utah and southwestern Colorado, which is still waiting for a federal right-of-way grant. A route was selected and presented to the Bureau of Land Management (BLM) for approval. After several trips to the area, the route selection was approved, however, this was only the beginning of time consuming procedures.

The BLM determined that an environmental assessment (EA) be prepared for the proposed action. It was the responsibility of Mountain Fuel Resources to prepare the EA; however, it was the responsibility of the BLM to assume full and complete control over the scope, content and determination of the adequacy of the EA. The EA had to comply with all

provisions of the National Environmental Policy Act of 1969 (NEPA) and all subsequent regulations implementing this law. The problems that were encountered during the EA preparation could have been alleviated by eliminating overlapping authority within the BLM organization. At times, one BLM representative approved portions of the EA, only to have another representative request changes or additions.

Once the draft EA was complete, the public had 30 days to review and comment on the proposal. At the termination of the comment period no adverse comments were received. The BLM therefore approved the EA and it became public record.

At that point in time the BLM started preparing the land status report and stipulations that we must agree upon. It was also determined that an operating plan must be prepared for the project before a right-of-way grant is issued. One BLM representative mentioned that this should be completed within a couple of weeks, yet another member didn't want to give us any idea how long it would take. The general consensus is that a system should be worked out to set priorities and keep the approval processing procedure moving. It is also felt that a time table should be established and adhered to if possible.

The biggest problem encountered in dealing with public land management offices is the lack of continuity among and within the agencies. In one particular situation an environmental impact statement was prepared by the FERC but could not be accepted by the BLM because it was not comprehensive enough. The FERC EIS would have to be supplemented with an additional report by the BLM.

RIGHT-OF-WAY ACQUISITION PROBLEMS

1. The federal agencies involved in approval procedures don't have a standard procedure for right-of-way acquisition. Each area, district and state office operate differently in handling the approval.

2. Their seems to be a lack of communication within the federal agencies.

3. It seems like each federal office within the same agency interprets their regulations differently.

4. Lack of committment in setting definite time frames.

5. There is a lack of understanding in regard to natural gas and oil field operations among federal personnel involved in the right-of-way procedures. This creates time delays and in some cases additional trips to the field are required to educate the people involved.

6. At the beginning of a project the federal agency should appoint a team leader to make all decisions. This will create only one channel of communication and thus eliminating confusion.

FEDERAL PROCEDURES:

A. At times, archaeology seems to be the only aspect considered in the location of a pipeline or well location. Many of the sites encountered seem very minor or such a common nature that the cost relocation of the proposed construction might not be in line with what is being preserved. It would be helpful if an archaeologist could recognize some cases as follows -- something happened or existed at a particular site but it was not significant or different than other sites already preserved, so clearance is recommended.

B. At times, our B.L.M. representative has approved a route in terms of surface disturbance versus most economical route, only to have the route changed by another B.L.M. representative from the same office.

C. Many well locations and right-of-ways are held for long periods of time in the district or state offices. A system should be worked out to set priorities and keep the approval processing procedure moving constantly.

D. The production line and laterals could be approved at the same time the Federal agencies look at the proposed well site and access road for approval. These lines could be included in the well processing package (NTL-6). This would speed up the approval process, eliminate an additional on-site and return trip of the Federal people, surveying crew and the archaeologist, minimize additional processing paperwork and streamline the right-of-way process.

E. Many stipulations put too much emphasis on wildlife, nesting, spawning, etc. periods to restrict construction activity. Here is where common sense needs to be utilized for the areas in question.

F. The endangered species act should be revised to protect only those species beneficial to mankind.

G. The wilderness area proposals should be thoroughly justified and approved by special outside interest groups rather than controlled by the Federal Government.

H. The environmental impact statements and assessments should be simplified instead of adding additional red-tape procedures and requirements.

I. Consider improving the processing procedures by streamlining the Federal, state, county and local governing agencies to avoid duplication in acquiring permits, eliminate overlapping authority, and reduce repetitious and costly processing now employed.

J. The Federal agencies involved in Federal processing approval procedure should standardize these procedures in the Rocky Mountain area for rights-of-way, unit and lease agreements, environmental impact statements and well locations. Each state and district office operates somewhat differently in handling these approvals, which creates confusion among those corporations acquiring these approvals.

K. Consider specifying native seed mixtures for the particular area instead of experimenting with exotic seed mixtures that are expensive and hard to locate. An example of this was when B.L.M. required Black Russion Rye Grass to be used on the Clay Basin pipeline. The seed had to be hand picked which cost approximately $50/pound. Native seed mixture would have worked just as well.

RWH/bj

CC: J. Carricaburu
J. Kauchich
D. Flaim

IV. STATUTES & REGULATIONS

Temple A. Reynolds
Utah Department of Natural Resources
Salt Lake City, Utah

I wondered how I happened to be on the program since I came here to learn. As I looked at the assignment, I called Denise, who had been involved with the permitting handbook and said, "Denise, get me a copy of the permitting handbook, I need to read it". I found that the plot line is very thin, but there's an awful lot of good information in it and I would commend it to you if you are undertaking any kind of project in the State of Utah. It details some eight review functions at the Federal, State, and local levels, starting with NEPA compliance. It further details and cross references some 124 permits, notices, licenses, leases, or whatnot that you may be required to interface with. It is interesting, since we've already completed this effort through the State Bar Association, that now we are also involved in an effort with the Four Corners Regional Commission and the U.S. Geological Survey, to produce a parallel document. That group (The Four Corners Regional Commission) working with WESTPO and with seven states is undertaking the production of a "State Environmental and Land Use Requirements" guide book for the States of Alaska, Arizona, California, Colorado, New Mexico, Nevada, and Utah. The prospectus that I have looked at indicates that those guide books could be done and ready for publication in August of this year. The same format would be utilized in each one of those seven state hand books.

Previous speakers have talked about some of our permit requirements, and I don't want to get further into that because it gets very involved. I would like, however, to point out a couple of things that are currently going on in the State of Utah. Denise mentioned siting legislation. We don't have that here yet. There is a bill that has been brought to the State legislature, which is now in session, that would deal with siting. I do not believe it has a number and I am not sure if it is available.

It has been introduced and I believe it is in the office of legal services for review. Another bill that you may be interested in is one that has been introduced and again has not yet been printed and given a number, but it would have as it's main thrust the idea of facilitating an exchange of information, expediting review of proposed energy and industrial facilities that may require a permit to be issued by more than one agency. Those of you who are familiar with the environmental council here in the State, a review agency equivalent to NEPA or EPA, would find that this legislation will cast into law the Executive Order that Governors Rampton and now Matheson had signed creating ECC (Environmental Coordinating Council). The proposed new law will enlarge the responsibilities of the State Planning Coordinator to facilitate this exchange of information and to bring together those agencies who would, of necessity, have to issue permits so that we can expedite the process. I think it's worth pointing out that Governor Matheson's administration is oriented toward expediting the permit process to the degree that we possibly can. Those of you who have worked here before understand that Utah is development oriented and I think that that does not need to be stated further. You also understand that we have a wealth of resources that have now been discovered.

A number of things are going on with regard to the overthrust - we've talked about that. Someone mentioned M-X, the shale oil and tar sands in the Uintah Basin. Eighty-seven percent of our state land area is Federally dominated. Our State lands, if you're looking for State permits, are integrated within that Federal land which makes it very difficult sometimes to work directly with the State. Some of our State Division representatives think that the interspersed land ownership pattern is excellent because our State lands exist for the production of revenue to support our school system. One of them mentioned the other day that, "By gosh, we've got to keep them all because anyplace that anybody does anything brings money to the State's paupers". That's true, on the one hand, it has it's drawbacks on the other because we are captive managers of the Federal agencies in many respects with regard to those lands.

I would like to further mention some of our problem areas. We feel very strongly toward them. One relates to wilderness proposals and their ties with integral vistas. The map that someone was kind enough to leave yesterday, the one on my far right, indicates the national park areas in the State of Utah and the deep blue around these indicates the Class I air standard areas that we have to relate to. When you add on to these the proposed integral vistas that we're beginning to see now in terms of proposed regulation, we are fearful that these designations may have a tendency to totally block much of southern Utah from a lot of desirable developments. And add to this, the wilderness proposals that have already been made as a result of the National Park Service efforts in this regard, and as a result of the BLM study areas.

We are somewhat distressed that the further study of wilderness by the Bureau of Land Management has now been linked directly to their overall planning. We had hoped that the wilderness review could get over with quickly, in the next several years. Now it appears that it may be dragged out much further. I don't think I need to mention to you that the fact that an area is in a potential wilderness study category essentially ties up any kind of development on that land for about as long as it may take to get it through Congress. We, on the other hand, are committed here to undertake our own State wilderness review of BLM and other wilderness areas to begin to develop a position for Congressional consideration at the earliest possible time. We want to sort out proposals and clear unnecessary wilderness proposals with appropriate release language so that we can begin to get on with cogent land use planning in the State and the entertainment of the developments that are so necessary for our nation's energy future.

The last problem that I think I need to point out to you as you move ahead, and as we all move ahead together, is the painfully apparent fact that many remote areas of the State lack the necessary infrastructure to undertake the types of developments that we're talking about. In the Uintah

Basin the shale oil proposals are almost scarey in many respects. Developments like a 3,000 man mancamp that has been proposed for one of the synfuels developments scare the dickens out of us. We need to address these problems in a better fashion and look for ways to solve our infrastructure programs.

INTRODUCTION

David C. Williams, Chief, Office of Special Projects, Bureau of Land Management

Today we are looking at the role of NEPA and the CEQ guidelines in environmental planning and environmental assessment. Necessarily, we will focus on environmental impact statements (EISs) on major projects, many of them the transportation systems which are the subject of this conference.

I want to stress we are not looking at the horror stories of the 1970's -- the SOHIO pipeline and Cheasapeake Bay refinery are often used examples. Rather, we want to stress the last two years and the future.

The pressures for increased energy development - so necessary for national security - will put great pressure on the decision process: Get those permits. The focus will be on meeting the schedule; the decision doesn't matter, only the deadline. For some, the EIS will look like a place to cut the schedule.

It will be up to all of us to demonstrate what has happened to the EIS process in the past 2 years. It's gotten a lot better:

- more focused on the issues (through the scoping process)
- shorter - (because of CEQ limits)
- faster (because of better organization)
- and more certain of timing (because of better management)

Still, the EIS is only part of the decision process; it is not an end itself. We are now fully integrating the EIS and permit into one overall schedule, under the same management. Further, the focus of the EIS is not just to gather information, but to help make good and timely decisions.

I hope today's discussion will help each of us better understand the NEPA process.

THIRD-PARTY EIS CONTRACT APPROACH

By Robert A. McDonald
Senior Program Manager
Environmental Research & Technology, Inc.
Fort Collins, Colorado

Presentation to the

Conference on Energy Transportation Systems
February 3-5, 1981
Salt Lake City, Utah

Co-Sponsored by:

Bureau of Land Management
U.S. Forest System
State of Utah
Northwest Pipeline Company
Utah Power & Light Company
International Right-of-Way Association

GENERAL REMARKS

It is a privilege to be here today to discuss the third-party approach. I have talked with John Stephenson several times over the last 1½ years about the third-party process while we were completing the Kaiparowits Coal and Transportation Study for the Bureau of Land Management (BLM). At the same time, we were completing two of the first Third-Party EIS's one was for the Nevada State BLM office (Anaconda Nevada Moly Project), and the other was for the U.S. Forest Service on the Freeport Gold's Jerritt Canyon Project. Subsequently, we have started preparation on another Third-Party EIS - for the U.S. Forest Service on the Noranda's Blackbird Mine.

When John was organizing this conference, he asked if I would present a paper based on our experience with the third-party process. My short presentation will be devoted to the process and I will discuss individual projects in the question and answer session. I have not prepared a paper but do have a copy of the ERT Newsletter which has an article about third-party process and covers the same major points I will address today.

INTRODUCTION

Assessing the environmental impacts of a large scale development project can be a time-consuming and costly process. Conducting baseline environmental studies and preparing a complete Environmental Impact Statement (EIS) has taken up to 3-4 years.

To expedite the environmental process, more and more companies are taking the "third-party approach" to preparing an EIS. A third-party agreement is reached when the applicant and the responsible federal agency decide to hire an environmental consultant as an objective third-party to perform the necessary environmental studies and to prepare the EIS. This third-party approach is made possible by the new NEPA process.

I am impressed and enthused about the third-party approach. I've worked with both the private sector and government preparing EIS's since NEPA was passed and have either managed or been involved in over 200 EIS's. The third-party approach has many benefits which I will discuss shortly.

WHAT IS A THIRD PARTY EIS?

The driving force behind the third-party EIS approach has to be the new Council on Environmental Quality (CEQ) regulations which became effective July 30, 1979. Section 1506:5C is the authorizing section behind the third-party and states the following: . . . "An EIS prepared pursuant to the requirements of NEPA shall be prepared directly by a contractor selected by the lead agency".

Under a third-party agreement, the applicant pays an environmental consultant to conduct environmental studies and prepare the EIS. However, the consultant is responsible to and works under the direction of the Federal Agency. Federal officials furnish guidance and control to the consultant and independently evaluate the EIS.

Thus, the lead agency maintains full responsibility for the scope and content of the EIS, but the entire process is expedited through the use of the consultant's technical specialists and program management staffs.

HOW DOES THIS PROCESS COMPARE WITH TRADITIONAL PROCESS?

Under the traditional EIS process, the consultant prepares the ER for the applicant. An applicant then submits the ER to the lead agency, which in turn prepares the EIS from the information contained in the ER. Because it eliminates or reduces several of the steps involved, the third-party approach has the potential to substantially reduce the time and cost involved in successfully completing the EIS.

The third-party approach is applicable to many types of projects. It can be used for any project requiring an EIS, including electric generating stations, transmission lines, pipelines, railroads, mining projects and gasification projects. At the present time only the EPA, BLM and FS have adopted this approach (sounds like ICC also adapted this approach). However, several others have indicated an interest in the third-party arrangement.

WHAT ARE THE ADVANTAGES ON THE THIRD-PARTY PROCESS?

There are two major advantages to the third-party EIS process:

1) it can compress the normal EIS process schedule of from 3-4 years to 18-24 months, and

2) it allows the applicant to actively participate in the entire NEPA process.

Hiring an environmental consulting firm to prepare an EIS reduces the burden on the federal agency, which ultimately expedites the process and saves time and money for both the company and the agency.

- Few federal offices have the variety of specialists readily available to commit to the large scale EIS. In addition some agencies are under budget limitations to hire new staff. In other cases concurrent applications for several projects can overload the agency. In either case, the increased and often unscheduled demand on agency resources can therefore result in costly delays in project schedules. An environmental consulting firm, on the other hand, has the personnel with the required multidisciplinary skills available to commit full-time to the project. The result then is a savings in time of from 1 to 2 years.

- The second advantage of the third-party EIS process is that it allows the applicant to actively participate in the entire NEPA process by encouraging attendance at internal EIS project team meetings. Under the conventional two-party process, the company is not involved as much in the process. The third-party process allows for more involvement by the applicant and our experience shows you get a better product.

- Another benefit to all parties is that a third-party consultant is able to respond quickly to changes in project design and to perform special studies as they become necessary by committing additional resources to the project while still maintaining the original EIS preparation schedule. This flexibility in response to project changes helps to minimize or avoid delays.

The third-party EIS process has been used successfully for mining, and electric transmission projects by the Bureau of Land Management, and the Forest Service. The tool most commonly used to affect a third-party agreement is what is called a Memorandum of Understanding.

WHAT IS A MEMORANDUM OF UNDERSTANDING?

A Memorandum of Understanding (MOU) establishes the procedural framework within which the three separate parties can work together to prepare an environmental analysis to satisfy NEPA requirements. When formulating the three-party agreement, it is imperative that the roles of the various parties be strictly defined in order to uphold the procedural intent of the NEPA guidelines. The MOU incorporates the NEPA regulations and specifically establishes the contractor-company relationship for the environmental analysis.

Typically the MOU establishes various basic ground rules for the process:

- Defines financial arrangements for payment of costs by company.
- Encourages formation of a three-party coordination team.
- Encourages joint meetings of all parties at critical milestones of project.
- Establishes the direction and control of entire process by the lead agency.
- Spells out the NEPA elements that will be performed by the consultant.

WHICH AGENCIES MIGHT BE INVOLVED?

In order to trigger the EIS, there must be a "significant federal action" involving the applicant's project. The agency having the regulatory jurisdiction for this significant action will normally be the lead federal agency on the EIS. In many cases there will be other federal and state agencies involved in approving various actions of the project and issuing permits or licenses. Also, at all levels of government there are agencies that do not directly issue permits but that may be involved because of their special knowledge or concern with the project. These are called "cooperating agencies". Some of the more common actions, permits, and approvals that can involve an agency in the NEPA process are:

- BLM - Right-of-Way grant

- BLM and Forest Service - Mining Plan of Operations and Land Exchange
- EPA - NPDES and RCRA permits
- Corps of Engineers - Section 404 permit (dredge and fill, construction in a stream)
- BLM and Forest Service - Land Exchange
- State Siting Council - Construction of a Processing Plant

HOW MUCH TIME DOES THE PROCESS TAKE

Completing a third-party EIS can take from 12 to 24 months depending on several variables, such as:

1) Extent of baseline data
   6-12 months required if no data is available
   3-4 months to assemble and verify baseline data

2) Detailed project engineering must be completed in order to allow impact analysis to proceed. Many EIS's have come to a stop because of insufficient information.

3) Another variable is the complexity and number of alternatives to be analyzed. Evaluation of alternatives is the mandated central focus of the NEPA process.

4) Number and significance of comments on DEIS will also affect the time it takes to prepare the EIS.

HOW AND WHEN SHOULD THE COMPANY INITIATE THE THIRD-PARTY PROCESS?

While conducting the feasibility study for a proposed operation, the company should maintain communication with the affected federal and state agencies. If the feasibility study indicates the viability of the project, then more serious agency discussions can be held. At this point, the agency takes the first step in the NEPA process and determines whether or not an EIS will be required.

In cases where an EIS is required, the company can discuss the pros and cons of a third-party agreement with the agency. Issues such as the availability of agency resource poeple, timing, controversial nature of the project, and attitude of the agency should be explored before a decision is made to take the third-party approach.

As we have heard the last two days, early coordination is very important and should be initiated as soon as possible.

HOW DO I SELECT AN ENVIRONMENTAL CONSULTANT?

A consulting firm's prior experience and exposure to similar projects, references from other industrial firms, and references or comments from the lead agency or other regulatory agencies, are important considerations when selecting an environmental consultant.

In addition to interviewing the consultant, examining the firm's literature, and scrutinizing its qualifications and experience, a company and Federal agency should also look at special considerations, such as regional presence, special skills, unique experience, prior third-party EIS experience, familiarity with regulations and agencies, project management abilities, and preferably previous experience with the agency.

After selecting three or four firms, the company should submit their qualifications to the lead agency along with the company's recommendation. the lead agency will then make the final selection as required by Federal Regulation 40 CFR 1506.5c.

Agency selection procedures vary between agencies, but generally the selection process is such that the agency and applicant jointly review qualifications and the lead agency makes the final selection as required by CEQ 1506.5C.

WHAT ARE THE CHANCES OF SUCCESS

Chances of success of a third-party EIS are great. The advantage is that there is close intereaction between the applicant, the consultant and the lead agency throughout the process. This close interation minimizes risks of problems arising late in the development of the EIS. By uncovering issues, concerns, and potential project constraints early in the process, the applicant is able to modify the project design or evaluate new alternatives without causing significant delays in the project schedule. In any EIS process, there is no assurance that the EIS will not be challenged by the public or another government agency. However, by early and close interaction between the applicant, the environmental consultant and lead agencies, these risks can be significantly reduced.

SUMMARY

Third-Party approach has certain advantages when the Federal Agency does not have sufficient man-power or resources to prepare the EIS. The third-party EIS's prepared to date under this arrangement demonstrate that;

(a) quality EIS's can be prepared, and

(b) the third-party approach expedites the process which represents a savings to both the applicant and Federal agency.

COLORADO'S JOINT REVIEW PROCESS: AN OVERVIEW

PRESENTED BY

ADAM POE
COLORADO JOINT REVIEW PROCESS
PROJECT MANAGER

TO THE

ENERGY TRANSPORTATION SYSTEMS CONFERENCE
SALT LAKE CITY, UTAH
FEBRUARY 3-5, 1981

Thank you. It is certainly a pleasure to be here to share with you a process that we use in Colorado to achieve state, federal and local coordination in the review of major energy and mineral resource development projects. We call it the Colorado Joint Review Process.

The Joint Review Process is a coordinated intergovernmental review procedure which serves as Colorado's response to five major, widely recognized problems with the present regulatory system. You've heard most of these already but I believe their worthy of mention again.

First, the proliferation of laws and regulations over the past ten years has resulted in a complex array of permits, licenses, and other governmental actions. Today in Colorado there are thirteen state agencies administering some 62 regulations that apply to energy or mineral resource development. On the federal level, sixteen agencies are responsible for ensuring that the requirements of over 95 regulations are met.

In addition to the sheer number of regulations, companies and government agencies must recognize that most of these laws and regulations were adopted incrementally with little regard to their interrelationships. As a consequence, regulatory

REQUIREMENTS AND DECISIONS WITHIN AND BETWEEN LEVELS OF GOVERNMENT FREQUENTLY OVERLAP, CONFLICT AND DUPLICATE ONE ANOTHER.

THIRD, DUE TO THE COMPLEXITY OF THE REGULATORY NETWORK, COMPANIES TEND TO SEEK INDIVIDUAL MAJOR PERMIT DECISIONS ONE AT A TIME. THE RESULT IS A TIME CONSUMING PERMITTING SCHEDULE WHICH DOES NOT PROVIDE SUFFICIENT OPPORTUNITIES FOR INTERAGENCY COORDINATION.

FOURTH, DUE TO THE COMPLEXITY OF THE REGULATORY SYSTEM, PROJECT PROPONENTS TEND TO WAIT TOO LONG BEFORE ANNOUNCING PROJECT PROPOSALS. THIS LACK OF EARLY CONTACT WITH GOVERNMENT AND THE PUBLIC INCREASES A PROPONENT'S VULNERABILITY TO "GOVERNMENT BY AMBUSH."

THE FINAL PROBLEM ADDRESSED BY THE JOINT REVIEW PROCESS IS THE LACK OF EARLY PUBLIC PARTICIPATION. TRADITIONALLY, PUBLIC INVOLVEMENT OPPORTUNITIES HAVE BEEN LIMITED TO PUBLIC COMMENT PERIODS, PUBLIC HEARINGS AND FREQUENTLY LITIGATION, ALL OF WHICH OCCUR LATE IN THE DECISIONMAKING PROCESS.

THESE PROBLEMS ARE WIDELY RECOGNIZED AS YOU KNOW AND AS A MATTER OF FACT, THE POLICY STATEMENT IN THE CEQ REGULATIONS DIRECTLY ADDRESSES THEM. UNFORTUNATELY, THOSE REGULATIONS, MOST OF THE OTHER ENVIRONMENTAL REGULATIONS, DO NOT IN MY OPINION

PROVIDE SUFFICIENT GUIDANCE FOR ACHIEVING ADEQUATE COORDINATION.

FURTHERMORE, I'M NOT SURE WHETHER OR NOT TRUE COORDINATION AND COOPERATION AMONG AGENCIES, THE PROPONENT AND THE PUBLIC CAN BE MANDATED. THE INVOLVED PARTIES HAVE TO RECOGNIZE THE BENEFITS OF COORDINATION AND HAVE TO BE WILLING TO VOLUNTARILY WORK AT IT.

BEFORE DESCRIBING HOW THE JRP WORKS, I'D LIKE TO REMIND YOU THAT THE NEPA PROCESS IS BUT ONE PROCESS IN A VERY COMPLICATED AND FREQUENTLY INCOHERENT REGULATORY MAZE THAT PROJECT PROPONENTS MUST NAVIGATE PRIOR TO CONSTRUCTION AND OPERATIONS START-UP. THE JRP WORKS WITH THE ENTIRE MAZE WITH THE NEPA PROCESS BEING A COMPONENT.

THE JOINT REVIEW PROCESS OFFERS INDUSTRY AN ALTERNATIVE TO TRADITIONAL PROJECT REVIEWS BY ESTABLISHING A MANAGEMENT SYSTEM THAT COORDINATES THE REGULATORY REVIEWS OF ALL PARTICIPATING AGENCIES AT ALL LEVELS OF GOVERNMENT. IT IS IMPORTANT TO NOTE THAT THE JOINT REVIEW PROCESS IS VOLUNTARY AND WORKS ENTIRELY WITHIN ESTABLISHED REGULATORY REQUIREMENTS. THIS MANAGEMENT SYSTEM ENCOURAGES CONCURRENT SCHEDULING OF REGULATORY PROCESSES RATHER THAN THE TRADITIONAL SEQUENTIAL PROCESS AND OPPORTUNITIES FOR CONFLICTING AND DUPLICATIVE ACTIVITIES BY DIFFERENT ENTITIES ARE MINIMIZED RESULTING IN TIME AND DOLLAR SAVINGS.

The Joint Review Process is conducted in three stages.

Stage I begins when a company presents the State with a request to participate in the Joint Review Process. Early accompanying this request is a brief description of the proposed project. After reviewing the application, the Governor and his Cabinet decide whether or not the project will be accepted.

Stage II begins after project acceptance. The State first works closely with federal and local agencies to organize the Joint Review Process Team. The JRP Team coordinates all JRP activities. Membership includes one representative from each level of government. Team members are responsible for coordinating the activities of the JRP Team with other agencies at their respective levels of government. Once the JRP Team is formed, the member agencies and the project proponent enter into a Joint Agreement confirming participation in the Joint Review Process. A Statement of Responsibilities is also prepared outlining the responsibilities of every federal, state, and local agency involved in the project review. During Stage II there are also several public information and scoping meetings designed to solicit the public's concerns about the project. If an EIS is required, these meetings can serve as the scoping meeting required in the CEQ guidelines. The final product of Stage II is the Project Decision Schedule. The Decision Schedule

IS CONSTRUCTED BY THE JRP TEAM USING THE PROJECT PROPONENT'S ANTICIPATED DATES FOR SUBMITTING MAJOR PERMIT APPLICATIONS. ONCE THE SCHEDULE IS PREPARED, IMPROVED COORDINATION BETWEEN THE AGENCIES AND THE PROPONENT, DURING THE ACTUAL PERMIT PROCESSES, IS DISCUSSED. SUCH IMPROVEMENTS INCLUDE, BUT ARE NOT LIMITED TO, PRE-APPLICATION MEETINGS, MASTER APPLICATIONS, AND JOINT PUBLIC HEARINGS. STAGE II ACTIVITIES OCCUR SIMULTANEOUSLY WHILE THE COMPANY PREPARES DATA AND ANALYSES REQUIRED BY THE VARIOUS LAND USE AND ENVIRONMENTAL REGULATIONS.

THE IMPLEMENTATION OF THE DECISION SCHEDULE IS THE THIRD AND FINAL STAGE OF THE JOINT REVIEW PROCESS.

THERE ARE CURRENTLY FOUR PROJECTS PARTICIPATING IN THE JOINT REVIEW PROCESS. THE MOUNT EMMONS MOLYBDENUM PROJECT PROPOSED BY AMAX, INC. FIRST ENTERED THE JRP IN JUNE OF 1973. THIS EXTREMELY CONTROVERSIAL PROJECT INVOLVES THE DEVELOPMENT OF THE WORLD'S THIRD LARGEST DEPOSIT OF MOLY NEAR CRESTED BUTTE, COLORADO.

OUR SECOND AND THIRD PROJECTS FORMALLY ENTERED THE JRP IN AUGUST OF LAST YEAR. THE FIRST IS RIO BLANCO OIL SHALE COMPANY'S DEMONSTRATION OF OPEN PIT MINING OF OIL SHALE AND THE USE OF THE LURGI SURFACE OIL SHALE RETORTING PROCESS. THE OTHER IS THE DEVELOPMENT OF THE NATION'S FIRST LARGE SCALE NAHCOLITE MINE BY MULTI MINERAL CORPORATION. NAHCOLITE FOR THOSE OF YOU THAT DON'T

KNOW IS ESSENTIALLY SODIUM BICARBONATE THAT WHEN BURNED WITH COAL OR HIGH SULFUR OIL SIGNIFICANTLY REDUCES THE AMOUNT OF SULFUR DIOXIDE EMISSIONS.

THE FINAL PROJECT IS A COAL-TO-METHANOL PLANT PROPOSED BY W. R. GRACE & CO. THIS PROJECT JUST ENTERED THE JRP AND AS A MATTER OF FACT, WE HELD OUR FIRST INTERAGENCY MEETING MONDAY.

SINCE WE'RE ALL HERE TO DISCUSS TRANSPORTATION SYSTEMS, I SHOULD ADD THAT THE MOUNT EMMONS PROJECT INCLUDES A MAJOR LOOPED TRANSMISSION LINE SYSTEM AND ORE HAUL RAILROAD, THAT TRUCK TRAFFIC IS THE MAJOR ISSUE TO BE DEALT WITH IN THE MULTI MINERAL PROJECT AND THAT THE W. R. GRACE PROJECT WILL EVENTUALLY INCLUDE A METHANOL PIPELINE.

NOW THAT YOU HAVE A GENERAL OVERVIEW OF THE PROCESS, I'D LIKE TO CITE JUST A FEW EXAMPLES OF HOW THE JRP HAS ASSISTED AND POSSIBLY EXPEDITED THE NEPA PROCESS. I'LL USE THE EIS CURRENTLY BEING PREPARED FOR THE AMAX MOUNT EMMONS PROJECT FOR THE PURPOSES OF ILLUSTRATION.

1. THROUGH EARLY PUBLIC AND AGENCY KNOWLEDGE AND INVOLVEMENT IN THE PROJECT, THE SCOPING PROCESS WAS ESSENTIALLY COMPLETED BEFORE IT FORMALLY BEGAN. ISSUES AND CONCERNS HAD ALREADY BEEN IDENTIFIED AT SEVERAL PUBLIC MEETINGS

AND THE TEAM HAD SPONSORED A SURVEY OF GUNNISON COUNTY RESIDENTS ATTITUDES TOWARDS GROWTH AND DEVELOPMENT. THUS, WHEN THE FOREST SERVICE CONDUCTED ITS FORMAL SCOPING, IT WAS ESSENTIALLY A FINE TUNING PROCESS. I SHOULD ALSO ADD THAT THIS FINE TUNING PROCESS HAS CONTINUED AND IT IS MY FIRM BELIEF THAT THE MOUNT EMMONS EIS WILL ADEQUATELY AND COMPLETELY ADDRESS CONCERNS AND ISSUES RAISED ABOUT THE PROJECT.

2. EARLY ON IN THE MOUNT EMMONS JOINT REVIEW, IT BECAME APPARENT THAT THE FOREST SERVICE, THE COUNTY, AND AMAX WOULD NEED SUBSTANTIAL AMOUNTS OF SOCIO-ECONOMIC DATA TO ADEQUATELY ANALYZE THE PROJECT. UNDER NORMAL PROCEDURES EACH OF THESE PARTIES WOULD HAVE HIRED THEIR OWN CONSULTANT TO DO THEIR OWN REPORT AND MORE THAN LIKELY NONE OF THE PARTIES WOULD HAVE CONFIDENCE IN ANYBODY'S REPORT BUT THEIR OWN. AFTER DISCUSSING THIS, THE JRP TEAM (GUNNISON COUNTY, USFS, COLORADO DNR AND AMAX) DECIDED THAT THE ONLY REASONABLE THING TO DO WAS ONE SOCIO-ECONOMIC STUDY. THE TEAM AS A WHOLE SELECTED THE CONSULTING FIRM, THE COUNTY ASSUMED RESPONSIBILITY FOR MANAGING THE CONTRACT AND AMAX PAID THE BILL. SINCE THAT TIME, THE TEAM HAS RECEIVED MONTHLY BRIEFINGS ON THE SOCIO-ECONOMIC ASSESSMENT.

3. Another example of ways that the JRP has enhanced the Forest Service EIS is to give it visibility and credibility. Everyone interested in the project EIS knows exactly where it is in its development and problems that have occurred along the way. At one point the scheduled date of the DEIS release was pushed back four months. However, because the JRP is such an open process, this delay did not come as a surprise. The implications of the delay were immediately known on other regulatory actions and most important of all, there was no name calling or finger pointing. At this time, on an original four year preconstruction schedule, the project is only four months off. Without the on-going coordination, AMAX officials have openly admitted that the schedule would have been completely shot by now.

In closing, I would just like to say that the JRP is a flexible management procedure that works and one whose principles can be applied to a wide variety of planning and regulatory situations.

Energy Transportation System Conference

Paper presented on panel discussion of National Environmental Policy Act of 1969 and Council on Environmental Quality Regulations.

February 4, 1981 - afternoon session

EIS SCOPING - ISSUES AND ALTERNATIVES

By

Thomas F. Slater
Bureau of Land Management - Utah State Office

Introduction

The word "scoping" has become common in recent years as it is applied to the planning and environmental impact statement (EIS) processes. In fact, the word has been used at least 40 times already in this conference. The word may be familiar, but I will take a few minutes to amplify the scoping process. It is not a new concept since scoping merely represents the idea that we must "think together before we act". Scoping responds to the need to give coordinated, early direction to the EIS process. The goals are to obtain early public comments, avoid excessive paperwork, prevent statements from becoming huge encyclopedic reports, reduce the writing time, and provide real utility for decision-making.

Scoping, as a formal EIS requirement, was first set forth in 1978 in the Council on Environmental Quality (CEQ) regulations. Prior to that time there was no formal provision for advance public input to the EIS process and the trend was for bigger and bigger EIS documents which appeared to be more attuned to "weight and volume" than to content. It used to be that unless an EIS weighed about 13 pounds in a stack of paper 10 inches high it was not considered acceptable by some people. If done thoroughly, scoping can help avoid the "weight and volume" approach and can result in an EIS process with improved usefulness.

In a nutshell, scoping is intended to help us identify the big issues and real alternatives in a hurry. Scoping can help foster the coordinated management technique of "no surprises."

Scoping includes three major elements. These are:

(1) Early announcement of proposed actions and opportunity for early response from officials, agencies, and the public;

(2) Early determination of interests and issues, including environmental resources covered by specific laws and local/regional matters of public concern; and

(3) Identification of a wide range of alternatives which are screened to determine a set of "reasonable alternatives" for detailed analysis in the EIS. Each EIS team develops a systematic screening process to fit the proposal which is being evaluated. For example, for the Allen-Warner Valley project, the team developed a detailed screening matrix to evaluate 46 alternatives suggested during scoping procedures.

It is important to note that this scoping process must be carried out in an open, objective manner and that before it can be effective, the applicant's proposed action must be well thought out and clearly defined.

Early Announcement and Public Response

The National Environmental Policy Act is a public disclosure law. Early public feedback on proposals, issues, and alternatives helps fulfill the intent of the law, and this helps the land management agencies to concentrate their efforts on those items of greatest public concern.

One of the first things that the land management agencies do after receiving an application for a major project right-of-way is to contact other involved agencies and announce public scoping meetings. The CEQ regulations call for emphasizing interagency cooperation before each EIS is prepared.

One goal of early public response is to obtain initial comments which can be used to shape the EIS analysis and thereby reduce adversary comments on a completed document. Sometimes this is successful and sometimes not; but the concept of early identification of problems (adversary comments) is worthwhile in the EIS expediting effort.

Early Determination of Issues

The CEQ regulations state that "Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail." The real focus of the scoping effort is to obtain some degree of concensus on the expected content of the EIS before it is written. This means reaching as much agreement as possible on what should be included and also on what should be omitted. It is true that the early scoping of issues may not be one hundred percent effective, due to changes in people and/or events during the EIS preparation period; however, it has been working effectively enough to establish a new trend of relatively small and useful documents. Small documents do not mean that the necessary supporting study of the issues is any less, but the extraneous items and paper production are reduced. The EIS is not the end product for its own sake.

For most proposed projects, the applicants and the land management agencies usually have a good idea of some major issues. We usually share these with the public as a starting point for scoping meeting discussions. We ask the public to comment on, expand, or delete the issues we have listed, as well as add any new issues that are important. Public scoping meetings have

varied degrees of success, depending on the amount of advance project publicity and the potential for controversy. It is important that Federal, State, and local agencies also contribute scoping input at this time. After the meetings, the EIS team will analyze the scoping comments and, based on the nature and number of the comments, make a determination on the level of detail needed for suitable EIS coverage. It should be recognized that the scoping process will not satisfy every individual involved since issues and alternatives incorporated in the EIS will be based on the views of the collective majority of those involved in scoping. For example, if one person at a scoping meeting says that grasshoppers are important but no one else agrees, then the EIS document will not have anything in it on grasshoppers and that person may be disappointed. It would be counter-productive to the goals of scoping to accommodate every individual concern unless it is judged significant by the majority of the scoping participants and/or due to legal requirements.

Identification of Alternatives

The EIS scoping process addresses the identification of alternatives. According to the CEQ regulations, the EIS section on alternatives "is the heart of the environmental impact statement". These regulations provide six specific criteria as follows:

. . . agencies shall:

(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.

(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.

(c) Include reasonable alternatives not within the jurisdiction of the lead agency.

(d) Include the alternative of no action.

(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.

(f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

In the above quotation, several key words stand out. Words such as "reasonable alternatives", "substantial treatment", "comparative merits", and "agency preferred alternative" deserve particular attention as they appear to set the standard for EIS adequacy and usefulness. Please note,

however, that such a standard is not set forth in measurable terms; therefore, sole reliance on judgement interpretation is required. Sometimes this judgement can be based on previous project experiences and sometimes a new or unique approach will be needed to accommodate case-by-case situations.

Often this may be where the real scoping dilemma arises:

(1) Applicants, agencies, and the public may disagree on the nature of a "reasonable alternative".

(2) The idea of "substantial treatment" gives rise to questions on level of detail and baseline data needs, which in turn involve questions of time, money, and utility.

(3) "Comparative merits" infers that each reasonable alternative (including the proposed action) will be treated equally so that a true comparison can be made. This would then imply equal baseline data collection, project design efforts, and analysis through the EIS phase for each alternative. While very appealling in concept, in some cases this may have some real problems in terms of practicality.

(4) Selection of an "agency preferred alternative" is usually complicated by the preceding three problem areas and by two other often unavoidable factors: One factor is concurrent or subsequent activities by others outside the responsibility of the agency preparing the EIS, and the second is data gaps or other uncertainties. As you are aware, every major energy project involves numerous participants or agencies with decisions to make and some consistency among these entities needs to be maintained, if possible. Also, the need to make decisions in the face of unavoidable data gaps or uncertainty is a fact of life. While the EIS itself is not the decision document, the selection of the agency preferred alternative in an EIS can be considered as an initial approximation of the decision to be made. This selection can be strongly influenced by the EIS scoping input.

One thing that really helps the land management agencies cover the treatment of alternatives in an EIS is for the applicant's own pre-application planning process to reflect a good investigation of alternatives. This means a serious look at a wide range of alternatives in an objective and systematic manner, with written documentation.

Four important points should be noted in connection with the identification of alternatives in the scoping process:

(1) A quick brush-off as may have been done in early (pre-1978) EISs will not be acceptable for reasonable alternatives. Formerly, under the old format, alternatives were buried in Chapter 8 of an EIS and the average readers would be very tired of reading through the thick stack

of paper before they reached that point. Consequently, little attention was paid to alternatives. Under the current format, alternatives are interwoven throughout the entire document (from start to finish) and substantial treatment is essential;

(2) Neither applicants nor land management agencies want to spend unneeded time, money, and effort to analyze "paper" or "straw-man" alternatives;

(3) The objective of the alternatives must be to accomplish at least a portion of the necessary end result (project purpose) in a reasonable manner with minimum environmental impact; and

(4) Alternatives identified and analyzed in an EIS are in a sense "good insurance" to help a project meet part or all of the identified needs (i.e., succeed) in the event that problems are encountered with the original proposal.

Conclusion

The EIS scoping process provides us with the opportunity for at least partial fulfillment of Finagles Rule Number One, which reads, "To study a subject best, understand it thoroughly before you start." Thank you.

INTERAGENCY AGREEMENTS

Conference on Energy Transportation Systems--
Salt Lake City, Utah, February 1981

Richard R. Hoffmann-FERC

Considering the sheer magnitude of development which is being projected in the west it is obvious that planning, cooperation and coordination by agencies in the Federal, state, and local agreement are important goals. Interagency agreements are a popular topic and I'm glad to have the opportunity to speak about them. I believe they can be made to work effectively and yet I see some major problems with their current implementation.

Interagency Agreements are a good example of the "ideal" vs. the "real". On the ideal side, we hear the following philosophies which are surely some reasons why such agreements have many proponents from both the industry and various levels of government:

- AVOIDS DUPLICATION--eliminates the preparation of similar NEPA documents by multiple Federal agencies and if coordinated with the state can hopefully satisfy their requirements.

- CUTS TIME--by eliminating sequential analysis by various agencies time is saved.

- STREAMLINES--Reduces paperwork and makes the process easier for a-plicants by dealing with an interagency team.

- EXPEDITES--Provides the overall benefit of reducing the lead time for complete project approval.

On the "real" side we experience:

- PROCEDURAL REQUIREMENTS--General resistance to modify "informal" procedures to fit an interagency team.

- TIMING--General resistance to really expedite work efforts on priorities of another agency.

- AREAS OF EMPHASIS/JURISDICTION--Not recognizing another agencies expertise to determine important vs. unimportant concerns for the EIS.

- CONTROL OF THE WORK EFFORT AND WHO PERFORMS IT--Setting up so many internal checks and oversights that work of other agencies is impaired and essentially duplicated anyway.

- EMOTION AND PERSONALITIES--The failure of communication and losing sight of the goal.

There have been a number of subtle suggestions, and a few not so subtle, in the speeches we've heard at this conference so far that have implied:

- Don't rush me, or

- Don't try to make my decisions.

The resistance which is implied by these undertones lies at the heart of the problem with interagency agreements.

We've heard comments at this conference that industry must lower its resistance to change--be flexible they are told--well that's a two way street in the context of interagency agreements. To be successful at cutting the application review time it takes innovation. Many of the EIS "procedures" followed by agencies, mine included, are not mandated by regulations they're just "the way its always been done" or "the way we want it to be done". If all the agencies entering an interagency agreement stack-up all their "required" non-procedures nothing much is being gained in expedition but its a tremendously successful way of making others suffer with you.

You can't go into an interagency agreement with what I'll call the "Russian Philosophy"--what's mine is mine and what's yours is negotiable.

The success of the agreement depends upon the committment of management to make it work. This includes the individual project managers in the agencies and further up the line of authority. Without the committment of management to do what is needed to stick to the agreement and really cut unnecessary procedures and pettiness, the process is but a sham. There is a responsibility on an applicant too, to monitor progress and play as active a role as possible in the activities of the interagency team. Applicant's have played a role in championing these agreements, so playing referee, within their ability to do so, might be to their advantage.

Solutions, of course, are the hard part of any problem, but I have a few to suggest. They may not be workable in all cases.

1. Line authority--the concept of joint lead agency for an EIS is a problematic one. The buck has to stop somewhere and someone has to make decisions on how things are accomplished. Someone has to be in charge however deciding which agency is the hard part.

2. Heavy reliance on the scoping process--The scoping process is hailed as the way to eliminate areas of unnecessary study and yet after it is completed many agencies insist on detailing all issues at length even after scoping shows low or no concern.

3. Recognition and accountability--the agencies participating should recognize the expertise of the other participating agencies, and rely on that expertise. Hand-in-hand with this, is that the participating agency's staffs should all be strictly accountable for their input.

EIS SCHEDULES
BY
DONALD R. CAIN

I have been asked to address a subject which is of concern to all of us, i.e., schedules for implementing the NEPA process. For the purpose of this discussion, I'll confine my remarks to schedules as they relate to the preparation of environmental impact statements.

First, let me say, we as an agency are concerned about proper scheduling of EISs to minimize delays in the decision making process. We recognize the increased demand being placed on us to expeditiously complete EISs for timely decisions. Obviously that is a challenge and we have had a great variety of success.

The Council on Environmental Quality (CEQ) has also recognized the need to minimize delays as reflected in its November 29, 1978 regulations on implementation of NEPA. Some key points required by those regulations are:

1. Integrating the NEPA process with other planning at the earliest possible time and preparing EISs early in the decision making process.

2. Emphasizing interagency coordination. The concerns of other agencies at all levels can be appropriately addressed in the EIS for decision making.

3. Early resolution of conflicts related to lead agencies. Sometimes agreeing on lead agency responsibilities can take considerable time and negotiation. Therefore, CEQ has established a mechanism for agencies to use in reaching early agreement.

4. Using the scoping process for an early identification of issues.

5. Eliminating duplication with other agencies' procedures by providing for joint EISs and adopting environmental documents prepared by another agency. This is routinely done by carefully identifying authorizing actions of other agencies in an EIS, with follow-up coordination to ensure their concerns and decision making requirements are met.

There are several important considerations when developing schedules:

1. Are there adequate descriptions of the proposed action and alternatives to form the basis for analysis? Inadequate information on such descriptions is a major cause of delay and slippage of schedules. The result is false starts for the agency, as well as inaccurate analyses. Changes in the proposal or alternatives are likewise troublesome. Our ability to adhere to schedules is dependent upon having adequate proposal and alternative descriptions before the EIS preparation begins. Even what may appear to be small changes can cause a considerable delay in tracking

information in the EIS. Information is so interwoven in an EIS that a change in the description of the proposal can cause subsequent changes in the remainder of the document. Numbers and other complex data must track from one chapter to another. Changes can also result in new or additional analysis and coordination with other agencies. This all amounts to time. Quite often considerable time is required, thereby causing slippages of already tight schedules.

I am convinced that early contact between an applicant and the agencies can be an effective means of communicating data needs for descriptions of proposals and alternatives. You are encouraged to initiate such contacts very early in project planning. There is no need to wait until you have filed applications and spent considerable time preparing a proposal. We have sufficient flexibility in our funding procedures to work with you on a limited, but adequate basis before a formal application is filed.

2. What are the issues that need to be addressed in the EIS? Identification of issues is important to determine the type of baseline data needed and the type and complexity of analysis required. These factors play an important role in determining the time required to prepare the EIS. Some issues require rather extensive data collection and analysis (air quality and socio-economics for example), while others may be dealt with through use of existing information and knowledge. A focus of the CEQ regulations is for agencies to pay particular attention to the issues - this helps the scheduling problem by avoiding attention to non-essential items. I would be the first to agree that we have some improvements to make in this regard; however, I think we have made good progress.

   Identification of issues does not have to wait until formal scoping takes place. Our experiences enable us to determine most issues related to energy projects well in advance of scoping meetings. This factor is important in letting an applicant know areas of concern during project planning so appropriate mitigation and/or avoidance measures can be built into project planning. BLM encourages early communications with applicants for an exchange of such information.

3. What is the nature and extent of other agency coordination? The schedule is often extended when other agencies are cooperating, particularly from the standpoint of a joint EIS. While the long-term advantage is elimination of duplication, the actual time to prepare one EIS is often extended because of the need to satisfy policy and procedural requirements of one or more agencies.

4. What is the agencies' capability to accomplish the work because of other commitments? An agencies' programming activities result in

establishment of priorities for funding and allocation of work months. Energy related work is among the highest priorities. In order to properly program for responsiveness to proposed energy development, it is important that we have advance knowledge on industry plans. Therefore, an advance notice of intent to file applications is helpful in anticipating future work. Care should be taken to ensure proposals will be developed as anticipated by industry, so there are no false starts or unrealistic programming by the agency.

What is a typical schedule? I'm not sure there is such a thing - a lot of factors are considered in the development of a schedule. Therefore each has to be handled independently. Let's assume the average schedule is 15 to 18 months. Within this time frame, there are certain requirements that must be accounted for in a schedule which are outside our control.

1. Scoping. Adequate time must be allowed for this process for it to be meaningful. A minimum of 30 days notice prior to a scoping meeting must be allowed, in addition to follow-up time for responses.

2. Printing of the Draft and Final EISs. We are asked by the Government Printing Office to allow a minimum of 30 days each for printing, but are frequently forced to allow for less time - 1 to 2 weeks for each printing. The result is increased printing costs and considerable risk in actually getting the printing done on time.

3. Public Review Periods. We are required to allow a minimum of 60 days for public review of the published draft and 30 days after the published final before a decision can be made.

4. Time must be allowed for internal and other agency review, which varies with the complexity of the issues. Allowed time for other agency review is usually 30 days. This does not account for internal BLM reviews.

So, adding these up comes to seven months or more. That means if an overall schedule is 15 months, slightly less than one-half the time is basically outside our control. The rest of the time is spent on collecting data, doing the analysis, preparing the actual document, etc.

An overall impression, I want to leave with you is that we are sensitive to the need for reasonable schedules and are committed to doing our utmost to meet them. Over the past several years we have made considerable progress in reducing time required. However, we must work together in minimizing the difficulties often encountered. The most important thought I want to leave with you is that an adequate description of the proposal and alternatives is essential - one that will not change after EIS preparation begins. Applicants are encouraged to work closely with the agency early on to jointly determine and agree on information needs - to limit them to what is necessary so volumes

of unused information is not generated. You can also assist us by collecting appropriate baseline data and conducting certain analyses in the planning for a proposal. Again, close communication with an agency is essential in identifying such data needs.

We welcome the opportunity for early and continuous communications necessary to achieve the common goal of avoiding delays.

ALTERNATIVE SELECTION PROCESS
UNDER THE NATIONAL ENVIORNMENTAL
POLICY ACT
PRESENTED AT ENERGY TRANSPORTATION
SYSTEMS CONFERENCE, SALT LAKE ICTY, UT
FEBRUARY 4, 1981

The National Environmental Policy Act (NEPA) and the regulations developed to implement the Act have changed the planning process for all projects, and particularly pipeline projects.

The analysis, review and approval process has made it necessary to document in detail all planning and the factors analyzed in the planning. It has become necessary not only to address the minimum requirements stated in regulations (which may be ambiguous and not specific to pipeline construction techniques) but it is advantageous to develop an understanding of the particualr interest and concerns of regulating agencies. It is also important to encourage the agencies to understand the practical considerations of pipeline construction and operation.

The planning and review process under NEPA has made project planning subject to a higher level of public scrutiny and provided a forum for analysis of the project, including all the alternatives. Alternative analysis, while always a part of environmental review, has become more inportant as a result of the 1979 Council of Environmental Quality (CEQ) Guidelines governing the implementation of NEPA. The guidelines stress an analysis of relevant and real issues, and eliminate much of the unnecessary volume originally associated with environmental reports. They also stress the analysis of reasonable alternatives.

The requirements under NEPA have been further defined under the CEQ Guidelines to provide a comparative analysis of alternatives, to allow a clear basis for choice among the alternatives.

Agencies are required in their analysis, "to rigorously explore and objectively evaluate all reasonable alternatives". For alternatives that are eliminated from further study, the reasons for their elimination must be discussed. The key work is reasonable. An early understanding of the criteria used to establish reasonability must be reached.

Sufficient detailed analysis is required of each alternative, including the project sponsor's proposal, to allow the comparative evaluation.

Other points in the recent CEQ Guidelines include:

- Alternatives not within the jurisdiction of the lead agency must be included.
- The no action alternative must be evaluated.
- The agencies preferred alternatives must be identified if at all possible.
- Mitigation of impacts must be included for each option.

It is important to recognize that economic and technical considerations are to be included in the analysis as relevant factors. Interdisciplinary planning and review is essential. Reasonability must recognize both economic and technical feasibility.

As with most of the environmental regulatory process, the alternative review requirement has been shaped by court review and judicial decision.

To develop a process that will provide an analysis of alternatives, it is important that the project sponsor develop a working relationship with the involved agencies early in the planning. The working relationship should be in place long before the public scoping process called for in the revised CEQ guidelines. The scoping is primarily an agency to public consultation process. Proper planning for most projects would require earlier definition of issues to avoid being blindsided in scoping meetings.

Project sponsors should recognize the need to base project proposals on broader objectives, to allow a reasoned approach to the alternative evaluation. It is important that project sponsors recognize the alternative requirements early in conceptual planning of projects, and begin to document the bases for early decisions.

The preferred proposal submitted by project sponsors is the direct result of the analysis of a number of reasonable alternatives. It didn't arrive, like Venus, full blown from the foam.

Much of the early decision-making is accomplished prior to agency involvement, but often in the early stages of a project the reasons for decisions are not documented. Project sponsors should document the reasons for alternatives to produce a better base for the environmental review process.

If the initial studies of alternatives are done objectively, by professionals, fron an adequate technical base, they can be utilized in the agency review process. The data does not have to be obtained by the agencies, but must be independently reviewed by the agencies, and the conclusions reached must be the agencies own conclusions. If project sponsors document their decisions, project review can be expedited. This approach has legal precedent, based on court decisions.

There is no doubt that the analysis of alternatives will assume more importance in project planning. But with proper planning, data acquisition and documentation, the need to consider alternatives can be addressed, and projects can maintain schedules.

The project sponsor must be included in alternative evaluation, as the expertise and experience provided by the project sponsor cannot be disregarded. It is not reasonable for decisions to be made in closets, or even the information for decision making to be generated in such closets. The process must be conducted with adequate information obtained from all involved sectors.

It is important that linear projects, such as pipelines, be addressed by the corridor concept and system alternatives. Detailed planning will create minor deviations within a corridor. The EIS process is far too early to argue about which side of the road an alignment takes.

The alternative evaluation procedure is not new, it has been used in planning since planning began. What is now required is a refining of the process to include all relevant factors, and the documentation of the analysis of the factors considered.

DECISION PROCESS

Generally the level at which a decision is made ascends the hierarchy at the Department of the Interior based upon the degree of controversy and/or the political sensitivity of the decision to be made by the Department. Most often the decision is made at the local, State or regional level of the appropriate bureau. However, the Assistant Secretary - Land and Water Resources has required notification of each energy project application; in turn that Assistant Secretary determines whether the decision for the energy project will be made at the bureau level or at the Assistant Secretary level.

The Secretary makes those decisions that, by law, require Secretarial approval, for example land exchanges. In addition, the Secretary may make decisions that would normally occur at a lower level in the Department if considerable controversy or political sensitivity is associated with the decision. The Secretary also makes decisions for projects that affect two or more program Assistant Secretaries within the Department.

At Interior, the mechanics of concluding the decision process based upon NEPA begins when the final environmental impact statement (EIS) is being completed. That is the period when the bureau negotiates differences and changes based upon the NEPA process with other agencies and the applicant. If the decision is to be made by the Secretary, a special document entitled a Secretarial Issue Document (SID) is prepared by the permitting bureau. It is sent to all Assistant Secretaries for review and recommendations. This is essentially a voting process for approval with or without added recommendations, for delay of the decision, or for denial. The SID summarizes and highlights the environmental issues of concern, inter-bureau/agency differences, controversies, affects on Federal, State and local policies, economic and political effects of the range of decisions, social issues and the like. It may be a complex document. Once a decision is made by the Secretary and publicly announced, the document becomes the Record of Decision required by the regulations of the Council on Environmental Quality (CEQ) and is available to the public upon request.

If the decision is to be made at a level below the Secretary, a Record of Decision is prepared by the appropriate Assistant Secretary or bureau when the decision is made. The decision is publicly announced and the Record of Decision is available to the public. Its availability may be published in the Federal Register.

The decision process for complex projects almost always requires the preparation of an EIS. These may be single agency, lead agency, or joint-lead agency statements. Almost everyone is familiar with a single agency statement which indicates that only one agency is responsible for the EIS and the key implementing decision(s) about a proposal. A lead agency statement is prepared by one agency when decisions involve two or more agencies. A joint-lead agency statement is similar to a lead agency statement, but indicates that two or more agencies take responsibility for the EIS. Decisions based upon lead and joint-lead agency EISs take greater coordination effort and usually more time to accomplish. In some cases joint decision documents are prepared. In Interior, lead agencies are designated by the Assistant Secretary - Policy, Budget and Administration when bureaus under more than one Assistant Secretary are involved. The Office of Environmental Project Review performs this function and represents the Department on consultations with CEQ or other Federal agencies in the resolution of lead agency determinations.

The CEQ regulations in Section 1506.10 specify that no decision requiring an EIS can be made until 30 days after a draft EIS or 30 days after a final EIS has been publicly announced in the Federal Register by the Environmental Protection Agency. If the final EIS is filed within 90 days after the draft, the two periods can run concurrently.

What will speed the decision process?

LET IT ALL HANG OUT. Contact appropriate national, regional, State and local offices of Federal agencies that might have jurisdiction so that all involvements can be factored into the work plan for the EIS.

Early consultation will:

1. Identify all jurisdictional involvements early.
2. Get a prompt lead agency determination.
3. Make sure that the agencies agree about their relative roles and budgetary responsibilities.
4. Identify information requirements of all involved agencies.

IV. STATUTES AND REGULATIONS

RESOURCE ANALYSIS

This Panel will address some of the resource analysis needs relating to permit issuance and project construction. As you have undoubtedly perceived already, it is a bit difficult to separate some of the information shared by previous panels and this one. We will, therefore, try to zero in on some particular requirements and methods which give many project leaders heartburn.

First, let me set the stage a bit from the perspective of the land managing agency. Such an agency has rather specific statutory authorities and policy direction from its parent governmental entity -- in the case of the National Forest System, from the Congress. We are directed to manage the lands entrusted to us for some identified outputs and services. National Forests have wood, water, recreation, fish and wildlife, range, and wilderness identified by Congress as expected emphases in management. This does not preclude "special land uses" or exploitation of nonrenewable resources, such as transmission rights-of-way and minerals.

My reason for taking this tack is that we will be viewing an application for a r-o-w from a different perspective than will the applicant. Let me illustrate this by merely mentioning a few of the elements we will analyze as we judge an application:

- location
- geomorphic/physiographic factors, especially geologic hazards

---

Presented by R. K. "Mike" Griswold, Director of Planning and Budget, Intermountain Region of the Forest Service, USDA, as introduction to a panel discussion on February 5, 1981.

- soils, relating to productivity, capability, hazards such as erodibility and potential for mass failure
- minerals and energy resources
- visual resources
- cultural resources
- wilderness resources
- water, such as quality, streamflows, floodplains, wetlands, ground-water recharge
- air quality
- noise
- fire hazard and effects on fire in ecosystems
- other land uses, such as prime farmlands, timberlands, rangelands
- infrastructure improvements, such as roads, communications systems, etc.
- vegetation, including diversity, threatened or endangered plants
  - research natural areas and other unique ecosystems
- wildlife habitat, populations, threatened and endangered species, diversity
- fish populations, diversity, T&E species
- recreation
- insects, disease, weeds, exotic species effects
- economic factors
- social factors

The project applicant must realize that data will be needed for the land managing agency to analyze project effects and judge on appropriateness. The applicant that foresees these needs and supplies the data to facilitate the agency analysis will find less time will probably be taken before approval decisions are made. If the land manager has already in existence land and

resource management plans, the applicant will find less resistance and time loss if he heeds the directions and trends in those plans in his initial project design. We in the Forest Service, for instance, have had utilities continue to apply for r-o-w's through canyons where every land management plan has indicated the agency opposes impacting that area with a utility, even though valid alternative routes exist. This is not extremely efficient.

Our panel this morning will address several of the elements I enumerated a moment ago. Some of these elements have quite specific and rigorous requirements for analysis and process -- special hoops through which we must go. Consideration of these needs early in your planning processes will go far toward overall efficiency in gaining the necessary approvals for your projects.

I will introduce each panelist, who will provide you with several minutes' explanation of the element and the requirements. After we have completed the presentations of the entire panel, I will open the process for questions from the audience.

Permit Issuance & Project Construction

The State of Utah as other states in the West require permits for activities which may cause the discharge of materials deleterious to the environment. In the State of Utah, while we have not been delegated the NPDES program, we do have concerns for the effect that energy development will have on the environment. Transport of energy would include all systems that will allow the movement of energy raw materials and products from place to place. These would include systems such as pipelines, truck traffic, transmission lines and rail traffic.

Construction of these facilities will require treatment of waters used, produced or otherwise removed during this activity. The State of Utah statutes & regulations require that a construction permit be obtained from the Bureau of Water Pollution Control prior to commencement of the project. This permit is for construction of wastewater treatment containment or disposal facilities. An NPDES permit must also be obtained when any waters are to be discharged from a point source. The Central Utah Project is a good example of the use of these permits & how they are applied. While water, not "energy" products, is being transported in the C.U.P. the construction phase will be very similar in its permitting needs.

Additional permit through the Department of Health and Corps of

Engineers will be necessary. Dredge and fill permits under Section 404 of Public Law 92-500 will be necessary requireing permits from the Corps of Engineers for all diversions and crossings or streams. Construction in stream or drainage areas will require special consideration from the Cor and the Department of Health. Also nonpoint sources involved with construction will be necessary. Best Management Practices (BMP) for soil erosion on scarred areas or excessive flows in stream beds from dewatering causing rechannelization or erosion in the stream bed itself. This nonpoint source controls will require permitting and thoughful design and proceedural consideration in pipeline construction.

To apply for a construction permit a detailed design of the water treatment and handling systems must be submitted. To assess potential impacts estimates of maximum spill potential and the effect on the area where the transport system potential for powerlines, spill impact on pristine or wilderness areas for pipelines and potential traffic loss of wildlife and human life should be made prior to the final submission All of these questions will need to be addressed by the applicatn. In order to assist in this and provide for a more thorough presentation, the Utah State Division of environmental Health provides the opportunity for a predisign conference, where the applicant can become familiar with permits and approvals.

Additional permits through the Department of Health and the

Corps of Engineers will be necessary. Dredge and fill permits under Section 404 of the federal Clean Water Act will be necessary, including permits from the Corp of Engineers for all diversions crossings of streams. Construction in stream, drainage areas, or wetlands will require special consideration from the Corp and the Department of Health. Nonpoint sources of pollution involved with construction will require 404 permitting as well. Best management Practices (BMP) will be required for soil erosion on scarred areas or controlling excessive flows in stream beds from dewatering which may cause rechannelization or erosion in the stream bed itself. The nonpoint source controls will require permitting and thoughtful design and procedural considerations in pipeline construction.

A "Best Management Practice" document indicating cleanup proceedures to be followed incase of spill or other problem situations should be filed with the State prior to commencement of construction or operation. This plan would include but not be limited to revisions for maximum saftey for chemical storage; preventive maintainance; mitagative measures for woildlife protection; upset prevention; reporting proceedures to be followed; duration of construction; the disturbance caused by material movement and placement during construction including the suspended solids, grease and other expected to be discharged with construction waters and the control measues to be employed.

We believe that the transport of raw materials should be done in

an environmentally sound manner but one which is also efficient and economical. During periods in the past, oil from areas in eastern Utah was largely trucked to the refinery. Upsets and accidents causing spills were frequent. Since installation and use of the pipelines, few incidents of oil spills have occurred with the resulting reduction in enforcement, cleanup, and damage to the environment.

Construction of power transmission lines will also require permits where water use is projected. New rail lines likewise. The proposal of truck fleets traffic will be costly in terms of highway upkeep and the projected spillage of product or crude, raw materials. Operation of mass material transport systems, such as oil pipelines, may require additional NPDES permits but would improve performance in terms of the number of spill incidents and overall quantities spilled. Other methods would largerly be exempt from operating type permits coming directly from the environmental agencies. Safeguards will required to prevent spills from pipelines. Safeguards should be built into the system such as pipeline shutoffs limiting quantities of oil being discharged during a breakage of the line and limited construction activities in the vicinity of the pipeline. In addition, emergency reporting and cleanup procedures and procedures for re-establishing habitat in affected areas will be needed. Also, the new hazardous waste disposal requirements will have to be complied with when disposal and transport of spilled materials is needed.

The State of Utah has an emergency reporting & clean up program already in use which requires immediate reporting of spills and will involve the state and possibly EPA in specifying clean up needs and requirements on a case by case basis.

In summary the mass transport systems appear more desirable in terms of operation but will require more cost & regulation during their construction. Substantially less damage to the environment can be expected with the pipeline type transport system, but where a spill does occur it may be in largely pristene areas rather than along a highway that has already altered and affected the environment prior to the spill. Also the one time quantity may be substantially larger depending on the break loaction. However, if proper safequards are installed in the line (which certainly will increase the cost) including emergency valves for flow cutoff in case of a break and restrictions on excavation or construction near the installed line, severity of spills can be minimized. The expected effect of the operation of the mass transport systems will be less than the other methods. Construction of the line will have some additional unavoidable effects on areas through which the line runs but the construction can be accomplished in ways to minimize this effect if BMPs are used similar to what is being done in the Central Utah Project. Contruction effects also can be considered of short duration.

John Gill
Fish and Wildlife Service
Salt Lake City, Utah

Report Presented At The Conference
On Energy Transportation Systems

Consultation Requirements Of The Endangered Species Act

In delivering this presentation, I will attempt to answer the questions concerning the Endangered Species Act which are of most importance to those of you who plan, construct, and operate energy transportation systems. I will discuss only Section 7 of the Act because this is the part of most concern to individuals who have responsibility to carry out current energy projects. Section 7 requires Federal agencies to consult with the Fish and Wildlife Service before taking actions which may affect threatened or endangered species.

My approach will be to present and answer the questions which I receive most often while helping to carry out the Service's consultation responsibilities. As I work my way through these questions, please bear in mind that the main purpose of the Endangered Species Act is to conserve native imperilled plants and animals and the natural ecosystems upon which they depend. Now I will begin with the first question.

Question: When do I need to request a list of threatened and endangered species (listed species) as well as species proposed for listing?

Answer: A list of proposed and listed species must be requested for "construction projects." The Endangered Species Act makes a distinction between major construction projects and all other projects. A "construction project" as intended by the Act is a project of a construction nature such as a pipeline, highway, or dam and one which is a major Federal action with a significant impact on the quality of the human environment. In other words, a "construction project" is an undertaking for which an environmental impact statement is normally written.

It is unnecessary to request species lists for all other projects. Also, please note that the legal requirement to request a species list is only upon the Federal agency that is proposing the action or program.

It is not necessary for Federal agencies to request species lists for activities which do not fit the definition of construction projects; however, such agencies still must request consultation if they determine any of their other projects may affect listed species. We in the Fish and Wildlife Service will be pleased to advise you whether it is necessary to request species lists or consultation whenever you are uncertain as to the correct procedure to follow.

Question: If the biological opinion concludes that a project is likely to jeopardize the continued existence of a species, does either the Service or the consulting agency have to oppose the project?

Answer: The biological opinion is a written report prepared by the Service as a result of a request by a Federal agency for consultation with the Service. To jeopardize the continued existence of a species means to appreciably reduce the likelihood of survival or recovery (delisting) of a listed species in the wild. If a biological opinion concludes that a project is likely to jeopardize the existence of a species, the Service is required by the Endangered Species Act to develop reasonable and prudent alternatives which will either eliminate the problem or completely compensate for it. These alternatives are developed in concert with the consulting agency and any project sponsor or permit applicant who might be involved.

Alternatives may include constructing a dam at a different site, choosing a new route for a pipeline, changing the season of construction, or taking any of numerous other conservation measures. But my point is that the law and the Service's directives require that those Service employees responsible for consultation find some way if at all possible for worthy projects to be carried out while listed species are conserved. And this statement is especially true for energy projects. There may be cases where no reasonable and prudent alternatives can be found, but these are exceptions and in such cases consulting agencies and project sponsors may apply for an exemption from requirements of the Act which admittedly is a time consuming and expensive process. In the vast majority of the cases, however, conflicts can be worked out through the normal consultation process.

Question: Can the applicant for a Federal permit, license or loan participate in the consultation process?

Answer: Yes. The legal responsiblity for consultation falls upon the Federal agency proposing an action. However, applicants whether public organizations or not are more than welcome to participate. In fact, the Service much prefers that the applicant be closely involved throughout the consultation process. The applicant normally is the best judge of the feasibility and desirability of suggested alternatives to the proposed project. Also, it usually is the applicant who is most affected by changes in the project.

Question: What is critical habitat?

Answer: Critical habitat is an area whether consisting of land, water, or air space that contains the essential living requirements of a listed species. It is an area which is designated by the Secretary of Interior

or the Director of the Fish and Wildlife Service acting as the Secretary's delegate. A formal rulemaking process is necessary for critical habitat to be designated and under present rules it is necessary to designate critical habitat concurrently with the listing of a species as threatened or endangered.

Critical habitat is an area which Federal agencies are to consider carefully in their planning, but one which may support a variety of commercial and land use developments depending upon the particular needs of the listed species involved.

It is probably more important for me to say what critical habitat is not than what it is. Critical habitat is not an inviolate sanctuary. It is not the same as a wildlife refuge or a park. It also is not an area where a wide range of industrial or recreational activities are necessarily prohibited.

Question: The last question seems to be of paramount importance to most consulting agencies. How can we shorten the consultation period or make consultation fit smoothly into our overall environmental review requirements?

Answer: First, an applicant or a consulting agency needs to be fully acquainted with Section 7 of the Endangered Species Act. Secondly, as with most environmental reviews, it is wise to contact the agency responsible (the Service in this case) at the earliest possible time. The sooner the Service biologists become familiar with a project the sooner a biological opinion can be completed. Also, early contact lessens the likelihood that alternatives are foreclosed. Thirdly, you should do a good job of providing information to the Service. If a biological assessment is required, learn what it should include and provide all necessary information. Fourthly, try to integrate your reporting requirements for all environmental laws. In other words, try to meet the requirements of whatever environmental laws apply to the project such as the National Environmental Policy Act and the Fish and Wildlife Coordination Act. Also, possibly of most importance, try to design projects which either avoid or compensate for impacts to listed species to begin with. Of course, this would not only save review time, but also would conserve listed species, and probably save dollars as well. I realize this kind of action is far easier said than done, but it is one of the best ways to help achieve the objectives of the Endangered Species Act. The importance of designing projects to avoid serious wildlife impacts to begin with cannot be overstated.

I have enjoyed speaking to you and would like to answer any questions of your own that you may have. Thank you.

CULTURAL RESOURCE MANAGEMENT, A FEDERAL PERSPECTIVE--ENVIRONMENTAL COMPLIANCE AND STUDIES

Richard E. Fike

Before explaining the studies and compliance aspect of cultural resource management, some brief definitions are necessary. To a non-specialist, the term cultural resource seems like a vague, catch-all term. A cultural resource may be defined as representations of past human behavior, found in districts, sites, structures, objects, artifacts, ruins, works of art, architecture, and natural features that were of importance in human life and adaptation. Cultural resources may pertain to prehistoric, historic, or even recent times, and individually represent a part of the continuum of events from the earliest evidences of human activity to the present day. By studying the original location and the context of cultural materials, and employing archaeological data recovery methods, archaeologists, historians, and architects can reconstruct past lifeways.

Since the close of World War II, the rate of change to the land's surface of the United States has increased tremendously. Highway construction, agricultural and industrial expansion, and urban growth are common examples. In one sense these kinds of activities can be viewed as positive, social, and economic achievements; and from another perspective, they can be seen as destructive forces. Since any land modification may destroy cultural resources found in and on-the-ground, the increase of major land-altering activities has created a genuine crisis for cultural resources in Utah and in the United States. Contributing to the loss too, is the illegal collection of artifacts, vandalism, and looting.

To meet the dangers posed to cultural resources, the American people, through the legislative process, have brought about laws designed to preserve and protect, to the fullest extent possible, archaeological, historical, and other cultural properties. The cultural resource professional's job is to execute the varied provisions of this cultural resource legislation. This is done by first identifying the resource, then determining the impacts, and lastly, developing protection strategies.

With those brief definitions, I can now turn to a more detailed discussion of the compliance process for industrial developers on Federal lands. The National Environmental Policy Act (NEPA) and the National Historic Preservation Act define the Federal government's responsibility for cultural resource protection and outlines compliance steps. NEPA states briefly that "the Federal Government preserve important historic, cultural, and natural aspects of our national heritage" and the Historic Preservation Act compliments NEPA by defining the steps of the process. Under these laws, any Federally proposed, assisted, or licensed undertaking must consider the effects on any cultural resource included on or eligible for inclusion on the National Register of Historic Places.

In a state such as Utah, where cultural resources may number an estimated 200,000 to 400,000, this requirement represents an enormous task. Cultural resource sites are found in almost every region of Utah and in some areas, especially in Southern Utah, site densities can range as high as 150 to 200 sites per square mile.

The identification of cultural resources included on the National Register is a fairly simple task, involving a brief literature search. The task of identifying those eligible for inclusion, however, is extremely difficult. The reasons for this is because an intensive, on-the-ground study is necessary to find all cultural sites and a careful evaluation of those sites is needed to determine which properties are eligible for the National Register. Cultural sites are impossible to see in most cases except by a trained cultural resource professional walking the terrain. The Code of Federal Regulations (36 CFR Part 60) states that any site, structure, or object is considered eligible if associated with important events and people, or possessing unique, artistic, or architectural characteristics, or, and this is important, is likely to yield information important to prehistory or history. Since most sites yield information, they are considered significant and, therefore, eligible.

What this all means is that the Bureau must require that companies locate each cultural resource and determine what the impacts to these values will be prior to earth disturbing activities. For NEPA documents (environmental impact statements and environmental analyses), the project often involves such a large tract of land that it is impractical to cover every acre in the planning stage. Usually we require that known cultural resources be identified by a literature search and then a sample of the unknown or uninventoried areas be conducted. Predictions of the effects to cultural resources can then be made based on this information.

This predictive cultural data is included in the planning documents and contains information necessary to address the potential for significant sites. To meet the Historic Preservation Act requirements, BLM is requested

to demonstrate to the State Historic Preservation Officer (SHPO) and ultimately the President's Advisory Council on Historic Preservation, that every effort will be made to minimize the impact and that salvage of potentially effected sites is a last resort. Avoidance, of course, is encouraged. The NEPA document outlines how the Government will protect cultural resources and includes an agreement with the SHPO postponing full compliance until after the proposed development is approved. This agreement is binding only if the SHPO feels that the resource is being protected and adequately considered. Once the project is approved and ground control established, linear project like staking, etc., then a thorough or intensive inventory is conducted in all areas subject to surface disturbance.

When all potentially effected sites are accounted for and ones of significance established, the SHPO and Advisory Council must review and concur with appropriate measures of mitigation. Hopefully in working with the developer, a re-route and avoidance can be accomplished, if not--a last resort--salvage excavation or collection, must be conducted. The SHPO and Advisory Council must concur.

Cultural resource compliance is complex. The process of achieving this compliance is not as easy as I have outlined it here. Every project and every right-of-way is handled differently. The approach varies according to the regional nature and complexity of the cultural resource sites, their densities, and significance.

In closing, the Government is striving to simplify cultural compliance procedures and seeks everyone's support and cooperation in the management of the public's non-renewable and irreplaceable cultural resources.

The Five County Association of Governments was established in 1973 including the Counties of Beaver, Garfield, Iron, Kane, and Washington and represents the Southwestern Utah Planning District. The main purpose of the Districting and the establishment of the Association of Governments was to facilitate areawide planning and development activities, to provide a strengthened role for county and municipal officials in the execution of state and federal programs at the local level. To provide a forum to identify, discuss, study, and resolve areawide problems of common interest and concern and to encourage any carry out planning and development programs with respect to the physical, economic, and human resources in the district.

With respect to socio-economic planning, there is a saying I use with some sincerity when discussing energy development, socio-economic impact problems and mitigation strategies. "I've got some good news and some bad news. First the good news, energy development is coming, now the bad news, energy development is coming. This paradox raises the issue of weighing the positive aspects of development against the negative aspects of development.

There are revenues and costs to units of local government brought about by proposed energy development projects.

The socio-economic impact problems resulting from boom town growth may be grouped into four broad categories: 1) Institutional 2) social-structural 3) cultural and 4) financial.

Institutional Impacts - Impacts on public institutions in a community tend to be the most visible and pressing. Local governments are compelled to provide additional basic municipal services to a rapidly growing

population. These services include police and fire protection, street construction and maintenance, water supply and distribution, and wastewater disposal and treatment. Because of rapid population growth, local governments are forced to provide an increased level of traditional services as well as services which the community has not been providing but is called upon to provide as a result of the rapid growth and development.

The impact on schools in high growth areas usually brings more costs than benefits. With the large influx of new students, public schools tend to be ill-equipped to handle adequately the increase, resulting in overcrowded classrooms. Social Service institutions are adversely affected by energy resource development. Not only do social service agencies have to increase their level of service delivery, but also the nature of the problems is substantially different from social problems to which small, rural communities are accustomed.

Social-Structural Impacts

The scenario relating to social-structural impacts tends to follow this sequential pattern: (1) the boom brings a significant influx of people into the community; (2) the new people are usually different from the long-time residents in regard to their views, attitudes, values, beliefs, and life style; (3) the newcomers create a demand for new and expanded public services and facilities to carry on their social life; (4) the community's social organizations and institutions are compelled to adapt in order to meet the needs of the larger and more diverse population; and (5) the individual citizen becomes a smaller part of the whole.

Cultural Impacts

Survey research of communities before, during, and after the boom has revealed that boom town communities tend to experience a cultural change.

Since impacted communities become more culturally diverse as new people bring in new ideas and life styles, they tend to become less provincial and isolated.

It is significant to note that energy impacted communities go through cultural changes in four or five years which normally takes decades elsewhere. Many long-time residents realize that changes will come eventually but that does not make change more palatable or easier. The long-timer wakes up one morning in his own bed, but in a different town.

Front-End Financial Impacts

Obtaining funds to defray the front-end costs of providing additional government services and facilities is a very significant constraint. Confounding the existing local government financial structure is the fact that tax revenues generated from industry and incoming residents do not reach their maximum level until five to eight years after development has commenced.

Compounding the tax lag problem is the fact that energy resource projects generally occur in the unincorporated portions of counties. Thus, the counties receive the additional tax base; however, the cities within the county get the social impact since workers desire to live in communities where public services and amenities are available. Consequently, impacted communities have to provide additional public services and facilities, requiring large infusions of capital, but they do not have additional revenues to finance such services.

Recommendation: Planning at the local level and money. Boom towns such as Rock Springs were not a result of poor planning, but an example of no advanced planning. In order for advanced planning and any front-end financing mechanism to operate successfully, the potentially impacted community must receive timely and reasonably accurate and dependable infor-

mation from the energy company relative to the dates on which construction is to be initiated and completed and the size of the construction work force. Such information may be used to develop impact projections so that the affected community can construct additional public facilities before the construction work force arrives. Criteria for minimum service provision should be established. The suggested mechanisms to provide front-end financing to impacted communities include the following:

1. Loan guarantees for the public sector
2. Direct grants to the public sector
3. Increased transfer payments
4. Leveraging state and federal grants and loans
5. Offset grant or loan
6. Short-term loan
7. Prepayment of tax (schools & Road)

To expand upon those front-end financing mechanisms, I would like to expand upon them individually.

(1) Loan Guarantees for the public sector. One of the primary reasons for the financial shortfall in impacted communities is the jurisdiction's bonding limitation. The amount of new debt allowed to a jurisdiction is limited severaly when the jurisdiction's outstanding debt draws close to or exceeds its bonding capacity. One way to overcome this constraint is to provide loan guarantees to the community, thereby enabling the municipality to continue to issue bonds even though the total debt outstanding exceeds the bonding capacity.

Additionally, a loan guarantee program underwritten by the federal government would probably enable an energy impacted community to receive an improved bond rating and, therefore, would lower the cost of borrowing money.

Moreover, private financial institutions would be more willing to make loans to jurisdictions if the federal government were to guarantee such loans. One other fundamental advantage of this approach is that it would not require massive infusions of federal funds to local governments.

(2) Direct grants to public sector. One other viable option to reduce the tax burden on an impacted area is to provide direct grants for constructing new public facilities and providing additional services for the influx of people.

(3) Increased transfer payments. Generally, long-established residents tend to suffer extreme financial hardships during boom-town growth. The reason is that the local tax rate usually increases considerably as a result of increased operating expenses which the community incurs in constructing, operating, and maintaining new public facilities. Ove viable way to remove the increased financial burden is to amend the low-income guidelines pertaining to federal and state housing subsidies and food supplement program so that a lower middle-income family may qualify for assistance.

(4) Leveraging. Leveraging state grants and loans provides the option to enforce economic discipline on the receiver of the funds and stratches limited, available financial resources to meet as many needs as possible. Since all the states investigated in this study have limited funds available for distribution to rapidly growing communities, the concept of leveraging funds seems appropriate.

(5) Offset grant or loan. Since impact assistance is intended to help jurisdictions prepare for rapid growth, it seems appropriate to consider the use of offset grants or loans, whereby cash flow requirements may be ameliorated until additional revenues are generated as a result of development. Under this concept, a grant or loan is pledged on the basis of future

income and the loan or grant is given in a lump sum which is deposited in a trust.

(6) Short-term loan. This approach involves providing short-term financing until the financial capability of the applicant jurisdiction can sustain standard municipal financing. A short-term loan is made to the applicant and refinancing is required after a period of three to five years. The community agress to pay interest based on a figure negotiated with the state. At the end of the negotiated period, the community's loan principal is due. At that time, assuming that the projected growth has occurred, the community then floats its bonds to finance the now completed project. The community has a proved track record and presumably a better interst rate than it could have obtained initially.

Applying any of the foregoing techniques requires an awareness of state officials that the applicants will be likely to persist in requesting funds, a last resort capability for states in mitigating boom-twon problems. By extending development over a larger time span, states would be empowered to face the pressures from industry to concentrate the duration of the construction phase and intensify the labor force.

(7) Prepayment of Tax. Utah State Law provides for procedures when approved by the Utah State Legislature, for industry to prepay taxes at reduced rates for seed and leveraging money. Terms and percentages are approved on a case by case manner.

In summary, the fundamental purpose of the foregoing recommendations is twofold: (1) to enhance federal, state, and local governments' capability for limiting unwarranted individual anxiety, stress, and dissappointment associated with boom towns; and (2) to limit the frustration of project objectives caused primarily by skyrocketing labor costs as a result of excessive labor turnover, in turn, largely due to inadequate public services and facilities in the host community.

IF A PICTURE SAYS A THOUSAND WORDS. . . .

THE VISUAL APPROACH TO ENVIRONMENTAL IMPACT STATEMENTS

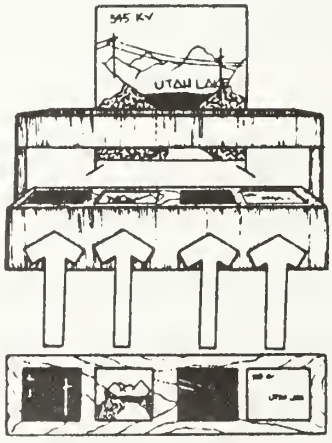
JAY G. ROUNDY, LANDSCAPE ARCHITECT
UTAH POWER & LIGHT COMPANY
1407 WEST NORTH TEMPLE, ROOM 261
SALT LAKE CITY, UTAH 84110

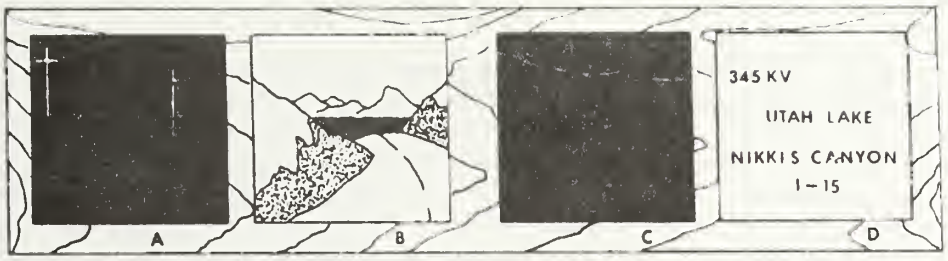
If you are working for one of the utilities that has become concerned about the hundreds of hours and thousands of dollars required to answer public concern over the appearance of utility facilities, a new device called a Visual Simulator should be of interest to you. If you are concerned with the long-lead time required to get governmental approvals, the Visual Simulator should appeal to you. It is a new tool that saves words, time and dollars. Even more importantly, the simulator helps create belief in a utility's concern about aesthetic problems and their ability to do something about these problems.

In recent years, there has been growing governmental concern with appearance of power facilities, especially lines and substations. Engineers and others in utilities have been required to spend large amounts of time preparing extensive documents in support for Environmental Impact Statements (EIS), Environmental Analysis Reports (EAR) and public hearings.

Most of the words on the sometimes 1,000 page-long statements are used to try to describe verbally aesthetic effects that can only be truly understood visually. The Visual Simulator illustrates visual effects with a visual medium.

The Visual Simulator can be simply described as a system of four forward projecting overhead projectors throwing the same or different images, precisely superimposed, onto a single forward or rear projection screen. The basic frame (in one of the center positions) would show the image of a scenic area as it now exists. The second frame could show the location and design of proposed towers. The third frame might show the conductors. The final frame might have labels or a construction road. When all





images are thrown together on the rear or forward projection screen, a realistic representation of what the completed line will look like is shown. Audiences in public hearings can see the composite image; photos or slides can be made from it. These photos and slides can be reproduced and used in EIS's and EAR's.

This simple description does not begin to describe the hundreds of utility uses of a simulator. The simulator is an extremely versatile tool. Color overlays and shadows can be added to change the time of day or season of the year. Overlays can also change the color of painted metal or wood poles. Conductors can be added, aged or made non-specular. Water images can be overlaid to show the inundation by a reservoir. The use of the simulator is only limited by the imagination of the operator. Some suggestions for applications are listed below:

Preparation of material for EIS's and EAR's

Transmission line route selection

Transmission line tower selection

Substation locating

Substation fencing and landscaping plans

Power plant siting

Reservoir locating and inundation

Coloring of substation support steel

Coloring of power plants

Construction road locating

Substation design (low profile and etc.)

Public hearings

Natural gas and oil pipeline routing

Artist's renderings of proposed facilities have generally been mistrusted in the past, primarily because it is so easy to make them show just what you want them to show. The important part of gaining acceptance for the visual simulator is the use of actual images. The images of the towers, for example, are actual photographs with the original background photographically removed and the scale adjusted as needed to fit the new scenic backdrop. Within a short time, a utility will build up a file of the needed images and exchanges between utilities are also possible. This emphasis on using actual photographs lends believability to the simulated composite. (The utility should keep careful documentation showing the source of each image).

The simulator also gains quick acceptance because of its simularity to the fire simulators that have been supplied to and used by many Forest Service and Bureau of Land Management offices. Since 1970 about 100 "Forward Projecting Dynamic Situation Simulators" have been purchased by federal, state and private foresters for fire fighting and fire command training. Although they were originally purchased to train fire control teams, they were later used to teach winter sports administration. The visual simulators being offered to utilities differ from the fire simulator in only one important respect; the smoke and fire simulating equipment has been deleted.

Personnel can be quickly trained in the use of the simulator. The process is not technically difficult. For example, when a utility is planning a line across Forest Service land, there are usually a few key visual areas that the Forest Service is concerned about. The utility would take a number of photos of these areas of concern. Images of poles or towers similar to the line being planned would be pulled from the file and added to the simulation, after photographic rescaling if necessary. If someone suggests that green poles would be nice in this forested area, it is easy to add color to the poles, showing how the result would look in spring, fall or winter. Then conductors can be

added. New conductors can be shown with the sun reflecting from them or silhouetting them. The conductors can then be aged or made non-specular. The small difference in appearance between natural and non-specular conductors after only a few years can be shown. Finally the scarring effect of construction roads can be shown. The regrowth process and the appropriate time scale can also be shown. A similar process would be used for plants and substations.

Substation location doesn't often involve Federal and State officials. However, Municipal officials and citizen groups often involve themselves in these location decisions. The dramatic effect of the simulator in a public meeting should not be minimized. It commands a great deal of attention from a live audience. It has a number of significant benefits:

Professionalism - The utility appears ready, willing, and competent to handle environmental concerns in a professional way. A considerable amount of skill and experience in handling environmental concerns is obvious.

Involvement - Since the audience watches the step-by-step evolving of alternatives they feel a part of the process. They can suggest their own alternatives and watch the results unfolding. Many complaints are handled right in the meeting.

Believability - Mistrust is minimized as the source of the photos is explained and it is obvious that artistic license is not used. The best and worst of alternatives can be explored.

Communications - A complex decision process can be broken into a simple logical sequence that most people can follow. "Heavy" technical data can be omitted and the audience is seldom put to sleep.

The Visual Simulator would probably pay for itself in less than a year through reduced labor costs. Consultants who have used the simulator to prepare documents for public agencies have said that the simulator paid for itself with the labor savings on the first job. As important as the reduction in work volume and labor time is, it is probably secondary to the benefits of an increase in believability.

One electric utility had a problem where state and federal highway personnel wanted a 345 kV line routed around the perimeter of a cloverleaf interchange. Utility officials countered with a proposal to span the legs of the cloverleaf with taller poles, paralleling the main freeway. After officials were shown simulations of the appearance of the two proposals, the utility's proposal won quick acceptance, saving the company and its customers $600,000.

Technical Paper
VSWilliams:lft:Wg1686P:01-28-81

COMPATIBILITY RISK ANALYSIS

Introduction

This paper is intended to be an overview of the problems encountered in placing different types of utilities in a common corridor, a brief assessment of some of the risks involved, and a general discussion of some mitigating measures that may be applied. Utility facilities considered are electric transmission lines, fuel and water pipelines, communication lines, railroads, and highways. High-voltage electric transmission lines typically present the greatest problem for joint corridor usage. For this reason, this paper only addresses the effects of transmission lines on other usages proposed for the "common corridor."

Siting considerations also are an important factor in attempting to evaluate multiple corridors. Topographic conditions have varying effects upon siting the different utilities. Electric transmission lines are least constrained by steep ground and may span over areas which may present problems to other utilities, such as deep canyons, small areas of unstable ground, or wetland. Pipelines and communication lines are less constrained by topography than are highways and railroads which must remain within certain grade limitations. In mountainous country, railroads and highways must often follow a circuitous route, often following river canyons which may not be suitable for electric transmission lines, pipelines, or communication lines.

Technical Paper
VSWilliams:lft:Wg1686P:01-28-81

Electric Transmission Lines/Pipelines

Electrical effects on metallic pipelines near electric transmission lines are due to electrostatic (capacitive) coupling, electromagnetic (inductive) coupling, and ground current (conductive) coupling. Non-metallic pipelines generally present less of a problem and are not considered here.

Electrostatic coupling can be hazardous during construction of a pipeline parallel with an electric transmission line, since high-voltage may occur between the pipe and the ground. Fatalities have occurred during pipeline construction from contacting the pipe before burial. The magnitude of voltage gradient due to electrostatic coupling may be calculated if the necessary transmission line characteristics are known. The electrostatic coupling decreases markedly past the McCauley cutoff distance (D_{co}) measured from the center conductor of the transmission line. This distance may be calculated and for a typical 500-kV flat configuration transmission line it is 35 meters.

Electrostatic coupling can be mitigated by designing and installing periodic independent ground beds connected to long pipe sections and by placing ground mats at points of contact by workers. The independent ground beds should be installed midway between the powerline structures and as far away as practical from the powerline to avoid ground current coupling during line faults or lightning strikes.

The ground mats of portable steel mesh grids should be installed and bonded to the pipe at all worker locations and low impedance grounds should be installed at each end of the pipe to reduce voltage peaks at those locations.

An additional risk during pipeline construction near powerlines is possible contact with the energized conductors by tall construction machinery such as cranes. This risk can be reduced by safe construction procedures and practices, such as keeping tall equipment on the side of the trench away from the power line, lowering lifting booms when crossing under the powerlines, and using safety watchers.

During operation of the pipeline, after it is buried, the electromagnetic effects become the dominant problem. Electromagnetic coupling may be reduced through the design process by minimizing the following: (1) changes in separation between the powerline and pipeline; (2) the use of insulating joints; (3) the combination of long, above-ground and buried sections of pipeline; (4) powerline phase transpositions. Proper phase sequence on double-circuit power lines will also reduce electromagnetic coupling. Several methods of designing and installing ground conductors, grounding beds, and ground electrodes further mitigate electromagnetic coupling. Grounding mats should be considered at metallic points on the pipeline accessible to workmen or the public.

Ground currents due to lightning or phase faults may be conducted by nearby pipelines resulting in hazards to personnel and the pipeline. To mitigate ground current coupling, locate the pipeline and grounding electrodes as far as possible from the transmission towers. Bonding the pipe to a powerline structure is not recommended because of danger to workers during powerline faults.

Risks to the transmission line during pipeline construction are: undermining tower footings, unscheduled outages due to electrical contact or damage to structures, and potential blocking of access during emergency maintenance. These risks can be mitigated through proper design and construction practices.

A leak in the pipeline and a subsequent fire could cause powerline outages and damage to the powerline facilities.

Electric Transmission Lines/Communication Lines

Some of the effects of electric transmission lines on communication lines are: (1) noise or interference imposed upon the voice circuits; (2) shock hazards; and (3) damage to equipment due to ground faults or lightning.

Although the normal frequency of 60 Hz of most transmission lines causes no problems with communication lines, harmonics in the range of 180 to 4000 Hz which are present in the electrical system can cause extensive interference on telephone circuits or railroad communication circuits. These effects can be mitigated by proper filtering of the system, but since the source of the harmonics is usually at the user end, it is difficult to isolate. This type of interference is normally caused by the magnetic and electric fields of the powerline which couple the noise to the communication circuit.

Shock hazards may result from induced currents, ground faults, or lightning. Interference due to harmonics may be mitigated by proper filtering. Shock hazard and damage to equipment may be mitigated by installing carbon block filters, gas-filled protector tubes, grounding relays, isolating transformers, or other protective equipment on the communication circuit. In the case of long parallels at close proximity to a powerline, a shielded cable having a high dielectric strength jacket may be used or the communication system can be placed in a protective duct. In some cases, the communication system may be replaced by a microwave system.

Electric Transmission Lines/Railroads

Conflicts between electric transmission lines and railroads are limited to effects of the transmission line on signal and communication circuits,

assuming that sufficient spacing between facilities is maintained to preclude damage of either facility by an accident on the other (e.g., fallen tower, train derailment, etc.).

Mitigation of effects upon the railroad communication system would be similar to that of communication systems cited above. Standard railroad block signal systems are particularly susceptible to high-ground currents experienced during ground faults on an electric transmission line. When powerlines are sited near railroads, the effects of ground faults on the signal system must be analyzed. In the extreme situation, all railroad communication and signal systems would require interference shielding.

Electric Transmission Lines/Highways

Highways and powerlines should be sufficiently separated to preclude damage to the transmission line from highway accidents and to protect highway traffic from disruption in the rare event of a tower falling on the highway. Such a distance will ordinarily keep electrostatic shocks along the highway within acceptable limits. The remaining impact, other than visual, is AM radio noise to highway travelers. This effect would be noticeable in fringe areas. No practicable mitigating measures are presently available other than switching to FM which is not normally impacted. Visual impacts may be mitigated to some extent by use of non-reflective conductor, painting towers to fit natural surrounding colors, and possible landscaping.

Conclusions

(1) Transmission lines are typically compatible with highways and railroads in relatively-level terrain. Effects on communication and signaling systems can be mitigated.

(2) Transmission lines are least compatible with communication systems and pipelines, but the effects can be mitigated at a cost.

(3) Corridors to accommodate all five utilities could be developed with reasonable mitigation problems in relatively level topography, if the power line is located at one side of the right-of-way, next to the highway. The pipeline, railroad, and communication lines should be located on the opposite side of the highway in that order.

(4) In mountainous terrain, highways and railroads should follow a different corridor because of grade restrictions. Electric transmission lines and pipelines should take the more direct route and mitigation applied as required. Communication lines might follow either of the separate corridors, depending upon the particular conditions.

PRINCIPAL REFERENCES

(1) Mutual Design Considerations for Overhead AC Transmission Lines and Gas Transmission Pipelines. EPRI EL 904, Vol. 1, September 1978, American Gas Association, Electric Power Research Institute.

(2) Technical Capability Factors for Joint-Use of Rights-of-Way, The Aerospace Corporation, February 1, 1975.

(3) The Need for a National System of Transportation and Utility Corridors, U.S. Department of the Interior, July 1, 1975.

(4) Electrical Transmission Task Force, Information--Comments, Conclusions. (Provided for the Bureau of Land Management Study on the Need for a National System of Transportation and Utility Corridors Across Federal Lands.) December 1, 1974.

Page

V. PERMIT ISSUANCE & PROJECT CONSTRUCTION

Right-of-Way Grants, Temporary Use Permits, Notice to Proceed, Stipulations, and Operation Plans

Energy Transportation System Conference

Right-of-Way Granting

Dell Waddoups

It gives me a great deal of pleasure to be here with you today representing the Bureau of Land Management. I say this even when there is such a controversy going on over public lands in the West and BLMers are the "bad guys".

It is my pleasure to present this distinguished panel of gentlemen to you:

Garth Heaton, U.S. Forest Service, Richfield, Utah. He will be discussing Temporary Use Permits.

Bill Toskey, Office of the Federal Inspector, Washington, D.C. He will be discussing The role of the Federal Inspector's Office in the Right-of-Way Granting Process.

John Wilson, Northwest Pipeline Corporation, Salt Lake City, Utah - He will be discussing Right-of-Way Granting - Pan-Alberta Pipeline

Bill Huhtala, Northwest Pipeline Corporation, Salt Lake City, Utah - He will be discussing Operating Plans; more particular, the plan on Pan-Alberta Pipeline.

Bruce Campbell, Los Angeles Department of Water & Power (IPP) - Los Angeles, California. He will be discussing Right-of-Way Grant Stipulations and the Notice to Proceed Process

This whole conference reminds me of the right-of-way granting process.

During the past two days, we have discussed a lot of subjects including the right-of-way regulations, which is the basis of all that we do. We have also waded through that environmental business. Now that we have all these other things finished, let's get down to where we can get something done, out on the ground.

As a member of the Utah State Project Management Staff, I have been allowed to use my initiative in developing faster and better ways of issuing right-of-way grants. From my prospective of the new right-of-way regulations and how they can be used to grant rights-of-way, I feel there is a lot of leeway to do several things to help the granting process. These days, I only work on the major energy projects and I don't feel there will ever be any two right-of-way grants alike on these types of projects. Each grant will be tailored to fit the needs of the applicant, time-frames and the environmental conditions on the ground where the right-of-way will be built. I think I could best describe this process by discussing the right-of-way grants we have issued:

Intermountain Power Project

The Secretary of the Interior made his decision on the project on December 19, 1979. At the request of the applicant, we issued the right-of-way grant for the plant site in February, 1980, and for the two 500 KV lines in April, 1980, with the other power lines and water system by June, 1980.

Construction was not to start until 1982.

All of these grants were general type grants and the transmission lines and water system were issued on a two mile wide corridor with no site specific stipulations. The grant contained:

(1) A notice to proceed provision
(2) The actual alignment had to be worked out between the company and the land management agency (BLM).
(3) With stipulations requiring surveys.
(4) With stipulations requiring studies or inventories to be made (such as cultural resources)

(5) Site specific stips in the Notice to Proceed. BLM intends to issue a limited Notice to Proceed after the transmission alignment within the corridor which will contain the site specific stipulations so that IPP can have them when issuing contracts for construction.

With no operating plan, but handled through stipulations of the grant.

The right-of-way for the plant site was granted as an interim measure until BLM could sell the site to IPP. This sale may take place in March 1981, then the right-of-way will be cancelled.

Moon Lake Project

The applicant wants to start construction when the right-of-way is granted. To do this:

- All the surveys must be done.
- All the site specific stipulations must be on the grant or in an operating plan.
- All the studies and surveys must be finished and approved.
- This type of grant can also be the notice to proceed.

TEMPORARY (SPECIAL) USE PERMITS

Presented by Garth Heaton
Forest Service Liaison Officer
Fishlake National Forest
February 5, 1981

I. INTRODUCTION.

The occupancy and use of National Forest System lands and BLM administered lands and associated resources are authorized under statutory authority granted to the Secretaries of Agriculture and Interior by several Acts of Congress.

These various acts authorize the department and agency having jurisdiction over National Forests and public lands to issue permits, leases, easements, and grants for such occupancy and use.

Permits, leases, easements, and grants are legal documents describing and dealing with land and associated resources occupied and used for the construction, operation, maintenance, and termination of a project or facility upon, under, or through the land in question. These legal documents define boundaries on the land being occupied and describe resources being used for the purpose of defining and describing responsibilities, compensation and protective measures.

Usually, temporary use of additional National Forest System lands or public lands (outside of that area licensed by a permit, grant, lease or easement) is required for construction, operation, maintenance or termination of a project or facility within the licensed area or right-of-way. Most temporary uses must also be authorized by the appropriate land management agency and are done so through temporary use permits.

Temporary Use

Reference made to Forest Service Regulations for FLPMA - basis for presentation on temporary use permits (ATTACHMENT 1).

The temporary use of National Forest System lands falls within Land Use Regulations and specifically Special Uses.

Special Uses

All uses of National Forest System land, improvements and resources, except those provided for in the regulations governing the disposal of timber, mineral materials, and the grazing of livestock are designated "special uses" and must be authorized by an authorized officer.

Permit

A special use authorization which provides permission without conveying an interest in land, to occupy and use National Forest System land or facilities for specified purposes, and which is both revocable and terminable.

II. OBJECTIVES OF TEMPORARY SPECIAL-USE PERMITS.

I will speak to those objectives as they apply to Forest Service policies and procedures. Attachment #2 is the BLM Regulations for FLPMA. Study and comparison of Forest Service (FS) and Bureau of Land Management (BLM) Regulations under the Act show that for the most part, the objectives of temporary special-use permits for the two agencies are, if not similar in content and wording, similar in application to land management responsibilities. Dell Waddoups can, if he so desires reitierate the objectives in regards to BLM policies and procedures and/or make changes and additions where they are applicable.

A brief discussion on the differences between an Operating Plan and associated special-use permits or other legal and binding documents and a temporary special-use permit is warranted at this point of the presentation.

A. Operating Plan.

The objective and purpose of an operating plan is to provide guidance and site specific plans and instructions to assigned compliance and/or liaison officers and to insure that the environmental and other recommendations in an approved EA/EIS are carried out by the grantee or permittee in the construction, operation and maintenance of a project. Site specific plans and instructions for construction, operation and maintenance of a project, for the most part, if not entirely, deal with a specified and approved right-of-way.

B. Temporary Special-Use Permit.

1. Preapplication and Application Activities.*

During the development of a project, including EA/EIS preparation under the NEPA Process, project applicants are required by both company and land management agency direction to gather environmental analysis data. Some or all of the data gathering process could require temporary special-use permits.

As required by 36 CFR 251.54(e)(3 and 5) - (See ATTACHMENT 1) an applicant is requried to furnish a project description and maps in sufficient detail so the Forest Service can determine the lands to be used, feasibility of the proposed project, its impacts on the environment, the safety of the project, public benefits to be derived, and other management requirements. The applicant is also required to develop proposed measures and plans for the rehabilitation of the environment during construction and operation of the project. In addition, he may be requested to provide other information, as needed, by the Forest Service to evaluate the project.

The applicant is expected to meet the application requirments by conducting extensive on-the-ground investigations and surveys which may require temporary special-use permit authorizations. These investigations must take place as part of the NEPA process and in advance of the environmental impact statement.

It is Forest Service procedure to work closely with the applicant to obtain the above described data required for evaluating any project proposal. It is also Forest Service procedure to allow the applicant to make surveys and investigations (within reasonable limits) to obtain certain additional information necessary for company planning, programming, and future design work.

Two key items are involved and are addressed in the CEQ regulations, 40 CFR 1506.1, under "Limitation on Actions under NEPA Process," as follows:

The first item involves the provision that ". . . agencies shall not undertake in the interim any major Federal action. . . which may significantly affect the quality of the human environment unless such action. . . will not prejudice the ultimate decision on the program." The word "interim" in this context refers to work on a proposed project being undertaken while the EA/EIS is in progress.

Applicants have requested and been granted authorization to collect basic survey information. This process generally has not been a problem. However, in some cases, applicants have requested temporary special-use permits for more intensive surveys. Such surveys should not be denied simply because the EA/EIS is not complete.

Each alternative in an EA/EIS is considered on the basis of the same level of survey information. An intensive survey on one alternative will have no bearing on the decision about the alternative selected. However, applicants that may wish to make further studies on one or more alternative should understand that the additional information obtained will not bias the alternative selection procedure under NEPA. The Forest Service makes no commitment to select or approve the alternative being surveyed. The permittee, in accepting the temporary special-use permit, agrees to assume the risk of investment in the survey. This procedure does not prejudice the NEPA process.

-The second item involves activities which "may significantly affect the quality of the human environment." As pointed out in the regulations (40 CFR 1506.1(d)), these instructions do not preclude development by applicants of plans or designs or performance of other work necessary to support an application for Federal permits.

Application of these guidelines requries considerable judgment. Generally, the surveys will involve photogrammetric targeting and some pruning of brush or trees. A reasonable amount of activity should be acceptable as part of the planning and application process to serve the needs of the Forest Service and the special needs of the applicant, such as, sample core drilling, temporary access and some drill site preparation for hydroelectric project investigations.

Temporary use authorizations require individual environmental analysis and generally involve provisions for restoration where soil distrubance is involved. Brush and tree pruning, or even limited single tree removal, have to be considered from the standpoint of acceptable minimal impacts in relation to project planning needs. Project construction, of course, will not be allowed which would prejudice the ultimate decision on the project.

In situations where surveys cannot be coordinated and approved by individual Forests under present operating procedures, then it may be necessary to have a lead Forest facilitate such coordination, prepare the temporary special use permit covering the permiited surveying, and furnish it to the Regional Office for approval.

2. Construction, Operation and Maintenance Activities.

Construction, operation and maintenance activities on National Forest System lands outside of rights-of-way addressed and approved by and through the NEPA process are usually approved through the use of temporary special-use permits. The objective and purpose of such permits are to protect the natural environment and provide public safety during the period such activities are occuring.

Permit regulations recognize that certain activities are required outside of an applied for and an approved right-of-way to carry out the construction activities and possibly some operational and maintenance activities associated with a project. It is also recognized that these activities are, for the most part, short-term in nature, and upon termination the occupied land and associated resources are again available for existing and future proposed multiple-use activities. Coordination of land use activities, protection of the natural environment, compensation to the public for use of public owned resources, and safety measures are achieved through the temporary special use permit procedure.

* USDA-Forest Service, R-4 memo to Forest Supervisors (dated November 4, 1980) Subject: Surveying and Clearing Activities for Special-Use Rights-of-Way

Examples of activities or uses requiring temporary special use permits--

- temporary access roads serving as service roads during construction,

-land areas needed to accomodate construction methods for placement of permanent facilities within a specified and approved permanent right-of-way,

-work and storage yards,

-housing of company/construction personnel and workers.

III. BASIS FOR TEMPORARY SPECIAL-USE PERMITS.

A. Environmental Assessments.

Almost without exception, an EIS only sets forth broad general recommendations to be used as a basis for minimizing, mitigating, or avoiding irreversible environmental impacts. The applicant may, where he submits an environmental report, add some details of measures he plans to take to mitigate environmental impacts.

Therefore, to adequately assess and determine site specific impacts an environmental assessment has been used. This document is generally developed or closely reviewed by an ID Team to assure that site specific environmental impacts are recognized. To do this requires a near final design of the project. Mutual company and agency cooperation in the final location, alignment, and construction of the project is needed to adequately protect the resources for which the lands are being administered.

Prepared and approved environmental assessments not only serve as the basis for issuance of temporary special-use permits after the EIS process and previous to project implementation (construction, operation, and maintenance activities), they also serve as the basis for issuance of temporary special-use permits for preapplication and application activities. Those preparing the permits, for activities under the project implementation phase, have EIS documents, design and construction plans, etc. to aid them in permit preparation. For preapplication and application needs, the authorized officer also needs adequate information. The applicant can expedite permit issuance by providing all pertinent information needed for adequate evaluation and assessment purposes i.e., land involved, access needs, type and duration of surface disturbing activities, maps, restriction proposals.

B. Legal Basis

The legal basis for temporary special-use permits is found in FLPMA Regulations. In Section 251.53 the laws for all special uses are listed. Some of the key acts are:

1. Act of June 4, 1897, governing occupancy and use

2. Antiquities Act of June 8, 1906 (soil disturbing activities)

3. Act of March 4, 1915 for Term Permits.

4. Mineral Leasing Act of 1920. (Sec. 28) Easements for all oil and gas pipelines where only National Forest lands are involved. Permits for temporary use of additional lands needed.

5. Granger-Thye Act of April 24, 1950, involving the use of Forest Service structures and improvements

6. Wilderness Act of September 4, 1964, for access to valid mining claims or surrounded private or state lands or for other valid occupancy in Wilderness.

7. Act of October 13, 1964, for USDA right-of-way easements to states and counties, etc.

8. FLPMA of 1976

   a. Reservoir, canals, ditches, pipelines,etc.
   b. Electric power.
   c. Radio, TV, Telephone, electronic
   d. Roads, trails, tramways.

IV. TEMPORARY SPECIAL-USE PERMIT PROCEDURES AND FORMAT.

Authority to issue permits of a termporary nature (permits that will terminate in one year or less) is delegated to Forest Supervisors by the Regional Forester.

Applications for permits may be made orally, by letter, or by prescribed form. Prescribed forms are preferred for applications.

ATTACHMENTS 3 and 4 illustrate the step in rights-of-way processing where temporary special use permits are prepared and issued. (BLM and FS processing steps are compared in ATTACHMENTS)

Each use application is carefully considered and approved only when in keeping with law, regulations, and public interest, incuding the provisions of the National Environmental Policy Act of 1969.

A. Standardized Permit Forms. (FS)

1. Form 2700-3, Special-Use Applications and Report. (ATTACHMENT 5)

2. Form 2700-4, Special-Use Permit. (ATTACHMENT 6)

NOTE: The above two forms are those used for most temporary uses other than road uses.

3. Form 7700-40, Application for Permit-Non-Federal Commercial Use of Special Service Roads (ATTACHMENT 7).

4. Form 7700-41, Road Use Permit. (ATTACHMENT 8)

NOTE: The above two forms are those used for upgrading (including minor alignment changes) of existing Forest Service System Roads

5. Form 2700-15, Special-Use Permit- Road. (ATTACHMENT 9)

NOTE: This form is used in conjunction with Form 2700-3 to permit new road construction activities. Such permits are issued as either a Class D or E Permit.

a. Class D Permit.

Permits for roads which because of location or other factors are not on the general routing of a planned forest-development road and cannot be substituted for such a planned road, and are not involved in a cooper-ative construction and use agreement. These roads will not be used by the Forest Service or others except in a limited way and in the circumstances described in FSM 2733.63.

Class D permits will be charged for (FSM 2730.35c).

These are essentialy permits to construct and use a private road. Since these permits are for monopoly use of National Forest land, the decision to issue one must be carefully considered.

b. Class E Permit.

Permits for construction of roads on the general routing of a planned forest-development road or which will substitute for such planned road and which are not within an area covered by cooperative road agreement to which the applicant is party.

The principal distinguishing feature of this permit is that it retains for the Government the right to use and permit general use by others of the road construction under the permit provided such use does not unreasonably interfere with the permittee's use.

The road when constructed is operated essentially as any other forest-development road. Usually, it is to be advantage of the permit holder to ask for the permit to be terminated when the road is completed. Use of the road under the Secretary's Regulations (36 CFR 212) rather than under the permit will adequately provide for his needs and relieves him of certain responsibilities he would have under the permit.

c. Plans and Specifications.

Plans and specifications for the road to be constructed will be included in every permit either as an attachment or by reference to plans and specifications on file with the Forest Service. The plans and specifications must provide for prevention of soil erosion and stream damage during and after construction. They must be in such form as to define for the permittee and the Forest Service the facility to be built. The general rule is that they should be in form and detail that would be required for a similar road to be built under contract. Form specifications without detailed plans or construction staking are not acceptable as a substitute for plans and specifications, except as noted below.

Terrain, soil type, esthetic values, water quality and other resource values must be considered in conjunction with road design criteria to arrive at the degree of detail for surveys, designs, plans, specifications, and construction staking. For very minor roads in easy terrain, form specifications prepared for use Region-wide or Forest-wide coupled with construction staking on the ground may be used. In these cases, a simple plat or sketch can be used to show the location provided the location is also marked on the ground prior to issuance of the permit.

The applicant is requried to do the work needed for preparation of plans and specifications. He may be required to make a complete survey and design, including design of such structers as bridges, which will then be incorporated in the permit. Often it is desirable for a Forest officer to participate in the location work, especially when location is the critical factor and the applicant is not experienced in such work.

B. Charge or Other Consideration for Use.

The Forest Service is directed by 36 CFR 251.3 to prescribe a fee commensurate with the value of the use authorized by a permit. The officer authorized to issue a permit has the responsibility to determine:

1. Whether a fee commensurate with the value of the use, a flat fee, nominal fee, mimimum fee or no fee is appropriate for the authorized use.

2. The amount of the fee commensurate with the value of the use, the flat fee, the nominal fee, or the mimimum fee, and the fee justification.

C. Performance Bonds

A bond will be required in special use permits when the use is of such a nature that National Forest lands may require restoration in the event construction is not completed and/or the permit is abandoned or revoked.

Usually bonds are only for restorative measures. When deemed administratively desirable, bonds may be required for specific phases of construction, periods of maintenance, or other specific permit requirements. The bond clause used for temporary special-use permits may require compliance with all terms of the permit.

V. TEMPORARY SPECIAL-USE PERMIT ADMINISTRATION, COMPLIANCE AND TERMINATION.

A. Administration and Compliance

Forest officers have a continuing responsibility to properly administer all types of special-use permits. Supervision and control of a special use begins with the first discussion with the applicant. This is the Service's opportunity to inform the applicant of assigned repsonsibilities as a tenant of the public and to inform that full compliance with terms of the permit will be expected. Furthermore, the applicant must be informed and understand that the Forest Service through periodic inspections will ascertain whether the permittee is meeting assigned reponsibilities.

B. Termination

Temporary special--use permits may be terminated by the issuing officer, his successor or superior.

1. Permits are terminated:

a. On expiration of the term of the permit.

b. Through agreement with the permittee.

c. On abandonment of the use by the permittee, especially when the permittee has indicated either in writing or by actions that the permit is no longer desired.

d. When the permittee, after notice that fees including assessed service charges are overdue, has failed to make payment or offered satisfactory reason for not doing so (FSM 2715.23a).

2. When a permit is to be terminated, the permittee will be sent a certified letter, return receipt requested, stating;

a. That the permit is terminated.

b. The reason for terminating the permit.

c. That the improvements on the land under permit must be removed by a specified date.

d. That improvements remaining on the land beyond that date are the property of the United State. See FSM 2716.4 for time limits.

e. That the permittee has appeal rights under 36 CFT 211.20-211.37 when the termination is not voluntary.

In the case of revocation, the permittee will receive adequate notice and the reason for the action. If a breach is invoked, the permittee will be given an opportunity to cure the breach before the revocation becomes final.

VI. SUMMARY

In summary, the temporary special-use permit procedure and process is established to recognize the valid needs and requirements of project applicants and holders of grants, easements or leases. The permit procedure and process recognizes that the temporary use of additional National Forest System land or public lands may be required to implement project activities; that such use of the land will be short-lived and outside of final approved right-of-way boundaries containing permanent facilities. Resource users and managers will best comply to the multiple use concept of resource management and provide for the sustained yield of renewable resources by adherence to agreed upon management procedures.

Energy Transportation Systems Conference
Salt Lake City, Utah
February, 1981

" PROCESSES EMPLOYED BY THE OFFICE OF THE FEDERAL INSPECTOR TO EXPEDITE GOVERNMENTAL AUTHORIZATIONS FOR THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM"

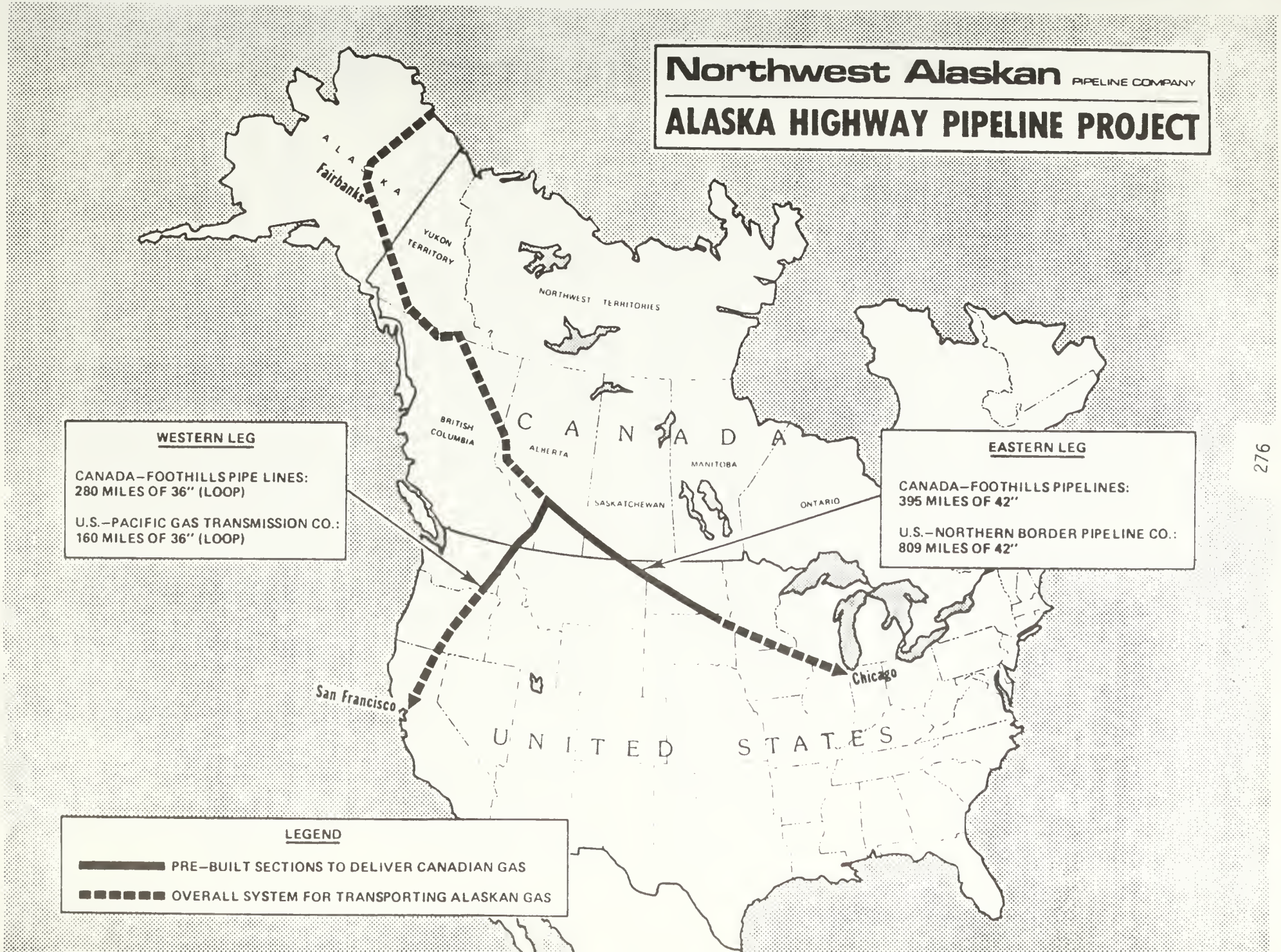
Presentation by Mr. William Toskey, OFI ANGTS Washington, D.C.

OVERVIEW

The purpose of this paper is to provide background on the Alaska Natural Gas Transportation System and a general explanation of the Office of the Federal Inspector. The Office of the Federal Inspector (OFI) was created by Congress to coordinate the mammouth undertaking of constructing a 4800 mile natural gas pipeline that encompasses complicated issues, numerous participants, and delicate tradeoffs. The basic philosophy of the OFI is to give the private sector the opportunity to build this critical energy project on schedule and at the lowest cost to the gas consumer, while protecting the environment and assuring public safety. Therefore, it is very closely linked with the subject of expedition of permits and right-of-way applications and the theme of this conference.

In 1968, a wildcat drilling rig on Alaska's North Slope struck the oil reserve known as Prudhoe Bay. This reserve is estimated to contain 9.6 billion barrels of crude oil and and over 26 trillion cublic feet of saleable natural gas, constituting the largest of the United States reserve's. In 1973, President Nixon signed a bill authorizing the construction of the Trans-Alaska Oil Pipeline (TAPS). In 1977, the pipeline became operational, almost ten years from discovery to marketing. The 800 mile long TAPS line is currently transporting over one million barrels of crude oil daily to southern Alaska for shipment to ports in the United States.

In 1977, Congress passed legislation approving the President's selection of a 4,800 mile joint U.S.-Canadian system to transport natural gas from Prudhoe Bay to consumers in the lower 48. The system will supply 5% of the Nation's gas needs for the 25 year life of the project. Two factors contributed to the Presidential and Congressional support for the creation of OFI. First, the TAPS was often plagued by uncoordinated, conflicting, and untimely Federal decisions, and at times onerous Federal requirements. Consequently, OFI grew out of a call for a focal point of government activity. Mr. Jack Rhett was appointed by the Federal Inspector to oversee this project. Secondly, due to the enormity of the ANGTS construction effort and the cost escalation and delays associated with TAPS, the OFI is responsible for review of project design, systems, and plans. In this manner, the sponsors, the government, and investors will avoid undue construction costs and unneeded disruption of the environment.


Northwest Alaskan PIPELINE COMPANY
ALASKA HIGHWAY PIPELINE PROJECT
ALASKA
Fairbanks
YUKON TERRITORY
NORTHWEST TERRITORIES
BRITISH COLUMBIA
CANADA
ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
WESTERN LEG
CANADA–FOOTHILLS PIPE LINES:
280 MILES OF 36" (LOOP)
U.S.–PACIFIC GAS TRANSMISSION CO.:
160 MILES OF 36" (LOOP)
EASTERN LEG
CANADA–FOOTHILLS PIPELINES:
395 MILES OF 42"
U.S.–NORTHERN BORDER PIPELINE CO.:
809 MILES OF 42"
Chicago
San Francisco
UNITED STATES
LEGEND
PRE–BUILT SECTIONS TO DELIVER CANADIAN GAS
OVERALL SYSTEM FOR TRANSPORTING ALASKAN GAS

The entire project is commonly divided into two phases. Construction of ıe first phase, sometimes called prebuild, is now underway. The first phase consists of the southern portion of the Canadian Leg and parts of the Western and Eastern Legs which will deliver gas exported from the Province of Alberta. The second phase will deliver Alaskan gas and requires construction of the Alaskan Leg and the remainder of the Canadian, Eastern and Western Legs.

Project Sponsors

At a cost of over $20 billion it will be the largest privately financed construction project ever undertaken anywhere. Each leg of the project will be designed, financed, constructed, owned and operated by a different group of private natural gas companies. While these are separate consortiums, Northwest Pipeline company as senior project coordinator, provides overall project management, including leadership on financing. Each of the U.S. consortiums also interfaces directly with Foothills Ltd., the sponsor of the Canadian Leg.

Incentive Rate of Return

In an effort to avoid the cost overruns encountered during the TAPS ›ject a mechanism known as the Incentive Rate of Return has been established provide the sponsors with a considerable financial incentive for cost effective construction. If the project is completed for less than the estimated cost, the sponsors will receive a higher rate of return on equity than if actual costs exceed the estimated cost. This is the first attempt to implement such a mechanism in the natural gas transportation industry.

Office of the Federal Inspector

The Office of the Federal Inspector (OFI) is a unique experiment in public administration. It is the first time that responsibilities associated with a critical energy project have been transferred to one Federal agency to assure timely yet well managed Federal oversight. Success in this mission is largely dependent on the organized coordination of several participants such as: the Canadian Government, eight Federal agencies, several private companies producing or sponsoring the line, Congress, and a multitude of State and local governments.

The OFI is an independent, single purpose Federal Agency created to oversee the construction and initial operation of the project. It is a technical agency with a staff of just over 200 located at headquarters in Washington, D.C. or in one of the five field offices. Headquarters will relocate from Washington, D.C. to Alaska before main pipeline construction begins.

As a focal point for federal activity, the Federal Inspector will: assure that all Federal permits and other authorizations are issued in a timely fashion; monitor the construction of the pipeline to assure that the natural environment is protected, that construction schedules are maintained and cost overruns are minimized; and assure compliance with all permits, authorizations, terms and conditions, regulations, and other requirements.

Permit Expediting

To fulfill these responsibilities the OFI has instituted a "one window" approach to regulation that allows the sponsor to deal with only one agency, the OFI, for filing, review, and issuance of those permits. This "one window" authority is fully implemented on the Alaska leg but only partially implemented on the Western and Eastern legs.

The sponsors will be required to obtain appoximatly 3000 permits, 2400 of which apply to the Alaska Leg.* With this volume, the OFI focues on two key permitting activities: expediting the processing times to avoid adverse affects on the construction schedule; and, placing emphisis on coordination and review of stipulations and conditions prior to issuance. Considering the magnitude of the project and number permits required, there is a high probability that conflicting conditions may be attached to two or more permits.

Federal permits for all three legs are being tracked by a computorized permit tracking system. OFI monitors permits and other approvals with this system to insure that Federal Agencies issue permits prior to the scheduled activity start date. The permit tracking system allows for quick identification of any permits that require special attention. Once identified, the OFI staff, the permitting agency (Federal, State, or local) and the sponsor will work together to quickly resolve problems.

By coordinating the issuance of permits and other approvals with the construction schedule, delays due to governmental action should not result. Emphisis is placed on planning for and anticipating problems early enough to avoid project delay. One example of organized coodination of government agencies was illustrated during the processing of the complex Alaska Leg Right-of-Way Grant. Northwest made its application to the Department of Interior on July 1, 1980. Through strongly coordinated efforts and hard work, agency review of the application was completed and returned to DOI on July 31. DOI forwarded the Grant to Congress in August and the House granted a waiver of the normal 60 day review period in the following month. After the Senate gave its approval in November, the Grant was approved by Congress and signed December 1. This achievement clearly shows that the Federal government with proper management, is capable of expediting an important energy project.

---

* Note this estimate does not include Notices to Proceed or those permits which the sponsors' execution constractors will need.

Good Morning. Its a pleasure to be here today. I would like to take this opportunity to share with you some of the experiences Northwest Pipeline Corporation's Right of Way Department encountered in the application process involving a 351 mile pipeline currently under construction across portions of the States of Oregon and Idaho.

In addition to the many permits we had to obtain from several Federal Agencies, we also had to obtain a large number of permits from various State, County and City Agencies, as well as rights from approximately 700 fee owners, 100 lessees, several road districts, railroads, irrigation districts, and the list goes on and on.

Although we realized there were a large number of Federal Agencies that we would need to obtain permits from,

WE IDENTIFIED ONLY SIX WHO MANAGE LANDS THAT WE WOULD CROSS.

WE FILED OUR APPLICATION WITH THE WASHINGTON D.C. OFFICE OF THE BUREAU OF LAND MANAGEMENT IN NOVEMBER OF 1978, WITH COPIES IN TRIPLICATE, FILED SIMULTANEOUSLY, WITH THE IDAHO AND OREGON STATE OFFICES.

SINCE THE NEW LINE WAS TO BE GENERALLY PARALLEL AND 20 FEET FROM OUR EXISTING LINE, WE PROPOSED TO AMEND OUR PREVIOUS GRANT. THE APPLICATION COVERED ALL THE LANDS MANAGED BY THE BUREAU OF LAND MANAGEMENT, FOREST SERVICE AND GENERAL SERVICE ADMINISTRATION.

IN JANUARY OF 1979, THE IDAHO STATE BUREAU OF LAND MANAGEMENT WAS NAMED LEAD AGENCY AND ALTHOUGH THE CONSEPT WAS TO HAVE US DEAL WITH ONE AGENCY FOR PERMITS FROM ALL EFFECTED AGENCIES, WE NEVERTHELESS PURSUED PERMITS FROM

THE DEPARTMENT OF ENERGY, FOR CROSSING BONNEVILLE POWER ADMINISTRATION; THE DEPARTMENT OF INTERIOR, FOR THE BUREAU OF WATER AND POWER RESOURCES; THE DEPARTMENT OF ARMY, CORP OF ENGINEERING; BUREAU OF INDIAN AFFAIRS; THE ENVIRONMENTAL PROTECTION AGENCY; AND THE FEDERAL ENERGY REGULATORY COMMISSION.

WE ALSO DEALT SEPARATELY WITH THE OREGON BUREAU OF LAND MANAGEMENT FOR A TEMPORARY COMMUNICATION SITE AND THE UPGRADING OF ONE CATHODIC PROTECTION STATION. IT ALSO APPEARED THAT THE FOREST SERVICE, REGION 6, OUT OF PORTLAND, PREFERRED TO DEAL DIRECTLY WITH NORTHWEST INSTEAD OF GOING THROUGH THE LEAD AGENCY. DON'T MISUNDERSTAND, I AM NOT SAYING WE OBJECTED TO THEM CONTACTING US DIRECT, IT SEEMED THE QUICKEST WAY TO PROVIDE THEM WITH WHAT ADDITIONAL

INFORMATION THEY NEEDED AND PROVIDED US WITH AN OPPORTUNITY TO DISCUSS EACH OTHERS NEEDS.

In May of 1979 after reviewing our application, the Idaho Bureau of Land Management asked us to resubmit our application requesting a new right of way that overlaps the old right of way. Since that resubmittal, we have made numerous modifications and supplementals as minor line changes and additional appurtenances became necessary.

Then, on November the 8th, 1979, one year from the date of our first application, the revised code of the Federal Regulations came out and I was struck with panic at how they might be interpreted and administrated. My fears, however, did not materialize to the extent that I

EXPECTED, WHICH I BELIEVE WAS ONLY BECAUSE OF THE COOPERATION AND UNDERSTANDING EXTENDED BY THE IDAHO STATE OFFICE OF THE BUREAU OF LAND MANAGEMENT.

ONE PROBLEM THAT DID COME OUT OF THE REGULATIONS WAS 2882.3 (M) WHICH PROVIDES FOR THE ISSUANCE OF NOTICES TO PROCEED, WHICH I WILL REFER TO AS NTP'S.

AS YOU KNOW NTP'S AUTHORIZE YOU TO PERFORM A CERTAIN FUNCTION RELATIVE TO THE CONSTRUCTION ON THE PROJECT AND CAN BE VERY BROAD OR VERY NARROW IN SCOPE. NTP'S ARE NORMALLY ISSUED JUST PRIOR TO THE TIME THE WORK IS TO BE PERFORMED AND WILL INCLUDE SITE SPECIFIC STIPULATIONS OR MAY, IN SOME CASES, EXCLUDE A SITE OR SITES SPECIFIC.

OUR PROBLEM IS, AS ON ANY LARGE CONSTRUCTION PROJECT, A PRUDENT COMPANY WILL SUBMIT THE JOB FOR BIDS

FROM QUALIFIED CONTRACTORS. BECAUSE OF THE TREMENDOUS COST TO A CONTRACTOR FOR A JOB OF THIS SIZE, WHICH COMES CLOSE TO $60,000.00 PER DAY, IT IS NECESSARY THAT WE ASSURE A CONTRACTOR THAT ONCE HE IS GRANTED THE CONTRACT, HE MAY RPOCEED WITH HIS CONSTRUCTION WITHOUT ANY DELAYS, BUT IF HE IS DELAYED FOR ANY REASON, OTHER THAN FROM HIS OWN DOING, WE MUST REIMBURSE HIM FOR THIS "DOWN TIME".

ON THIS PROJECT WE HAVE FIVE CONTRACTORS, SO YOU DON'T NEED TO BE A MATHEMATICIAN TO FIGURE THAT IF WE WERE DELAYED ONLY ONE DAY IN GETTING AN NTP THAT COULD EFFECT ALL FIVE CONTRACTORS, OUR COSTS FOR THAT ONE DAY WOULD AMOUNT TO APPROXIMATELY ONE-THIRD OF A MILLION DOLLARS.

IN ADDITION TO THIS RISK, WHEN WE AWARD A CONTRACT, IT CONTAINS ALL OF OUR STIPULATIONS PERTAINING TO ENGINEER-

ING STANDARDS AND THE REQUIREMENTS OF THE LAND OWNERS AND ANY AND ALL BUREAUS AND GOVERNMENTAL AGENCIES. THE CONTRACTOR IS EXPECTED TO HAVE CONSIDERED THESE STIPULATIONS IN HIS BID AND WE EXPECT HIM TO COMPLY.

ON THE OTHER HAND IF WE COME UP WITH A STIPULATION AFTER THE CONTRACT HAS BEEN LET, THAT WAS NOT IN THE BID PACKAGE, WE CAN REQUIRE THAT THE CONTRACTOR COMPLY WITH THE NEW STIPULATION, BUT, HE IS IN TURN ENTITLED TO CHARGE US WITH AN "EXTRA", WHICH IS AN EXPENSE ABOVE THE BID PRICE.

AN EXTRA IS NORMALLY HANDLED BY THE CONTRACTOR CHARGING US "COST PLUS". BY THAT, IT IS MEANT THAT HE WOULD CHARGE US FOR HIS ACTUAL COST, PLUS APPROXIMATELY 40% ON MATERIALS AND 75% ON LABOR, WHICH IS MORE OR LESS STANDARD IN THE INDUSTRY.

CONTRACTORS LOVE EXTRAS, THERES NO DOUBT ABOUT IT, IT HAS BEEN SAID THAT SOME CONTRACTORS MAY BID A JOB AT NEAR COST HOPING TO MAKE HIS MONEY OFF OF THE EXTRAS.

WHEN WORKING WITH AN EXTRA, IT IS TO THE CONTRACTORS ADVANTAGE TO TAKE AS LONG AS HE CAN TO COMPLETE THE OPERATION, KNOWING THAT THE LONGER IT TAKES THE MORE HE WILL MAKE AND THE RECOVERY OF HIS COSTS ARE GUARANTEED AND HIS PROFIT ASSURED.

NOW WHEN SITPULATIONS ARE INCLUDED WITH THE NTP, THE CONTRACTOR CAN BE ASSURED OF AN EXTRA, BECAUSE AT THAT POINT IN TIME, THE CONTRACT HAS OBVIOUSLY BEEN LET AND THERE IS LITTLE WAY THAT WE COULD HAVE ANTICIPATED THE STIPULATIONS AND INCLUDED THEM IN THE BID PACKAGE, AND WHEN A SPREAD IS COSTING APPROXIMATELY $60,000.00 A

DAY, AND EXTRAS ADDING ANOTHER 40% FOR MATERIALS AND 75% FOR LABOR, YOU CAN SEE HOW FAST COSTS CAN GO UP, AND THE BOTTOM LINE IS THAT YOU AND I, THE CONSUMER, ALTIMATELY PAY THE PRICE.

IF THERE IS AN ANSWER TO THIS ONE, I DON'T KNOW WHAT IT IS, BUT WHAT I DO FEAR IS A TREND THAT WE WILL SEE MORE AND MORE STIPULATIONS INCLUDED WITH AN NTP, BECAUSE IF YOU THINK ABOUT IT, YOU CAN SEE THAT IT PROVIDES A PERSON WITH A BEAUTIFUL OPPORTUNITY TO COVER THEIR AFTER THOUGHTS.

FORTUNATELY, ON OUR PAN ALBERTA PROJECT, THE IDAHO STATE OFFICE DID AN EXCELLANT JOB OF PREPARING THE CONSTRUCTION STIPULATIONS, SO THAT CONSEQUENTLY WE HAVE HAD VERY FEW EXTRAS.

IT SEEMS THAT INVARIABLY BECAUSE OF THE COMPLEXITY OF THE REGULATIONS THERE ARE ALWAYS SOME UNUSUAL AND FRUSTRATING SITUATIONS THAT COME UP AND WE HAD OUR SHARE ON THIS PROJECT AND WITH TIME PERMITTING, I WOULD LIKE TO SHARE A COUPLE OF THEM WITH YOU.

THE FIRST ONE INVOLVES A TEMPORARY USE PERMIT TO INSTALL A COMMUNICATION SITE AT THE IDAHO POWER MICROWAVE STATION NEAR BAKER OREGON.

AS REQUIRED BY THE NEW REGULATIONS EFFECTIVE NOVEMBER 8, 1979, IN SECTION 2882.2-2 (A) AND (B) WE FILED THE APPLICATION WITH THE IDAHO STATE OFFICE. ON MAY 28, 1980, THEY RETURNED THE APPLICATION AND ASKED THAT WE FILE IT AT THE BAKER DISTRICT OFFICE AS WE HAD ALWAYS DONE UNDER THE OLD REGULATIONS.

We later learned that the regulation had been amended to allow filing of a Temporary Use Permit at the District Offices by an Order dated May 20, 1980, but not effective until June 23, 1980. Therefore, we were left with an application that couldn't technically be filed for nearly a month. Fortunately, the Baker Bureau of Land Management Office acted very sensibly. They performed the necessary work and granted us our permit.

I have just used up my allotted time so I can only leave you to guess at what the other situation might have been but I would venture to say, that if one was to pole this group, they would find that nearly everyone here could tell a similar story, which leads me to say, that I think you will all have to agree, that the

SYSTEM IS NOT PERFECT AND I PERSONALLY BELIEVE THAT THERE COMES A TIME WHEN WE MUST ALL USE OUR BETTER JUDGMENT, STRIVE TO BETTER UNDERSTAND ONE ANOTHERS PROBLEMS AND EXTEND TO EACH OTHER OUR TRUST AND COOPERATION. THANK YOU, IT HAS BEEN A PLEASURE TO BE HERE.

PLANS & PROGRAMS
PREPARED SUBSEQUENT TO
FEDERAL
RIGHTS-OF-WAY GRANT

FEBRUARY 5, 1981
ENERGY TRANSPORTATION
CONFERENCE - HILTON
SALT LAKE CITY, UTAH

W. J. HUHTALA
ENVIRONMENTAL COORDINATOR
NORTHWEST PIPELINE CORPORATION

GOOD MORNING! RIGHT-OF-WAY GRANTS FOR FEDERAL LANDS ARE ISSUED PRUSUANT TO SECTION 28 OF THE MINERAL LEASING ACT OF 1920, AS AMENDED (30 U.S.C. 185), THE ACT OF NOVEMBER 16, 1973 (87 STAT. 576). AND TO REGULATIONS OF 43 CFR PART 2880. PROMULGATED UNDER THE FEDERAL LAND POLICY & MANAGEMENT ACT.

UNDER SECTION 28 PARAGRAPH Q. "STATUTES" THE SECRETARY OR AGENCY HEAD (AUTHORIZED OFFICER) MAY REQUIRE THE APPLICANT TO SUBMIT ANY ADDITIONAL INFORMATION HE DEEMS NECESSARY TO COMPLY WITH THE REQUIREMENT OF SECTION 28. THIS APPLIES TO PIPELINE SAFETY (OPERATIONS & MAINTENANCE) AND ENVIRONMENTAL PROTECTION. 43 CFR 2880 ADDRESSES MANY OF THE SAME REQUIREMENTS.

SUB PARAGRAPH (C) OF 2880 STATES THAT THE AUTHORIZED OFFICER <u>SHALL</u> REQUIRE PLANS FOR CONSTRUCTION, OPERATIONS, MAINTENANCE AND TERMINATION OF THE PIPELINE SYSTEM. THE PLANS MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING DATA:

1. <u>PLANS AND SCHEDULES FOR CONSTRUCTION</u>
   OF ALL PIPELINE FACILITIES AND ESTIMATED CONSTRUCTION COSTS.

2. PLANS FOR THE PROTECTION OF THE ENVIRONMENT DURING CONSTRUCTION, OPERATION, MAINTENANCE AND TERMINATION OF THE PIPELINE.
AND
3. PLANS FOR EMERGENCY REPAIR OF OR CONTINGENCY PLANS ANY RUPTURE DURING OPERATION, CONTAINMENT OF EFFLUENT AND RESTORATION OF DAMAGE.

2882 OF 43 CFR 2-4 "OTHER DATA THAT MAY BE REQUIRED"

A) ALLOWS THE AUTHORIZED OFFICER TO REQUEST ADDITIONAL INFORMATION NECESSARY TO PREPARE ENVIRONMENTAL ASSESSMENTS AND/OR OTHER DOCUMENTS HE MAY REQUIRE RELATING TO THE CONSTRUCTION, OPERATION, MAINTENANCE AND TERMINATION PHASES OF THE PROPOSED PIPELINE SYSTEM, INCLUDING BUT NOT LIMITED TO:

1. THE EFFECT ON SOILS AND MINERAL RESOURCES.
2. THE EFFECT ON AIR QUALITY.
3. THE EFFECT ON WATER QUALITY.
4. DAMAGES TO OR CHANGES IN VEGETATION.
5. CHANGES IN FISH AND WILDLIFE HABITAT.
6. THE RISK OF HAZARD TO PUBLIC HEALTH AND SAFETY.
7. THE EFFECT ON INDIVIDUALS LIVING IN THE GENERAL VICINITY WHO RELY ON THE FISH, WILDLIFE, AND BIOTIC RESOURCES OF THE AREA FOR SUBSISTENCE PURPOSES.
8. THE IMPACTS ON ARCHAEOLOGICAL, PALEONTOLOGICAL AND HISTORICAL RESOURCES.
9. THE IMPACTS ON VISUAL RESOURCES, AND
10. ALTERNATIVE PIPELINE ROUTES & LOCATIONS

ALL OF THIS AND MORE INFORMATION IS USED IN ENVIRONMENTAL STATEMENTS OR REVIEWED BEFORE THE RIGHT-OF-WAY GRANT IS ISSUED.

IT WOULD APPEAR TO ME THAT THERE IS A SUFFICIENT AMOUNT OF DATA TO DETERMINE A NEED FOR AN EIS. IF AN EIS IS DEEMED NECESSARY, THEN THE ITEMS PREVIOUSLY MENTIONED WOULD BE ADDRESSED IN A COMPREHENSIVE MANNER EITHER IN THE EIS OR SUPPLEMENTAL DOCUMENTS TO THE EIS BEFORE A FINAL DECISION IS RENDERED. IF THE PROJECT IS NOT WORTHY OF AN EIS, THEN A LESSER REPORT MAY BE PREPARED OR THE GRANT CAN BE ISSUED ON THE BASIS OF THE DATA SUBMITTED EARLIER.

UPON RECEIVING THE FEDERAL RIGHT-OF-WAY GRANT, REGARDLESS OF AN EIS, THE APPLICANT IS INFORMED THAT BEFORE CONSTRUCTION CAN BEGIN A PRECONSTRUCTION CONFERENCE MUST BE ESTABLISHED WITH THE AUTHORIZED OFFICER. THE PURPOSE OF THE CONFERENCE IS TO REVIEW THE APPLICABLE STIPULATIONS OF THE GRANT AND RECEIVE APPROVAL OR HAVE MODIFIED THE HOLDERS CLEARING, CONSTRUCTION, OPERATION, MAINTENANCE, AND REHABILITATION PLANS. ALSO TO BE SUBMITTED ARE CONSTRUCTION SCHEDULES, METHODS AND EQUIPMENT TO BE USED IN ALL PHASES OF THE PROJECT. THE SUBMITTAL TO THE AUTHORIZED OFFICER OF THIS INFORMATION IS WHAT IS NOW COMMONLY REFERRED TO AS PLANS & PROGRAMS.

THE HOLDER OF THE GRANT MUST NOW SUBMIT TO THE AUTHORIZED OFFICER COMPREHENSIVE PLANS AND/OR PROGRAMS COVERING A SPECIFIED NUMBER OF TOPICS. EXAMPLES OF WHICH ARE:

A. AIR QUALITY
B. BLASTING
C. CLEARING
D. CORROSION CONTROL
E. CULTURAL RESOURCE PRESERVATION
F. EROSION AND SEDIMENT CONTROL
G. FIRE CONTROL
H. OIL & HAZARDOUS WASTE CONTROL
I. PRESTICIDES, HERBICIDE USE
J. PIPELINE CONTINGENCY
K. SOLID WASTE
L. STREAM, RIVER, AND FLOOD PLAIN CROSSINGS
M. VISUAL RESOURCES

THESE ARE JUST A FEW OF THE PROGRAMS THAT COULD POSSIBLY BE REQUIRED OF THE HOLDER.

HOWEVER REDUNDANT THIS NEW REQUEST MAY SEEM, THERE MAY BE SOME JUSTIFICATION FOR THIS LATE REVIEW OF THE PLANS AND PROGRAMS.

NEW MINOR CHANGES IN THE PROJECT BY THE APPLICANT MAY BE REVIEWED AT THIS TIME. ALSO, REVIEW OF GRANT STIPULATIONS THAT EARLIER APPEARED REALISTIC MAY BE PROVEN NON/APPLICABLE OR UNREALISTIC AT THIS TIME

AGAIN, AS ITS BEEN STATED SO MANY TIMES THE PAST FEW DAYS, CLOSE WORKING RELATIONSHIPS BETWEEN THE HOLDER AND AGENCY CAN ELIMINATE MANY LAST MINUTE SURPRISES. EARLY IDENTIFICATION OF SPECIFIC CONCERN BY THE AGENCY CAN BE INCORPORATED INTO THE PLANS BEFORE THE PRE CONSTRUCTION CONFERENCE. ALSO, IMPORTANT IN PREVENTING A DELAY FROM THIS PROCESS IS EARLY EXCHANGE OF DRAFT STIPULATIONS (SITE SPECIFIC IF POSSIBLE) AND EXCHANGE OF DRAFT PLANS AND PROGRAMS.

WHAT ARE PLANS AND PROGRAMS? I WOULD MAINTAIN THAT ALL THE DOCUMENTS CREATED DURING PROJECT DESIGN AND ANALYSIS INCLUDING PREVIOUS ARCHAEOLOGICAL REPORTS AND ENDANGERED SPECIES STUDIES ARE PART OF PLANS AND PROGRAMS. THE EIS OR EA IS ALSO PART OF THE PLANS AND PROGRAMS. ANY STUDY OR REPORT THAT HAS BEEN DEVELOPED THAT HAS RECOMMENDATIONS THAT HAVE BEEN ADOPTED OR WILL BE UTILIZED DURING CONSTRUCTION OR OPERATIONS ARE ALSO PART OF THE PLANS AND PROGRAMS. THE ENVIRONMENTAL IMPACT ASSESSMENT OR THE ENVIRONMENTAL ASSESSMENT IS A MANAGEMENT TOOL OFTEN OVERLOOKED BY THE APPLICANT OR HOLDER AS WELL AS THE ISSUING AGENCY. A TREMENDOUS AMOUNT OF INFORMATION HAS GONE INTO THE PREPARATION OF AN EIS PARTICULARLY THE DESCRIPTION OF THE PROPOSED ACTION; OFTEN THIS IS WHERE MUCH OF THE MITIGATING MEASURES ARE IMPLEMENTED. ALL CONSTRUCTION PLANS, PROGRAMS, DRAWINGS, INCLUDING RIGHT OF WAY REQUIREMENTS BY PRIVATE LANDOWNERS SHOULD ALL BE CONSIDERED PART OF THE COMPLETE PLANS AND PROGRAMS PACKAGE. GRANTED THIS COULD BE A VOLUMINOUS AMOUNT OF MATERIAL; HOWEVER, THE

APPLICANT SHOULD BE PREPARED TO SHOW THE AGENCY'S AUTHORIZED OFFICER THAT HE IS PREPARED TO HANDLE THIS KIND OF UNDERTAKING. THE PLANS AND PROGRAMS AND RELATED DOCUMENTS, THE EIS AS WELL AS PRIVATE LANDOWNER STIPULATIONS, SHOULD BE SUBMITTED TO ALL CONSTRUCTION CONTRACTORS BIDDING ON THE PROJECT. COMPLETE AWARENESS ON THE CONTRACTORS PART MAY PROVE BENEFICIAL TO THE COMPANY FROM AN ECONOMICAL STANDPOINT AS WELL AS AN ENVIRONMENTAL. THE MORE THE CONTRACTOR KNOWS WHAT HIS OBLIGATIONS ARE OR THE APPLICANT'S OBLIGATIONS, THE BETTER POSITION HE WILL BE IN TO PROTECT AND COMPLY WITH THOSE REQUIREMENTS.

TO MAKE PLANS AND PROGRAM PREPARATIONS LESS PAINFUL, THE FOLLOWING TIPS ARE SUGGESTED:

MANY OF THE ITEMS REQUIRED IN PLANS AND PROGRAMS CAN BE FOUND IN HOUSE IN MANY COMPANIES. OPERATING PLANS, MAINTENANCE PLANS, AND CONTINGENCY PLANS ARE A FEW OF THE KIND OF PROGRAMS THAT ARE OFTEN DEVELOPED IN COMPANIES AND ARE EXISTING, NOT ALWAYS IN THE SAME PLACE HOWEVER. OFTEN AGENCIES WITH WHICH THE APPLICANT HAS BEEN IN CONTACT WITH CAN PROVIDE PLANS WHICH THE AGENCY UTILIZES IN AREAS UNDER THEIR JURISDICTION. FIRE CONTROL PLANS AND EROSION AND REHABILITATION PLANS FROM THE STATE OR FEDERAL AGENCY CAN OFTEN BE MODIFIED FOR THE APPLICANT'S USE.

WELL PREPARED PLANS MAY ELIMINATE OR REDUCE THE EXCESSIVE REQUESTS FOR NTP'S AND HELP AVOID UNNECESSARY DELAYS. BOTH THE APPLICANT AND THE AGENCY MUST REMEMBER THAT THE PLANS AND PROGRAMS ARE NOT CAST IN BRONZE, AND BOTH MUST REMAIN FLEXIBLE TO IMPLEMENT CHANGE AND HANDLE ON-SITE PROBLEMS EXPEDITIOUSLY. THIS KIND OF SUMS UP THE THEME OF THIS CONFERENCE; THE POINT BEING, THAT COOPERATION MUST EXIST.

I APPRECIATE THE OPPORTUNITY TO ADDRESS YOU TODAY, THANK YOU VERY MUCH.

V. PERMIT ISSUANCE AND PROJECT CONSTRUCTION

Page

Compliance Program and Monitoring of Construction and Operations

2/5/81

PANEL TOPIC

Compliance Program for the Monitoring and Enforcement of Project Construction Requirements

After the project sponsor has completed economic feasibility studies, project planning, necessary land and R/W acquisitions, and project financing arrangements

AND

After various governmental agencies have completed their land use and corridor planning, environmental impact analyses, and prepared and issued appropriate project authorizations,

THEN

Most energy transportation projects have usually proceeded through the construction phase with no problems ----- or have they?

Our panel will address some of the problems encountered during the construction of major project proposals and I will then close by identifying some of the areas that need continuing attention by all conference participants concerned with the timely completion of energy development projects.

1st panel member presentation
Mel Staheli - BLM - Salt Lake
Bio-sketch

2nd panel member presentation
D.C. Venable - Mapco Inc. - Tulsa
Bio-sketch

3rd panel member presentation
Jerry Smith - USFS - Provo
Bio-sketch

4th panel member presentation
Bob Turri - BLM - Monticello
Bio-sketch

Larry Ouellette - Moderator

BASED ON THE PANEL MEMBERS' PRESENTATIONS AND DISCUSSIONS AND PRIOR CONVERSATIONS BETWEEN PANEL MEMBERS, GOVERNMENTAL AGENCIES AND PROJECT SPONSORS SHOULD CONSIDER THE FOLLOWING:

AFTER GRANT OR NOTICE TO PROCEED IS ISSUED IT IS IMPORTANT THAT:

1. EARLY-ON PRECONSTRUCTION MEETINGS TAKE PLACE BETWEEN GOVERNMENT FIELD COMPLIANCE OFFICIALS AND THE COMPANY AND ITS CONTRACTORS TO ASSURE A COMMON UNDERSTANDING OF OPERATING SCHEDULES, TERMS AND CONDITIONS OF GRANTS AND WHERE POTENTIAL PROBLEMS COULD ARISE IN OR ADJOINING SENSITIVE AREAS TO BE CROSSED BY THE PROJECT.

   IT IS ESPECIALLY IMPORTANT THAT ONCE CONSTRUCTION BEGINS THAT DELAYS ARE NOT ENCOUNTERED BY CONTRACTORS BECAUSE AGENCY REQUIREMENTS OR INTERPRETATIONS WERE NOT ADEQUATELY COMMUNICATED TO CONTRACTORS.

2. IT IS ALSO IMPORTANT THAT THE LAND MANAGEMENT AGENCIES HAVE A COMMON INTERPRETATION OF THE REQUIREMENTS OF GRANT OR PERMIT TERMS AND CONDITIONS ACROSS LANDS THEY ADMINISTER, SO THAT CONTRACTORS DON'T GET DIFFERENT SIGNALS FROM AGENCY COMPLIANCE PERSONNEL FOR SIMILAR ACTIVITIES ON DIFFERENT AGENCY LANDS. THIS IS ESPECIALLY TRUE FOR FEDERAL OIL AND GAS R/W'S WHERE ONE AGENCY ISSUES THE R/W ACROSS ALL FEDERAL LANDS AND EACH AGENCY IS INDIVIDUALLY RESPONSIBLE FOR ENFORCING COMPLIANCE ON LANDS THEY ADMINISTER.

3. BETTER COMPLIANCE ARRANGEMENTS HAVE TO BE DEVELOPED. SOME LAND MANAGING AGENCIES HAVE NOT DEVELOPED FORMAL HEADQUARTERS COMPLIANCE ORGANIZATIONS SIMILAR TO THOSE ESTABLISHED FOR PLANNING, ENVIRONMENTAL ANALYSES, OR ISSUANCE OF GRANTS.

   THIS HAS RESULTED IN THE CREATION OF AD HOC ARRANGEMENTS FOR GUIDING THE FOLLOWUP WORK THAT NEEDS TO BE DONE AFTER AN AUTHORIZATION OR A GRANT OF R/W IS ISSUED. WHILE AD HOC APPROACHES TO COMPLIANCE MAY NOT POSE A PROBLEM FOR MINOR PROJECTS ON ONE AGENCY'S LANDS, THEY HAVE THE POTENTIAL FOR HINDERING OR SLOWING A PROJECT ACROSS MULTI-AGENCY JURISDICTIONS IN ONE OR SEVERAL STATES.

SUGGESTION:

SIMILAR TO LEAD AGENCY DETERMINATIONS BEING MADE FOR EIS DEVELOPMENT ACROSS MULTI-AGENCY LANDS, AGENCIES SHOULD BE EXPLORING THE POSSIBILITIES OF HAVING A SINGLE LEAD AGENCY FOR THE MONITORING AND ENFORCEMENT OF MAJOR PROJECT GRANTS. TWO PRINCIPAL GOALS FOR THIS TYPE OF A COMPLIANCE APPROACH WOULD BE TO ASSURE A CONSISTENT MONITORING AND ENFORCEMENT EFFORT, AND TO ASSURE THAT PROJECT CONSTRUCTION SCHEDULES ARE MET ONCE EITHER A R/W AUTHORIZATION OR A NOTICE TO PROCEED IS ISSUED.

WITHOUT AGENCIES TAKING THE LEAD TO FIND WAYS TO EXPEDITE ENERGY PROJECTS COMPLETION, THERE MAY BE A CONTINUING NEED FOR CONGRESSIONAL ACTION TO ESTABLISH ORGANIZATIONS SUCH AS:

1. A NATIONAL ENERGY MOBILIZATION BOARD
2. THE FEDERAL INSPECTOR FOR THE ANGTS

OR

3. FOR CONGRESS TO MANDATE SPECIAL PROCEDURES FOR ALL FEDERAL AGENCIES TO FOLLOW SUCH AS THE DEVELOPMENT OF STANDARD PROCEDURES FOR THE GRANTING OF R/W'S ACROSS FEDERAL LANDS IN ACCORDANCE WITH TITLE XI OF THE ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT.

PORTIONS OF THAT ACT ADDRESS THE NEED FOR BETTER METHODS OF TREATING PUBLIC LAND USERS:

SEC. 1101 STATES:

(b) THE EXISTING AUTHORITIES TO APPROVE OR DISAPPROVE APPLICATIONS FOR TRANSPORTATION AND UTILITY SYSTEMS THROUGH PUBLIC LANDS IN ALASKA ARE DIVERSE, DISSIMILAR, AND, IN SOME CASES, ABSENT; AND

(c) TO MINIMIZE THE ADVERSE IMPACTS OF SITING TRANSPORTATION AND UTILITY SYSTEMS WITHIN UNITS ESTABLISHED OR EXPANDED BY THIS ACT AND TO INSURE THE EFFECTIVENESS OF THE DECISIONMAKING PROCESS, A SINGLE COMPREHENSIVE STATUTORY AUTHORITY FOR THE APPROVAL OR DISAPPROVAL OF APPLICATIONS FOR SUCH SYSTEMS MUST BE PROVIDED BY THIS ACT.

THIS TYPE OF LEGISLATION AIMED AT FACILITATING FEDERAL R/W APPLICATION PROCEDURES COULD LEAD TO SIMILAR LEGISLATION AIMED AT RESOLVING CONSTRUCTION HOLDUPS SHOULD TOO MANY PROJECTS BE DELAYED BY THE LACK OF CONSISTENT FOLLOWUP PROCEDURES.

GOVERNMENTAL AGENCIES MUST DEMONSTRATE INNOVATIVE APPROACHES TO STREAMLINING NOT ONLY THE DECISIONMAKING AND PERMITTING PROCESSES, BUT ALSO THE CONSTRUCTION/COMPLIANCE PROCESS. ENERGY TRANSPORTATION PROJECT SPONSORS DESERVE A STREAMLINED APPROACH FOR ASSURING THE COMPLETION OF MAJOR CONSTRUCTION PROPOSALS ONCE BEGUN, FOR THE SPONSORS PICK UP THE COSTS FOR DELAYS, THROUGH INCREASED INTEREST CHARGES ON CONSTRUCTION FINANCING AND FROM INCREASED REIMBURSEMENT CHARGES LEVIED BY FEDERAL AGENCIES OVER THE EXTENDED CONSTRUCTION PERIOD.

The Compliance Role

Mel Staheli
Compliance Specialist - Utah State Office

Discussion

Topics

Pregrant Involvement, Preconstruction Employees Meeting, Preconstruction Conference, Notice to Proceed, and Compliance.

I am going to rattle the compliance cage in some of the discussions not because of being a compliance specialist, but because of the need to pay more attention to getting on-the-ground compliance. Compliance has an intricate part in the following two statements.

1. No planning process is any better than the feedback into the system.

2. No plan is any better than the end result of what the plan is supposed to represent on-the-ground.

I recently attended a recap meeting of the newly installed MAPCO pipeline. I was disappointed that there were not more planning people in attendance at the feedback meeting.

Incidentally, the 1100 mile pipeline took 18 months from the start of the environmental impact statement (EIS) to get the pipe in the ground. Considerable credit needs to go to MAPCO, BLM, and New Mexico State Offices for this accomplishment.

I. Pregrant Involvement

Responsibilities to BLM in-the-field compliance specialist and the company construction superintendent need to be assigned earlier in the project to locate line and have input to site specific stipulations. Their practical on-the-ground review and input is needed earlier in grant procedures.

Too often the grant stipulation and operating plan is handed to the BLM compliance officer and the construction foreman. They are then requested to get the job done. Problems created by this practice caused many unwarranted delays and unsatisfactory stipulations to meet the demands of on site conditions. Early coordination and input are necessary to solve many of these problems.

II. Preconstruction Employees Meeting

The employees' preconstruction meeting needs to be held to have a unison of grant stipulation interpretation by all involved government specialist. Also, assignments should be made to specialist working with mitigating measures in special problem areas during the construction phase.

III. Preconstruction Conference

A. To be held prior to the issuance of a notice to proceed.

B. Attendance

a. Government

1. Authorized officer
2. Compliance officers
3. Staff specialists who might be involved in site specific stipulations.

b. Grantee

1. Grantee's authorized representatives
2. Grantee's construction superintendents
3. Construction firms
4. Construction foremen

C. All grantees need to have a commitment of interpretation of grant and plan stipulations and also a final agreement.

IV. Notice to Proceed

After an understanding of the grant, agreement on stipulation interpretation, and all items are cleared a notice to proceed can be issued.

V. Compliance

On-the-Ground Activities:

1. Here's where the real tests come.

2. Here is where the real action occurs.

3. What are we going to get on-the-ground?

4. Is it going to be what all the planning has stated it was going to be?

5. Let us look at it from the BLM compliance point of view using some conditions that existed on the MAPCO pipeline. These are individual quotes from various compliance officers:

a. When the contractor started in my spread he had 11 D8 cats all within the distance of one-fourth of a mile. One man just couldn't keep up with them. By the time he caught up with the lead cat others were going by.

b. We were not prepared with sufficient personnel and were not on top of things when the contractors got started. This condition has resulted in too much earth disturbance.

c. We had so much other district and area work to do that we didn't get on the project site for several days after the project got started. This resulted in the clearing of a much wider area than granted in the Right-of-Way (ROW).

d. We had a division line in our resource area separating two construction spreads. It's doubly hard to keep up with two contractors going in opposite directions, and we just do not have the personnel to keep up.

e. Some construction spreads were scattered out for 70 miles, i.e.: from the clearing and construction of the pipeline installation pad to the final clean up crew doing the recontouring and seeding. One compliance officer just can't keep up with this type of a situation. The thing that is unexcusable is that this compliance officer was spending less than one day a week on the MAPCO job with no other BLM inspectors in the bulk of the area. He was doing other required area work.

f. It's costly to the contractor when we can't get out onto the site for several days. Sometimes we require him to move heavy equipment back several miles along the line to correct conditions that do not meet with our approval or in some instances an unpredetermined condition develops needing our approval for an alternate solution. If we are out in the field on other scheduled jobs, this could cause delays up to several days to the contractors.

g. It would work to an advantage down the road for the compliance inspection and monitoring detail if EIS, EA, and resource staff teams would prepare better site specific stipulations for mitigating potential resource damages. Considerable questions are left to what is required of the contractor when on-the-ground action occurs. They felt that too many of the supposedly site specific stipulations came by the dry lab and cookbook method and failed to address some of the real problems.

They stressed that compliance and company construction people need to get on-the-ground more. Especially in problem areas to fully weigh these problems in their site specific stipulations.

h. Compliance officers and project inspectors need to have input into the environmental and resource teams in regard to on-the-ground conditions at the beginning of grant applications. This would permit feedback during the granting phases for construction expertise that is usually lacking in EIS, EA's, and grant stipulations.

i. The MAPCO pipeline ROW as staked by MAPCO surveyors closely paralleling a historical railroad grade. Cultural resource contractors had also cleared the site ROW staking; however, neither group was apparently familiar with construction conditions. When construction crews got to the site it was impossible to install the pipeline as staked and not damage the historical site. Documental cost to the company was $70,000 for one of four necessary crossings to correct the condition permitting pipe installation.

j. Because cultural resource inventory and cultural resource personnel were not properly cleared before grant award, costs to the company literally amounted to hundreds and thousands of dollars. Essentially this was not BLM's fault, but BLM in the future could assist a company not familiar with cultural resource requirements by requiring timely scheduling of all clearances during the time frame of grant insurance. These procedures should also clear cultural resource personnel to monitor surface disturbance actions well in advance of grant insurance. It is claimed that such delays have cost the company as much as $65,000 per day. I don't know how many days delay was caused but there were several.

k. No site specific stipulation should be written until field personnel know where the ROW center line is located through identified field staking. This was not the case in some areas of the MAPCO pipeline. Also, field personnel were not involved early enough in the field staking and the ROW grant insurance.

Were we properly prepared? Were BLM compliance workmonths properly planned to get what we wanted on-the-ground through the planning system? The grant needs emphasis from start to finish. I want to repeat:

No planning system is any better than the feedback into the system and no plan is any better than what we actually get on-the-ground.

COMPLIANCE PROGRAM

Presented by Jerry Smith

Uinta National Forest Energy Development Specialist

February 5, 1981

I. Introduction

I will address some of the problems encountered during the construction of major project proposals and will identify some of the areas that need continuing attention during timely completion of an energy development project.

II. Before permit, grant, or notice to proceed is issued, it is important that:

1. Early-on participation in the EIS/EA preparation between Government agencies and between lead agency and company proposing project.

   It is extremely important that your agency's management concerns, which are often environmental in nature, are adequately covered in the original EIS/EA.

2. Timely selection of your agency's liaison/compliance officer.

   This will allow him full knowledge of your agency concerns, goals, laws and regulations, and on-the-ground knowledge of the project.

III. After permit, grant, or notice to proceed is issued, it is important that:

1. Early agency - company cooperative preparation of an operating plan

   In the past, special-use permits and/or grants for rights-of-way have been administered from the clauses or stipulations attached to the document. Right-of-way grant documents became very lengthy and contained many attachments. It was difficult for the responsible administrator to interpret and obtain compliance.

As a result, for large complex projects, the Forest Service has developed, through experience, an operating plan. This plan contains a large part of the information and guidance needed to adequately administer these large projects. As the operating plan is made a part of the special-use permit, easement, or grant by reference, it takes the place of the many pages of general and special site specific clauses or stipulations ordinarily required.

Operating Plan Objective

The objective and purpose of an operating plan is to provide guidance and site specific plans and instructions to assigned compliance and/or liaison officers to ensure that the environmental and other recommendations in the approved EIS/EA are carried out by the grantee or permittee in the construction and maintenance of the project.

Basis for an Operating Plan

Almost without exception, an EIS only sets forth broad general recommendations to use as a basis for minimizing, mitigating, or avoiding irreversible environmental impacts. The applicant may, where he submits an environmental report, add some details of measures he plans to take to mitigate environmental impacts.

Therefore, to adequately assess and determine site specific impacts, an environmental assessment has been used. This document is generally developed or closely reviewed by an I.D. Team to assure that environmental impacts are recognized. To do this requires a near final design of the project. Mutual company and agency cooperation in the final location, alinement, and construction of the project is needed to adequately protect the resources for which the lands are being administered. Every attempt is made to keep the document brief.

Operating Plan

The operating plan sets forth supplementary terms and conditions that will be complied with by grantee or permittee and his contractors.

It is clearly stated what the Forest Supervisor, Liaison Officer, and permittees will be expected to do. On some projects, it may be necessary to have a separate plan to more specifically treat, as an example, cultural resources. On other projects, it may be known not to be significant, from

previous studies and work in the area, and will not be addressed in a separate plan. Where needed, supplemental plans can be provided for cultural resource protection, communications, or other aspects of the project that require detailed direction.

Supplemental Plans

Here again, the project complexity and the environmental impacts that are necessary to mitigate, determine largely the number of supplemental or functional plans. These plans further supplement the detail measures that are required of the permittee and his contractor.

For a particular project, the following supplemental plans could be needed.

a. Flagging Plan - Identifies by color the purpose and use of colored plastic ribbon.

b. Transportation Plan - Covers use of existing and/or construction of new access and erosion control and closing of temporary roads.

c. Clearing Plan - Details the orderly approval and completion of clearing and slash cleanup in various Forest zones.

d. Revegetation and Erosion Control - Covering protection and restoration of landscape and prevention of erosion by various methods.

e. Fire Protection - Detailing responsibilities for prevention, presuppression and suppression responsibilities, and equipment required of contractors.

f. Tower Site Prescription - Detailing for each tower site exact information and specific methods of construction agreed to and signed off by both company and agency (copies attached).

2. Early-on prework meetings take place between agency liaison, company officials and their contractor, to assure a common understanding of operating schedules, terms and conditions of permit, grant, etc., and where potential problems could arise in or near sensitive areas to be traversed by the project.

It is especially important that once construction begins that delays not be encountered by contractors because agency requirements or interpretations were not adequately communicated to or understood by the contractor.

3. Company-agency preparation and acceptance of a right-of-way management plan upon completion of construction. The plan is based on final as built design of the project.

   This plan is particularly important in emergency situations so that companies can contact the proper land manager or his alternate. It also details the methods that can be used to keep vegetation control at safe distances from transmission lines and structures or for removal of trees as they invade pipeline rights-of-way.

Project Critique

After the completion of the project, it is important for one or more compliance or liaison officers to meet and/or review the project and to document project successes and problems.

Energy Transportation Systems Conference
Salt Lake City, Utah
February 3-4-5, 1981
By Bob Turri
Bureau of Land Management

My assignment is to identify a few of the problems we encounter with "on the ground supervision", or the monitoring of compliance regarding terms and stipulations associated with grants or permits. Supervising compliance would be a simple task if everyone involved had a clear, and the same, understanding as to the intent of those stipulations. You can sometimes get about as many different interpretations of the verbiage used as there are readers of those stipulations. This type of situation always leads to problems that result in misunderstanding, loss of trust, cooperation and integrity. I remember the first project that I was assigned to supervise. It happened to be a powerline, and I was the third replacement assigned by my agency. I studied the stipulations and proceeded to impose my interpretation. In a very short time, the supervisor responsible for constructing that line approached me and said,"You are the third man I have worked with on this project, and this is the third different set of instructions I have received. Can't you guys make up your mind as to what you want?" Although we had all read those stipulations, we obviously had a different understanding.

In order to overcome this type of problem, stipulations must be written clearly, concisely, and to the point, and everyone involved with them must be in mutual agreement with the intent.

Many of our stipulations are developed through the environmental assessment system and come from the mitigating measures. Some have even been reviewed and approved by solicitors, but that doesn't always make them easy to

understand. People who write stipulations should say what has to be said in as few simple words as possible. Excess verbiage contributes to confusion and sometimes results in someone trying to read meaning into those words that was never intended, depending on that individual's own point of view.

After we do get a good set of stipulations, we should always get as many people together as possible who may have a key role in the construction at a pre-work conference to discuss and develop a mutual understanding of the grant's or permit's terms and stipulations.

Sometimes, after a successful conference where we all understood and agreed, we find that no one had bothered to inform the "cat" operators as to what to expect. About all they know is they have to construct. I would like to use a simple example to emphasize my point. It is something I have seen happen several times. An operator hires an archaeologist to do a clearance for an access road ne needs. The archaeologist discovers a site and has the engineer route and flag around it. When the uninformed cat operator appears on the scene, he looks the situation over and, having a good understanding of road construction and being a good, logical thinker, remarks how incompetent the engineer is to have put that little unnecessary kink in the road. He then proceeds to correct the error by constructing the road through the archaeology site.

I don't mean to imply that all equipment operators should attend the pre-work conference, but someone who is directing their work should attend.

Those of us who are issuing grants and permits should also strive to improve consistency in the use of stipulations. Depending on the offices you are dealing with, you may have seen a hundred ways to verbally describe the results we are after, and those results may be very nearly the same, regardless of which office you are dealing with. I know our agency has been concerned about this for some time and has done some things to improve the situation. I also know there are some unique situations on certain projects that can be handled only by site specific type of stipulations that apply only to the area.

Another problem with on the ground supervision is the failure in some cases of our agency or the operator, or both, to designate and identify someone responsible for coordination and the failure to devote the necessary time to the task. I know at times we have failed to devote the necessary time because of stretching manpower. I have rarely seen a problem develop during construction that two logical, good-thinking people kicking in the dirt together couldn't resolve. The problems get serious when people aren't available to solve the problems as they arise. Sometimes this could mean backing up and doing something over.

We also need to do a better job of maintaining continuity when on the ground inspectors are changed. On those jobs where inspectors may be assigned by spread, or if for some other reason it becomes necessary to change inspectors, it would be desirable to have a one or two-day overlapping of inspectors. It would also be a good idea if inspectors for both the agency and the operator developed a practice of documenting instructions and decisions

previously made. These two things alone would go a long way toward a smooth transition when inspectors are changed.

I have shared a few of the problems I have experienced, and I have hopes that together we can do something about them. Thank you.

Page

VI. SUMMARY AND WRAP UP

WRAP UP SESSION

John Stephenson
Bureau of Land Management
Salt Lake City, Utah

Where do we go from here? You've heard a lot of things on the process from the initiation of the project through long-range industry planning, economic feasibility studies on through to the EIS preparation, the right-of-way and temporary use permit granting, compliance, and I think some of you may be amazed that we actually put the pipe in the ground. MAPCO, as you have heard, is in the ground after an 18 month process. IPP is on it's way. You've heard about the Northwest Stanfield to Burley project. These projects do reach completion. I think that ought to be emphasized.

Some of the things I believe that will help a project reach completion is the mutual trust between all parties involved; the Federal, State, and local agencies and the industry. Federal agencies, BLM, FERC, have to work together. We have to work with several State agencies on interstate projects. We have to work with the local government people. I hope the industry has learned that the agencies are here to help you wade through that process. The industry I believe has to be up front with no surprises. We have heard that on numerous occasions. I have heard some project proponents say that we don't want to get the Federal, State, and local people involved because they are afraid that they will lose control of their projects. This is a concern that I think could eventually lead to catastrophe in timely completion of a project. I think we have to work together from the beginning to the end. Industry, of course, has their preferred alternative, but there are a lot of people involved in helping you decide on an acceptable route. I think this is what we are eventually after - a completed project that will return an investment to the corporation. I think the industry has to learn the real world of the

bureaucracy and sometimes this is difficult. I might tell you a little story that I recall in working with a western utility that wanted to build a power line across public land and it was when BLM was first getting into this wilderness study area business. They had a line of something like 375 miles in length and 3 and 1/4 kV, and it was the shortest distance between two points, but it did go through some land that was undeveloped, pristine public lands, and some of the environmental communities were very much aware of this and saw that as a possible wilderness area, and BLM offered an alternative reroute around this area. The company decided that they couldn't live with this, that it added another 17 miles to their line and they did write numerous letters to the President of the United States, to all of the Congressional delegation within their State and without knowing who actually answered these letters. One day I was in my office in Washington, and in came a representative so I decided to try to educate him a little. I took him in my office and I said, "Do you see this red envelope? Here's the letter that you write to President Jimmy Carter. Do you see these blue envelopes? These are the letters that you write your Congressional delegation". He was amazed to see those letters sitting on my desk. I said, "What's more, I'm not going to answer those letters. I'm going to put them on the telefax macine and send them to the State Office that is involved in your project". This particular person was amazed that his letters to the Congressional delegation ended up actually back in the hands of the bureaucracy, and I think he then became very knowledgeable that the easiest thing to do would have been to pick up the phone and personally visit the local person to iron out his problems. They were amazed that the Congressional delegation and the White House staff were actually asking those involved at the BLM field level to answer these letters.

When this was learned, BLM and industry got the problem resolved quickly. The company, unknowing about this system, made it very difficult and thereby caused delay in the process. As far as the Federal and State

agencies are concerned, what can they do? I think there has to be commitment by those agencies involved in the project. One agency cannot put this project in the forefront on a streamlined or fast-track system and have another agency dragging their feet because it's not up on their high priority list. We have to get together early on and everybody put this at the top of their priorities. We have to have top management; that is, the Secretaries, the Governor, and the rest of the directorate place the project on a fast-track process. This priority list has to filter on down to the field to be effective. The agencies have to be staffed and organized to handle projects. We can't let a project application get lost in the system. So the agencies, I believe, are trying to gear up to handle these major energy projects through improved management and organization.

I believe we'll be seeing probably more EIS contracting. It was mentioned earlier that the third party contracting process is an efficient means of handling energy projects. I think we'll probably be seeing more of that in BLM in the future. I think all of our participants must maintain a keen awareness of public interest and concern. We have to keep our eyes and ears open to what the general public is thinking - the general public being outside some of the agencies. The bottom line here is if environmental problems are serious enough to those people, we end up in court action and further delays.

I hope that this conference has helped in developing this mutual trust so we can work together more efficiently in the future. When this steering committee put together this conference, I believe that was one of the things that headed the list because the successful projects that have gone on through the system we have maintained this mutual trust in each other and worked our problems out at the field level.

At this time, I think I would like to thank all of the steering committee members. On my far left, Mr. Buzz Hunt of the Utah Energy Office; W.A. Thomasson, Northwest Pipeline; Walfred Hensala, Northwest Pipeline; Rosemary Richardson, Utah Power and Light; David Neilson, Utah Power and Light; and Jim Butler, U.S. Forest Service, for assisting and putting this conference together.

Jim Butler
US Forest Service
Ogden, Utah

If you listen to the T.V. in the morning like I do then you'll hear a statement, "If you want to succeed in business, you need to take the Wallstreet Journal". So, I've taken the tact that if you want to succeed in expediting an energy transportation project, all of us need to do some of the things that I'm going to mention. Basically, kind of a broken record, according to what we have said, but I think they need to be reiterated and we need to consider them - the companies need to consider them, the Federal agencies, the State and especially the local people. The local people were quite vocal during our meeting and rightly so because I've always felt they sometimes got the last word and they probably feel that way too.

First of all, make your plans known to the local, State, and Federal agencies as early as possible. There's no question about the need for this. Include reasonable alternatives in your planning and be able to provide data on these alternatives so that they may be analyzed by the team the same as your preferred route. I think that's particularly important. You heard some talk about the use of the Colorado joint review process. It is a good process. It has worked in Regional IV for us and it's worked in Region II in Colorado. It does have merits; part of it can be used and part can be discarded depending on how it fits into the process.

Scoping. This is something that we've spoken of and it still needs to be emphasized. Most of the time, because of the large amount of BLM land in Region IV, we become a cooperating agency and work with the team leader or co-team leaders to ensure that National Forests are considered in the EIS. We find a lot of cases that scoping is not adequately handled, the media representation or the notices thereto are not given out early enough and in some cases there is no public participation. Sometimes you wonder

whether it's because they're not interested or because they don't know about it.

Schedule. Some of our schedules are almost impossible to meet. We have people and fund problems and this is well known to those who work in these EIS's and hopefully we can have a realistic schedule.

Cost recovery as Rosemary has noted, does not always cover costs. In fact, Forest Service regulations have not been approved yet for cost recovery on transmission lines. We're covered by cost recovery for pipelines. But even so, cost recovery does not cover all of the costs of an EIS regardless.

Utility corridors. By use of the corridor planning process, many EIS's can be expedited or handled by Environmental Assessments. The Forest Service is now considering establishment of utility corridors through its Regional Forest planning process. I urge all utilities to provide us valid information on coal slurry, transmission lines, oil and gas
Forest planning process. I urge all utilities to provide us valid information on transmission lines, oil and gas pipelines and coal slurry pipelines through the western utilities group. We have had good input, but we need <u>better</u>. Not all utilities have participated in the BLM and Forest Service effort to obtain information on utility planning, and where we don't know, we can't plan. We will consider the designation of existing and planning corridors. We have the opportunity then, if corridors are wide enough to handle another utility through a much shortened process. So, there is a way of expediting location approval of utility rights-of-way if we can get information in a timely manner for our planning process.

So make your plans known, have good scoping, recognize cost recovery and personnel needs, make reasonable schedules and help us to plan better by making known your future utility right-of-way needs to incorporate in corridor planning. All this will help to expedite your project and have it on time when the public needs it.

Thank you and I feel it's been a good conference.

WRAP UP SESSION

ROSEMARY RICHARDSON, UP&L

Well, John, I promised Lillian Stone I'd be brief and I will. I think this has been a very successful conference; I think we've learned a lot about each other. It is always good for industry to understand what you people who work for the agencies go through in processing one of our applications, and I think it's good for you to know what we go through when we sweat out getting an electrical line built or pipeline built. I think that we kind of pin-pointed some areas that are still sore spots for us. Those include cost recovery, the idea of having to provide alternative routes. And there's another area of strict liability imposed on an applicant if it's an electrical utility, and land use planning in general. But I think perhaps the agency people were relieved to know that industry is concerned with preserving the environment, and we're relieved to know that the agency people are interested in promoting industry. I think that things have improved drastically in the last few years in our relationship. I thought things were on the uphill before this conference was held, but now we can go on and work on these problems and through communication and cooperation, we'll succeed. It won't be such a dismal picture as painted by Dr. Coles, I hope.

Thank you.

W.A. THOMASSON
WRAP-UP SESSION

Good Afternoon! One thing I hear from this conference is, the increasing demands being placed on our public lands today make it necessary that we all learn how to effectively co-use the land if we are to survive. We are dealing with yet another resource that belongs in the non-renewable catagory. The land manufacturer quit a long time ago. The more demands we place on the land results in even greater limitations for each use. This is a normal evolutionary sequence and I think we're finally realizing we must share this limited resource.

I would like to ask you some questions. Did you enjoy the conference? (applause). Would you be interested in another next year? (applause). I have been advised another conference is being planned in Montana, next year and Interior Secretary, Watt is attending. That should do something for attendance, I'm not sure just what at this time.

Did you learn something at this seminar? (applause). I'm glad to hear that. I would then assume you would give an overall favorable evaluation and recommed this type of conference to your friends and co-workers. Would you please take the time to send us a critique of the conference? Let us know the bad as well as the good points so we might improve and refine. This is the first conference of this type we have attempted and we have made mistakes. When we attempt another, we want it to be better, so your input is needed. One Gentlemen said he felt we had too many speakers and not enough time allocated to each. I agree with this observation. Whatever your comments may be, they will be considered and appreciated.

W.A. THOMASSON
WRAP-UP SESSION

I have never seen so many "feds" in one place at one time in all my life. We have the REA, the Federal Energy Regulatory Commission, B.L.M., Air Force, Water and Power Board, B.I.A., the Office of the Federal Inspector, Fish and Wildlife, Forest Service, U.S.G.S., Interstate Commerce, U.S. Park Service and Bonneville Power. Amazingly, I don't believe we've had a single fight, have we? Maybe that's because the EPA and Corps of Engineers did not attend, but we did invite them. Really, that's a very good representation, out of the 14 agencies invited, 12 responded favorably.

It has been great that we can get together, talk about our problems and seek solutions. This was one intent of the conference.

We have a common task, to develop our energy resources in a sensible manner without detriment to the environment. We must end our dependence on foreign oil. I hope we can learn to cooperate with one another toward the common goal of energy sufficiency.

Wrap-Up Session Comments

CONFERENCE ON ENERGY TRANSPORTATION SYSTEMS

By Buzz Hunt, Siting Coordinator

Utah Energy Office

As someone pointed out earlier, there's only one thing worse than being the last speaker on the first day--that's being the last speaker on the last day; but I'll make this as brief and painless as possible.

First of all, I've been pleasantly surprised by the audience, the diversity of the participants, and the excellent comments we have heard over the past three days, and I think we owe the audience a round of applause. I think they have done a great job.

As the proceedings of this conference have repeatedly suggested, we must all realize that the permitting process of the 1980's (that is, the decision-making process in the public domain) is going to be made in the open with public involvement. We all need to realize this and adjust our thinking accordingly. As Ms. Lillian Stone aptly put it, we need to "let it all hang out." I think that's really the overriding message of this conference; that if we (industry and all levels of government) provide for adequate communication, consultation and coordination we can all go about our business and more effectively accomplish our individual goals and objectives.

I do have some specific remarks for each of the constituencies that were represented at this conference. My own impression is that industry does need to learn to be more open and to document their project planning from the earliest conceptual stage to the point where they actually submit applications for permits. They need to approach public agencies early and work toward an understanding of the concerns and constraints, rules and

regulations under which each government agency must comply. With respect to federal agencies, I have always been impressed with the competence and especially the professionalism that I have observed among federal officials. I do feel the permitting process can be improved by promoting greater interagency cooperation and coordination, especially between land management agencies and other federal regulatory agencies that have more recently become involved in the permitting process.

With regard to the states, they also have room for improvement. In many areas, we're still relatively new in the process, and I'm sure over a period of time we will make the kinds of improvements that I believe federal agencies are beginning to make. The state of Utah has instituted preapplication and predesign conferences and we're toying with the idea of adapting the joint review process now being used in other states. We are also promoting legislation which would establish an energy facility siting authority, which among other things would attempt to consolidate and expedite the permitting process in Utah. There is also legislation pending which would improve various financial mechanisms that industry, state and local governments could use in helping to mitigate socioeconomic impacts. By the way, I think if there is a shortcoming in the regulatory review process, particularly the EIS process, it is inadequate treatment of socioeconomic costs and benefits of energy projects. I think we need to be more concerned with those issues.

I was extremely impressed with the three presentations we received from local governments. I think they're learning to be bold with industry, and demand to be involved with the permit review and approval process and I think that's a good sign. Local governments not only must understand what industry is attempting to accomplish, but must also communicate to industry

what local communities hope to gain by approving industrial development. I think there is a reason why local governments by in large favor resource development and that is they hope to promote economic stimulus and employment opportunities. I think that if local government officials approach industry and explain what their problems are and what they expect to gain by approving energy projects, then their expectations have greater prospects for realization.

Finally, the regulatory review and permitting process in the 1980's will be hectic and perhaps controversial. Given this climate, I think we all need to sharpen-up our communications and public relations skills. I don't think there's any room whatsoever for rhetoric, condescension or arrogance on the part of any body--federal, state, local or industry--we all need to cooperate and get along with each other. If we can build a cooperative partnership between the public and private sectors, we can then proceed toward a more effective fulfillment of our individual goals and objectives.

Thank you.

Page

VII. GUEST SPEAKER PRESENTATIONS

Dr. George R. Hill

It's a pleasure for me to talk with you about something that I've been concerned with in trying to help solve the nation's energy problems. As frustrating an effort as it has been, I feel you're really making progress in a meeting of this type. I commend you for your attendance and participation, and especially those who put together this forum where the art of the possible will be developed and we can move ahead with solutions to the problems.

The topic that I was asked to address is Energy Supply and Demands. Now, if I were an economist like some of my friends on the faculty, they would say, "Hey, that's crazy. Energy supply and demands--you don't have an 's' on the end." But I put that on deliberately, because the demand for energy, as our economy revives, is going to result in demands by the public that we meet these desires. So, there's more than an element of what is wanted, it's going to be what is <u>really</u> wanted. I think that you're addressing the topic in a very admirable way, and I hope you have fruitful results. In order that I can stay within the time framework, I have written out a preliminary statement I would like to read, and then I will talk to the topic within the time frame. Then there will be time at the end, if you wish, for a question or two.

Planning for the future requires a broad look at the resources available, at the forms in which they can be used, at the environmental, social, and economic impact of increased use on both consumers and the producers of the energy supply. Too frequently, proponents of single processes or simple solutions gain the attention of decision makers. Indeed, simplistic solutions abound, but our real world problems are so interdependent and involved that little or no action seems to be forthcoming to solve the basic problem.

Each of the solutions proposed can contribute its fraction to the total. No single one will do it all by itself. And it is my hope that the solutions that come down the pike will factor themselves in according to their economic and social and other jusifications, and that we won't find ourselves overloaded with some that are too heavy a financial burden. Now, in order that this discussion can be meaningful and will help you understand what I perceive as the broad picture and help you see the relationship among the supply, the production and transportation, and the demand elements in the overall energy picture, I would like you to visualize three boxes--box number one connected with the middle box number two, and then with box number three. I would like to address the contents of these boxes and have you go along with me to try to get a better understanding of what we are facing. The first box contains our energy supply: the raw material store of solar produced fossil fuel, the concentrates, which include natural gas, petroleum, coal, tar sands, oil shale; and the non-fossil family; geothermal, nuclear, and hydro. There will be one chamber in the box containing intermittent renewable resources such as solar, wind, tidal, thermal, and lake-brine concentration gradient energy sources. And another box has biomass in it. These constitute our energy sources.

Box number two contains your prime concern: the processing--and more important--the transporting system needed to produce and to convert to more useful forms the energy raw materials from box number one.

Box number three contains the needs and interests of the consuming public and their priorities. I think we want, in this particular discussion, to look in detail at boxes one and three--that is, the supply and the public demand. Then I will have a final series of questions about the contents of box number two which you are addressing in this meeting. Your concern at this meeting is principally implementing the structure in box number two that

will affect the transformation and transporting of the supply resources in box one to the demands of consumers as represented in box number three.

Now, let's look carefully at the supply box, number one. In that box we have to consider the whole spectrum of energy resources in terms of their quantity, in terms of how they can be used, in terms of the impacts of their use sociologically, as well as economically and environmentally. The resources of fossil energy and nuclear, etc., in the intermountain area are indeed very, very great. We have had this knowledge for a long time. When they will reach major production levels (we have already reached major production levels in oil and gas; moderate for coal; major, for a time, for uranium), but when they will begin to supply the building needs on the West Coast (which is our principal market area) is something that no crystal ball that I've looked through has been very clear on. I have anticipated it for the last 30 years, and it has been relatively slow to come.

Nevertheless, we need to take advantage of the information that is available--namely, that we have resources of high volatile bituminous coal, which coal gives the highest yields of liquid in liquefaction processes, and of gas per ton of the as-mined material of any coals in the world. This coal, as most of you know (with the exception of Alton Field), will all be mined with underground mining techniques. UP&L has been doing some very excellent mining development work and made a world record last year for maximum total production of long-wall mined coal ever attained in a shift or 24-hour period. They applied the techniques that have been used in Europe very effectively. We can <u>count on</u> a long-term supply at essentially present costs because of the great abundance of the coal--escalating, of course, as the dollar devalues--but there is still available what can be considered an infinite supply of coal in the whole United States and, indeed, throughout the world.

We used to think of oil and gas as being infinite in supply. It was only in the last 15 years, really, that the realization has dawned--that our exponential increase in demand for these very convenient fuels (oil & gas) has finally, within the continental United States, outstripped our ability to produce at reasonable prices these favored forms of energy. The mid-East (OPEC) countries wisely sent their bright students to Harvard and other universities in the United States. They went back home and did a very simple calculation of what real value that oil had. We all recall as we pay $1.20 or $1.30 a gallon for gasoline now, the impact of their decision. They raised the price instantly, a few years ago, from $2.50 a barrel of oil to, first, $13.50, and subsequently up to $30 a barrel. The upward escalation limit, I believe, will be set by the cost of conversion of the kerogen in oil shale to oil and of the organic constituents in coal to oil as gasoline and diesel fuel. One of the things I hope to see in my lifetime is the building, in the U.S., of at least one commercial plant for the production of gasoline from coal, from oil shale, and from tar sands. These plants will then set what that upper limit is above which the price of oil need not rise and cannot rise because we would then build plants enough to take care of our needs, and the OPEC countries would be forced to hold the price at essentially that level.

There's a difference between the resource of coal or oil shale and the reserve of coal or oil shale or any of these other materials. I think you really need to understand that. As you look at a comparative set of figures, it is apparent that about 86 percent of our fossil energy reserve is coal, with maybe 4 percent as oil, 4 percent as gas, tar sands, heavy oil, etc. (This is excluding oil shale because we don't have any commercial production of that.) Among the principal feeds we are now using, the ratio would be about 86 to 4 to 4.

Our consumption pattern is almost the inverse of that. Only around 12 percent of the energy we use comes from coal, the balance being principally from gas and petroleum. This is, of course, the reason for the bind that we're in at the present time. We have been using these high quality fossil energy materials--gas and petroleum products--in far too high a proportion with respect to their availability for reasons that all of you are acquainted with. A regulated, artificially low price for gas forced it into large scale industrial use. The electric utility industry, among others, is as grateful as can be--that's the neatest fuel there is. It's clean, has no pollution problem, and uses simple devices in the boilers. But with hindsight we can see we would have been much smarter to urge large users of energy who can afford in their plants to build an electrostatic precipitator to catch fly ash, and sulfur dioxide scrubbers to remove the SO_2 from the combustion products to use coal. We should have been doing that all the time. But, again, hindsight is 20/20. We are now moving in that direction so that large scale users can use these lower grade raw materials--that is, the dirty ones like coal, in systems where they can afford to clean up the effluents so that there is no essential contamination of the surroundings or, at most, minimal degradation of the surroundings. This will permit fuels like gas and oil to be used in their higher value mode. President Reagan has opted now to remove the ceiling price from crude oil rather than waiting until August 1 as President Carter had recommended. This will allow the market forces to readjust. I hope that means a minimal increase in gasoline prices followed by a decline and stabilization, and I think it should. When these forces that have kept the price of oil so low over the years (gasoline, particularly in the U.S.) get back in balance again, I think we will have a period of stability that we have not seen in the recent past. We need to consider then the role that coal, oil shale, tar sands, and electric power can play, and what

are the transportation means to move these raw materials (first to convert them to more useful forms if needed) to the places where the demands are high. There is a need to take the total look and to stop saying, "Ther's a single solution that will solve all of our problems."

Let's look for a moment now at box number three, the demands side of the picture as far as energy is concerned. I would like to point out an observation that many of you, I'm sure, have made concerning the exponential nature of the increase in demand for energy. Our demand has not gone up in a simple linear fashion. In order to make a straight line function out of the demand for energy in the United States or in the USSR or worldwide, what you have to do is use a mathematical device we call an exponential plot. What you do is plot the logarithm of the demand as the vertical axis unit versus time as the horizontal axis unit. When you go up one unit of length on the scale, you go not from 1 to 2, but from 1 to 10. Then when you go up that same distance again, you don't go from 10 to 11, but from 10 to 100. The next step is to 1,000, etc. That results in a linear plot which economists and others just love to use to over-extrapolate to disaster. As a matter of fact, you don't have to push it out much past the year 2050, and you find the demand exceeds the total fossil energy resource that we know anything about. So you have to keep two things in mind: (1) the demand is increasing at an ever-increasing rate, and this is a function of population increase; it's a function of the need for employment as more people get into the work force; it's a function of the inherent demand by people to raise their personal standard of living. One solution some people contemplated was to say, "Okay, let's pass a law that nobody who doesn't now have a second car can own a second car. Let's forbid anybody who doesn't have a boat who wants to get out on a reservoir and waterski, from buying a boat. But no politician would attempt to put legislation of that type in place. It just wouldn't be fair

(and wouldn't get them reelected), so there's no question but what those constraints cannot be imposed; nor do I think they sould be imposed.

We do need to recognize, however, that this sharp increase in demand cannot continue forever. Obviously, we do have limits. If you will look historically at any kind of a demand curve for any product, it has been sigmoid in character. That is, it increases steeply, then it tips over and reaches some limiting value that is determined by supply and cost constraints. So we're going to have to level our use of oil out or substitute other things for the inadequate supplies for the period beyond 100 years. We have enough for about that period of time, but we would be in a bind if we were to continue to fail to develop alternate energy sources.

Now, I started to say that some of you may be aware of a fact that's being overlooked right now. Today, we're in a financially depressed state. The price of gasoline has increases so much that people have cut back on their driving, and a lot of us have bought smaller automobiles that get 25 miles per gallon instead of 10 to 12 miles per gallon. There has been a leveling off in the demand for gasoline. If you look back, during the depression of the '30's, and if you plot the demand for energy, it took a sharp decrease during the depression--dropped very considerabley (20 to 30 percent). AS we came out of the depression, the curve picked up again, and if you look at the line 10 years after the depression, we find that we're back on exactly the curve we were on before the depression came. You can draw a dotted line--a smooth line--between where this dip occurred extending the earlier curve on to what we have had in the last 20 years. I submit that what we are doing today by way of cutting back (our voluntary conservation) may be building up kind of a repressed demand. I think people are going to want to get back to driving to Yellowstone for a vacation. They didn't do it last year because of the cost of gasoline, and because patriotically it wasn't the thing to do. But

that doesn't change the instinct in us to want to get around and to travel. Those demands are inherent in us; I don't see a major change in that property as human beings. My caution, therefore, is that while we have had a temporary leveling of demand, don't count on it lasting long. It will become a "demands" of the public for electricity, natural gas, gasoline, and for all of the things we find desirable in our society.

Another parameter that has to be considered in this demand side of the thing, I ran into when I was directing the fossil fuel effort at the Electric Power Research Institute. Somehow, everyone figured that if oil or natural gas gets short, we can convert our homes from being heated by these fossil fuels to being heated by electricity. And this happens. There was a period when natural gas was not available for new signups in the northeast part of the country when people went over to electric homes. Now, I don't want to discount that as an excellent thing to do from an electric power company point of view, but I do want to point out that the net energy demand actually is larger if you go that route, than it is if you use the natural gas directly. You see, in the conversion process from heat into mechanical energy and then into electricity to come into your home, there is a thermodynamic limitation of approximately 35 percent. In other words, the water cooling process at the steam plant discharges a low grade energy that is not economic to move around that amounts to 60 to 65 percent of the total energy consumed. So anytime you shift from liquid or gaseous fuel to electricity, you build in a cost (in terms of our total energy resource) that ought to be reckoned with. Now, the efficiency of use once it's in the form of electricity, is 100 percent. The efficiency of burning gas is only 80 to 60 percent depending on the efficiency of your furnace. So there are trade-offs, and they tend not to be as dramatically different as I have indicated. Also, any of the changes that we have adopted, any of the constraints that are put on our automobiles to decrease the emissions

of those automobiles, any device we put on a powerplant to remove sulphur dioxide or particulate matter, costs us in terms of extra energy consumption. We have to derate the power plant. On the efficiency of our automobiles, we could be getting 35 and 40 miles per gallon around town in the small automobiles we are now driving instead of the 25 we are now getting, if we were using the high compression engine we were using prior to the concern about pollution from the exhausts of automobiles. Each of the devices we put on is a "resistance," if you like. It is a consumer of the energy that we put in as raw material. Our economy is pretty darn efficient in optimizing designs of plants and processes to give us the least costly and relatively highly efficient energy consumption programs.

The other factor that we have to look at in box number three, which has only in the last 15 to 20 years come into focus, is the impact on the environment, on the lifestyle, on human expectations, and on individual and national freedoms of new industrial installations. There is concern with developing power and energy corridors and of selecting power plant sites. All these decisions now have to take into account what the impact is on the people and on the environment. There are more reasons that come into the discussions for "not going ahead" with anything than I ever believed possible. I mentioned before the meeting started that our society has done a 180 degree turnabout in terms of attitude toward development. I'm not saying that that that is completely bad or completely good; I'm simply saying that it's a fact. It used to be that any time anything came on the horizon that promised to raise the standard of living or to make more thangs available to people, it was a desirable goal. We charged after the development like it would disappear if we didn't get it done. Our current behavior pattern is 180 degrees turned around from that. I have been involved in the power plant siting hearings in this state and in a number of other hearings where the people who desire to build a plant now listen

patiently as every group that has any reason for not wanting the thing to go ahead or has any reason for bringing up a caution comes in and states their case. We now look, for example, at the geological hazard--whether there's an earthquake potential; at the nature of the soil; whether the plant would be in a flood plain; if there are any endangered plant and animal species reported in the area; and at the sociological, economic, esthetic, and economic impacts that can be expected from the development. The net result has been to stop virtually all construction of new industrial plants in the United States. Concern with the impact of these constraints on the U.S. economy has generated pressure on Congress and the executive branch to make some changes. I, for one, hope the pendulum can return to a more stable position to allow the economy to move forward so that our children and grandchildren can enjoy the blessings we have enjoyed in this great, free nation. Thank you.

Dr. Joan Coles, Sierra Club

Energy Alternatives - Soft Path Approaches

I've been asked to talk to you today on alternative ways of confronting the energy crisis we are in; ways which have been labeled "soft-path approaches".

For 3 days you have been working on the problems of identifying and developing major energy transportation corridors, and listening to addresses by eminent speakers who have come to inform you about problems in energy supplies. After all that, the things I am going to tell you will probably require a shifting of your mental gears.

I am pleased to be here. It is not often that I have the opportunity to talk to a distinguished audience of experts from industry and government on a topic I consider so important.

There is no one in this room who is not acutely aware that we are in an energy crisis, and that this crisis will be severe and prolonged. We all know that petroleum supplies are finite, and that we are heavily dependent on foreign oil. We are experiencing the serious economic hangover of a long energy binge. The decisions we make, and solutions we come up with will have indelible impacts on our economic future, our lifestyle, our quality of life, and our physical and social environment - for us and for future generations.

We are a people schooled in abundance, encouraged by government subsidy and artificially low prices to buy and use energy-consuming devices. Since World War II, our settlement patterns have been shaped by the automobile, our status determined by the horsepower under the hood, and our success flaunted by long vacation trips and mechanical toys. We saw the dismantling of our public transportation systems and the sprawl of our cities and suburbs as signs of the good life. For us, the American Way of Life came to depend on a daily 3.3 gallons of oil a piece, for every man, woman, and child; and the daily commute to and from our work places became our largest single oil consumption item, accounting for 15% of the total. Personal transportation was transformed from a luxury to a necessity. At the same time, other energy uses became similarly profligate. Led on by the promise of ever cheaper electricity, we built buildings that were architectural marvels but energy disasters; buildings with windows that don't open, where your choice of space conditioning is to switch from the furnace to the air conditioner; buildings that are inadequately insulated; buildings that are not situated or oriented in ways that make sense given the climate conditions where they are built.

Now we can foresee the depletion of petroleum supplies we thought were inexhaustible. Our domestic production has peaked and is declining. We now import over half the oil we use, with disastrous effects on our balance of payments and our position in the world's economy. Our land and our

means of production are starting to pass into foreign hands, purchased with dollars we spend on foreign oil. And we are frightened because we still assume that our advanced economy and our high standard of living require a huge, and ever growing, supply of energy -- of electricity and of liquid fuels.

Until recently (as few as 5 years ago), most proposals for future U.S. energy policy embodied the twin goals of sustaining growth in energy consumption, and of minimizing imports. Energy consumption was assumed to be closely and causally linked to GNP and social welfare, especially jobs.

The usual proposed solution was rapid expansion of three sectors: coal, mainly stripmined and made into electricity and synthetic fuels; oil and gas, increasingly from Arctic and off-shore wells; and nuclear fission, eventually from fast breeder reactors. "Unconventional" energy was relegated to a minor role and was considered unlikely to make a significant contribution until after the year 2000. Conservation, induced by price, not policy, was considered necessary but unlikely. Long-term sustainability would be assured by some eventual combination of breeder reactors, fusion, and solar electricity. In this policy, which David Brower called "strength through exhaustion", all domestic resources are squeezed to the limit. Massive electrification is undertaken in an effort to relieve pressure on scarce liquid and gaseous fuels. Enormous centralized electric power and synfuels plants are built, mostly in the nation's rural areas, to supply the ever growing demand for electricity and fuels needed to sustain growth in energy consumption and in our GNP.

We are 5 years down the road, and most of that policy has never materialized. The most intractable barrier has been the capital cost. The price tag was unrealistic and unaffordable. Let us take a look at those costs from several different perspectives.

I should say parenthetically that the figures I will cite for you are probably ridiculously low; I compiled them from papers I read a year ago, and they are based on data assembled 2 or more years ago.

President Ford's 1975 State of the Union Message described an energy program that would have required $1 Trillion investment over the 1976 - 1985 decade. Three fourths of this was to be for electrification. This investment requirement equals about 3/4 of cumulative net private investment over that time period. Would the market have really allocated capital that way, starving the consumption sectors of the economy to increase electricity production? The electric utility industry is enormously capital intensive, as you can see. Fortunately, grandiose plans like that have a way of not materializing. If we look at what electricity costs, compared to other forms of energy, we will see how lucky we were. Electricity at 4.1¢ KWe-h at the busbar corresponds to buying oil at $66 per barrel. At 6.3¢ KWe-h it comes out to $101 per barrel. The useful work that electricity can do, then, is very expensive.

Another way to look at the investment picture also compares the investment needed for a given amount of energy. The investment in North Sea oil fields coming into production is roughly $10,000, 1976 dollars, to deliver an extra barrel per day into world energy use. For the U.S. Arctic and offshore, investments to deliver an extra barrel per day will be in the range of $10,000 - $25,000. For synthetic gaseous and liquid fuels from coal, it will range from $20,000 to $50,000 per daily barrel.

But capital costs for systems that make electricity are far greater, for delivered energy. For coal-electric capacity ordered in 1976, a reasonable estimate would have been $150,000 investment for the delivered equivalent of one additional barrel of oil per day. For nuclear-electric capacity, the price tag would have been $200,000 - $300,000. By now, four years later, the prices are surely much higher.

Clearly, electricity is the champagne of our energy diet. It is irreplaceable for what it is really needed for: electronics, lights, motors, electro-chemistry, metallurgy, arc welding, and so on. But these uses constitute only 8% of all our end-use needs - and we already supply 13% of our end-use energy in the form of electricity. We can become more efficient in our use of electricity. Cost-effective technical fixes can improve end-use efficiencies of household appliances and industrial motors by average factors of four and two respectively. By increasing efficiencies of our devices, by cutting out pure waste - such as over-lighting, by replacing that 32% of electric end-use that doesn't need electricity, we could live the same as we do now with one-third the electricity we now use. If we do what is economically rational, then, our real need for electricity could treble before we would have to build a single new power plant. Since we can't, or prudently don't, capitalize a high and continued growth energy future, does this mean we will automatically experience a reduction in our GNP and quality of life? Not necessarily.

It is true we have until recently assumed a direct and causal relationship between energy consumption and GNP and standard of living.

Yet, the experience of other nations challenges this assumption, and physical analysis of technical efficiencies already available indicate that we can get a lot more mileage out of our energy. For example, analysis of potential technical efficiency improvements in Great Britain shows that a trebled real GDP could be achieved with a slight reduction in national primary energy use in the next 50 years, rather than requiring the large increase officially forecast.

Even in the transportation sector we can learn from the European experience. In Europe, gasoline has always been viewed as a foreign luxury item, and, like cigarettes, was taxed for its sinfulness. Europe's gasoline prices have always been double or triple ours, and individual consumption levels are ½ those of Americans. Sweden maintains a per capita GNP comparable to ours while using only 60% of the energy that we use to produce each dollar of that GNP. In Sweden, higher energy prices have led to greater efficiency, especially in the transportation sector of the economy.

In a landmark paper written in 1976, Amory Lovins referred to the sustained growth, high production policy we mentioned, as the "hard path", "hard" because it is centralized, it depends on a very few high technologies that may or may not work, and maximizes risks to capital in case of error, accident, sabotage, or changes in the political, social, or economic weather.

If we follow what Lovins calls the "hard path", the path of increasing production at whatever cost, you can expect to see increasing numbers of large electric power plants; enormous developments in coal extraction,

coal gasification, and coal liquifaction; and huge developments in oil shale and tar sands extraction and processing. Institutionally, we would be making a major social and economic commitment to difficult, large scale, projects under centralized management. These projects would make heavy demands on scarce resources -- capital, skills, labor, materials, special sites, water. These demands could probably not be met by market allocation, but would require compulsory diversion away from whatever priorities are backed by the weakest constituencies such as agriculture. We toy with legislation that gives the government special powers to bypass existing lawful protections to local environments and priorities (EMB, for example). In the past, we have granted our government powers like these only in times of war. And while this approach, this hard path, is portrayed to us as a bastion of free enterprise, we would see more subsidies, more regulations, more nationalization, more eminent domain, and more billion-dollar bailouts, and fewer jobs.

The energy developments that could be imposed on the states, the regions, and the nation would bring substantial changes in environmental quality. Facilities would occupy prime sites and pre-empt scarce water. Extraction industries would alter our landscapes, and effluents would diminish the quality of our air and water. Health and lifespan would be adversely affected. We in Utah could no longer prize ourselves on our low incidence of certain diseases, and the longevity of our people.

The population growth would bring drastic changes. The social fabric of communities would be permanently altered by large influxes of people with values, habits, interests, and politics that differ substantially from those prevailing in the community. Increasing numbers of people would compete for ever-scarcer outdoor recreational opportunities in ever-dwindling open-space. Schools, services, and agriculture would have to compete for workers against construction and industrial jobs, and would lose in the competition. Families would be impacted by these shortages of educational and social services, and small communities, our last bastions of stability and community, would be beset by the 4-D's of western boomtown growth: drunkenness, depression, delinquency, and divorce.

What alternatives have we? Do we have any choices? How can we meet the growing demand for energy?

First, let us examine the assumption that energy demand is on a rapidly increasing upward spiral. Figures do not support this assumption. Gasoline use has dropped 11% since 1978. Industrial use of energy per unit of output has decreased 14% since 1973. Electric demand growth has slowed. Indeed in certain parts of the country, the absolute consumption levels dropped in response to coercive incentives applied during the oil embargo of 1973-4. We see utilities in serious financial straits as they struggle with cash flow problems resulting from excess capital investment in production capacity, which leads to increased electricity prices which leads to reduced demand growth, in a "spiral of impossibility".

It is interesting to watch the pattern of energy forecasts as the years go by; forecasts for the year 2000. All figures are given in Quads (Quadrillion BTU's).

Year of Forecast	Beyond the Pale	Heresy	Conventional Wisdom	Superstition
1972	125 (Lovins)	140 (Sierra)	160 (AEC)	190 (FPC)
1974	100 (Ford)	124 (Ford)	140 (ERDA)	160 (EEI)
1976	75 (Lovins)	89-95 (Hippel-Princeton)	124 (ERDA)	140 (EEI)
1977-78	33 (Steinhart-V. Wisc.)	67-77 (NAS)	96-101 (NAS; Weinberg-Oakridge)	124 (Lapp)

It seems that everyone is revising their estimates downward. This year's heresy becomes conventional wisdom two years from now and passes into superstition two years later. It pays to know who made the projections and how. And it pays to be skeptical.

Given that we can no longer estimate future needs by laying a straight edge on a piece of graph paper, and given that the "hard path" might prove too expensive and too slow, where can we turn for solutions to our energy dilemmas, and how can we meet our true energy needs? Lovins, in his 1976 paper, called attention to a body of technologies he labeled the "soft" technologies, not because they are vague, mushy, speculative, or ephemeral, but because they are flexible, resilient, sustainable, and benign. They are also available, workable, and proven. His distinction between the "hard" and "soft" energy paths rested not on how much energy is used, but on the technical and sociopolitical structure of the energy systems. The soft path was defined by 5 characteristics:

1. Reliance on renewable energy - i.e., the sun.
2. Diverse, so that energy supply is the aggregate sum of many different modest contributions, each maximally effective for its own circumstances.
3. Flexible and reflecting known and relatively low technologies; easy to understand; accessible and not arcane.
4. Matched in scale and geographic distribution to end use needs.
5. Matched in energy quality to end use needs.

The soft path, as conceived today, is seen as a substantial and purposeful shift to solar energy in its various forms which include wind and biomass, combined with a significant conservation effort focused on eliminating waste and improving efficiency, and the limitation of electricity use to

those uses for which it is truly necessary. Supplemented by geothermal energy where available, and cogeneration of electricity and industrial heat or steam where needed, these technologies are seen as the cornerstones of an energy future that promises sufficiency, stability, flexibility, diversity, and jobs.

At the beginning of 1981, there are now substantial data and studies to support some of the proposals offered then on theoretical and common sense grounds, since we had relatively little experience with either conservation or the technologies in question.

An example of action taken is the recent adoption by the California PUC of a policy requiring Pacific Gas and Electric to provide incentives to its customers to install solar water heaters. It also offers money to builders of energy-efficient houses and grants to cities that cut energy use. The utility became a proponent of and investor in conservation after Zack Willey of the EDF made an analysis comparing the economic feasibility of building 10 new power plants with the feasibility of investing the same capital in one new power plant and a mix of renewable energy and conservation approaches. The analysis showed that the company would forego $75 million in yearly extra earnings if they adopted the 10 power plant option instead. That plus pressure from the California PUC seems to have induced the utility to become a proponent of conservation and to enlarge its view of itself as a provider of energy services. So Cal Edison is also quoted as having announced that renewable energy is now a "preferred technology" and that they believe that conservation and alternatives can provide for up to 30% of new electrical needs in the 1980's.

Other estimates of conservation potentials suggest energy savings of up to 50% (even 80%) in residential heating, up to 80% in the commercial sector, and up to 30% in the industrial sector.

The solar sector is also growing, as more individuals choose passive solar designs for their homes or retrofit existing homes in order to reduce reliance on electricity, gas, or oil.

The very diversity of soft path approaches makes them hard to talk about. And it is correspondingly difficult to talk about the numerous benefits and advantages of conservation and solar approaches, because they, too, are diverse.

A study by the Oregon Energy Council found:

> "A transition to a solar energy economy is desirable and realizable. It involves neither privation nor social deprivation. Lifestyle changes would be minimal. The rewards would be enormous. Our children would have a totally indigenous, permanent, safe energy system that could be relied on by future generations."

Benefits cited in different analyses in communities across the county include significant servings of energy and money, increases in jobs for low-to-moderately skilled workers in or near urban areas where the most acute unemployment problems exist, prevention of outflow of money from communities in payments to utilities for power generated outside the community, and increases in manufacturing jobs. And this is just a sample.

I've very briefly touched on some of the ways our citizens and some of our more enterprising entrepreneurs are starting to add sensible technologies to our mix of ways of meeting real energy needs. What is remarkable about these efforts is not that they are so few and so preliminary, but that they happen at all in an economic and political climate that has been largely discouraging and has provided more in the way of institutional barriers than institutional encouragement. Why do we stand here, as Pogo said, confronted by insurmountable opportunities? If our options are so sensible, benign, and available, why have we not headed down the soft path long ago? Why are we still standing here at the fork in the road?

Yergin and Stobaugh in a 1979 article identified handicaps inhibiting widespread adoption of conservation and solar energy. The handicaps listed include:

(1) Force of habit. These technologies run counter to the familiar patterns of energy production that characterized our post - World War II period of great economic growth.

(2) Unfair competition in the market from subsidies caused by price controls.

(3) Externalization of enormous costs related to conventional and nuclear technologies that are not included in the price

(4) Lack of a conservation and solar constituency in the political arena, and a tendency to view this small but growing constituency as the lunatic fringe

(5) Conventional energy is produced or sold by highly competent firms; conservation and solar utilization arises from millions of private decisions by millions of individuals who are often poorly informed, without easy access to capital, acting on information that is often inadequate and often confusing.

It is a fact that we have been and are faced with a formidable array of institutional barriers:

- building codes that are often conflicting and often obsolete;
- a building industry which, like any industry, is resistant or slow to adopt innovations, and why not include architecture here?
- union opposition;
- lack of mechanisms to ease the transition from kinds of work we don't need anymore to kinds we do need.

- promotional utility rate structures;

- fee structures that pay building engineers a fixed percentage of the prices of heating and cooling equipment they install (architects fee structures, too);

- inappropriate tax and mortgage policies;

- misallocation of conservation costs and benefits (builders vs. buyers; landlords vs. tenants, etc.);

- imperfect access to capital markets;

- subsidies in many forms that promote use of high quality fuels for tasks that can be done more simply and appropriately in other ways.

- State building boards that don't look beyond the noses on their faces;

- an optimistic bias, on the part of the planners of your and my energy future, in favor of large scale technology;

- investments in high-voltage transmission lines and other utility infrastructure that must be protected by further investments in large generating facilities;

- resistance by utilities to purchase of surplus electricity from industries and commercial entities that install cogeneration facilities to meet combined needs for heat and electricity.

(You can hardly blame some of them for this. Con Ed in New York is fighting cogenerators fiercely. The utility can already provide more energy than it can sell. It has no interest in buying even more electricity from scores of cogenerators, and despite Federal regulations, it continues to resist paying an encouraging price. It is stuck, of course, with the results of relying on the kind of demand projections that used to be conventional wisdom and are now beyond superstition. However, there are other utilities, luckier or wiser in their planning and capital investment practices, that do encourage cogenerators and enter into agreements with them to the advantage of both parties.

We are making inroads in these and many other barriers to proceeding with changes that are economically prudent. State legislatures, Congress, and regulatory entities may move slowly, but they do move if pushed, encouraged, and educated, and I applaud them for that.

But it is true that many Americans are - and have long been - ahead of their leaders in both government and industry in understanding the causes

of the nation's unemployment and energy problems. They are willing to seek solutions which may not coincide with corporate myths. Despite conventional wisdom, there is mounting evidence that a mix of approaches that includes conservation, improved efficiency, cogeneration, solar and wind, geothermal, and renewables including biomass; responsive to local community or regional needs and concerns; sited close to the point of end use and appropriate in scale; can provide a secure economic base for a productive and industrious citizenry with no decrease in standard of living. Whether it will is up to us.

Like the so-called hard path, this approach, the "soft path", will also entail significant social and institutional change. But the kinds of change are apt to be more pleasant, more plausible, more compatible with social diversity and personal freedom of choice, and more consistent with traditional values, including the values of personal and community self-sufficiency and self-determination. While "soft" technologies can match any settlement pattern, and their diversity can reflect our own pluralism, centralized energy systems encourage industrial clustering and urbanization. Siting big energy systems pits central authority against local autonomy, and it allocates the social/environmental costs of these systems to weaker rural agrarian communities while allocating the benefits to urbanites and suburbanites.

So, how do we get there from here?

Unlike the hard path, the soft path does not have to be repressive. Coercion is not necessary when tax incentives, education, and access to capital are all that is needed for people to do what is prudent. (And we are a prudent people.) Certainly institutional changes will be needed, in our utilities and our financial practices, our building codes and zoning regulations, and so on. We will need to desubsidize the energy sector and to move gradually and fairly toward a system of pricing energy to reflect the cost of new supplies. The transitions will bring hardship to some, but no more so than the other route. If we can handle the problems imposed by the hard path, we can certainly mitigate those of the soft path, which is cheaper, faster, safer, and better for jobs and the economy, and we must choose which difficulties we prefer.

I'd like to read you a quote from a speech by Amory Lovins at a conference in 1979: "The real springs of action in energy policy, I believe, are found (if one looks at the political forces signalled in the marketplace) among such structural problems as centrism, autarchy, vulnerability, and technocracy--precisely the political problems that really define a hard path. A soft path has a more tractable set of political problems, mainly those of pluralism--of addressing the energy problems with millions of dispersed choices in the market rather than with a few centrally managed projects. Indeed, I contend that a soft path has such great social and

political advantages that if they are allowed to show themselves, it will largely implement itself--as it is already starting to do very rapidly--through existing market and political process."

I would add that since Lovins made that speech 2 years ago, even more changes, and more progress have been made. Where we go under a new administration remains to be seen.

As we address the decision facing us under the new administration we should remember that both futures are not available to us. And we must ask ourselves whether we want the problems of centrism and government control, or the problems of pluralism and local and individual autonomy. This is a value choice that we must make.

Thank you.

Page

VIII. APPENDIXES

ENERGY TRANSPORTATION SYSTEMS

AGENDA

February 2, 1981 (Monday)

4:00 p.m. - 7:00 p.m. Registration & Ice Breaker
($30.00 Registration Fee)

February 3, 1981 (Tuesday): Project Planning

CHAIRPERSON: Rosemary Richardson, Utah Power & Light Company
Salt Lake City, Utah
Phone: (801) 535-4263

8:00 a.m. Overview From Here:

Dean Stepanek, Acting Utah State Director
Bureau of Land Management
Salt Lake City, Utah

Jeff Sirmon, Regional Forester, U.S. Forest Service
Ogden, Utah

Bob Gordon, Vice President, Utah Power & Light Company
Salt Lake City, Utah

W. A. Thomasson, Secretary, International Right-of-Way Assoc.
Salt Lake City, Utah

Jack Lyman, Director, Utah Energy Office
Salt Lake City, Utah

8:45 a.m. Long Range Industry Planning - Market & Economic Feasibility

Moderator: Dr. Marcel Grunstan, Dept. of Energy
Washington, D.C.
Phone: (202) 633-8959

Panel Members: Joe Becraft, Northwest Pipeline Corp.
Salt Lake City, Utah

Jim Shelly, Black Mesa Pipeline
Flagstaff, Arizona

Jeff Brinton, Union Pacific Railroad
Omaha, Nebraska

Kent Evans, Utah Power & Light Co.
Salt Lake City, Utah

10:15 a.m. Break

10:30 a.m. Transportation and Utility Corridor Planning

Moderator: Dean Bibles, BLM, Washington, D.C.
Phone: (202) 343-6756

Panel Members: Larry Hill, U.S. Forest Service
Washington, D.C.

Earl Hindley, Bureau of Land Management
Salt Lake City, Utah

Mike Ingram, Pacific Gas & Electric Co.
San Francisco, California

Doug Larsen, Western Interstate Energy Board
Denver, Colorado

12:00 p.m. Lunch - "Syn-Fuels Development in the Intermountain Region"

Guest Speaker: Dr. Phillip Burgess, Executive Director, WESPO
Denver, Colorado

1:30 p.m. Project Planning for Energy Transportation Systems
(Oil & Gas Pipelines - Coal Slurry Pipelines)

Moderator: Walfred E. Hensala, Northwest Pipeline Corp.
Salt Lake City, Utah
Phone: (801) 534-3749

Panel Members: Gerald Magnuson, Bureau of Land Management
Salt Lake City, Utah

Haven VanHuesen, Bechtel, Inc.
San Francisco, California

Matt Elliott, Bureau of Land Management
Sacramento, California

Jack Lewis, Chevron Pipleine Company
Salt Lake City, Utah

Reed Christensen, U.S. Forest Service
Price, Utah

3:00 p.m. Break

3:15 p.m. Railroad Energy Transport, Highways, Electric Generation and Transmission Lines

Moderator: John Bohling, Utah Power & Light Co.
Salt Lake City, Utah
Phone: (801) 535-2200

Panel Members: William Howell, Southeastern Utah Association of Governments, Price, Utah

Allan Ansell, Idaho Power Company
Boise, Idaho

Robert Maestro, Interstate Commerce Commission
Washington, D.C.

Larry Wolfe, Rural Electrification Administration
Washington, D.C.

4:30 p.m. Adjourn

February 4, 1981 (Wednesday): Statutes and Regulations

CHAIRMAN: Jim Butler, U.S. Forest Service
Ogden, Utah
Phone: (801) 626-3332

8:00 a.m. Rights-of-Way Regulations; Section 28 of the Mineral Leasing Act; Title V of the Federal Land Policy and Management Act; Cost Recovery:

Moderator: John Hafterson, Bureau of Land Management
Washington, D.C.
Phone: (202) 343-5537

Panel Members: Hoyle Sorenson, U.S. Forest Service
Ogden, Utah

Wayne Richards, Bureau of Land Management
Salt Lake City, Utah

Joan Russell, Bureau of Land Management
Sacramento, California

John W. Arlidge, Nevada Power Company
Las Vegas, Nevada

Wilson Dietrick, Northwest Pipeline Corp.
Salt Lake City, Utah

10:00 a.m. Break

10:15 a.m. Certificate of Public Convenience and Necessity:

Moderator: Richard Hoffman, Federal Energy Regulatory Commission
Washington, D.C.
Phone: (202) 357-8098

Panel Members: Roy MacArt, Northwest Pipeline Corp.
Salt Lake City, Utah

Robert Nelson, Federal Energy Regulatory Comm.
Washington, D.C.

Gary Elmore, Mountain Fuel Supply Company
Salt Lake City, Utah

Paul Jauregui, Idaho Power Company
Boise, Idaho

11:15 a.m. State and Local Permits:

Moderator: Denise Dragoo, Utah Division of
Oil, Gas and Mining
Salt Lake City, Utah
Phone (802) 533-5771

Panel Members: Brent Bradford, Utah Environmental Health
Services, Bureau of Air Quality
Salt Lake City, Utah

Temple A. Reynolds, Utah Dept of
Natural Resources
Salt Lake City, Utah

Richard Bobertz, Clark County Nevada
Community Planning Office
Las Vegas, Nevada

12:00 p.m. Lunch - "Energy Supply and Demands"

Guest Speaker: Dr. George Hill, University of Utah
Salt Lake City, Utah

1:30 p.m. National Environmental Policy Act of 1969 and Council of Environmental Quality Regulations

Moderator: David Williams, Bureau of Land Management
Washington, D.C.
Phone (202) 343-6226

Panel Members: Robert McDonald, Environmental Research &
Technology, Inc.
Fort Collins, Colorado
(Third Party Contract Approach)

Adam Poe, Colorado Dept. of Natural Resources
Denver, Colorado
(Federal, State & Local Coordination)

Thom Slater, Bureau of Land Management
Salt Lake City, Utah
(EIS Scoping)

Richard Hoffmann, Federal Energy Regulatory
Commission
Washington, D.C.
(Interagency Agreements)

3:00 p.m. Break

3:15 p.m. (National Environmental Policy Act of 1969 and Council of Environmental Quality Regulations, continued)

Don Cain, Bureau of Land Management
Salt Lake City, Utah
(EIS Schedules)

Walfred E. Hensala
Northwest Pipeline Corporation
Salt Lake City, Utah

Lillian Stone, Department of the Interior
Washington, D.C.
(Decision Process)

4:30 p.m. Adjourn

February 5, 1981 - Thursday: Permit Issuance and Project Construction

CHAIRMAN: W.A. Thomason, Northwest Pipeline Corporation
Salt Lake City, Utah
Phone: (801) 534-3463

8:00 a.m. Resource Analysis:

Moderator: Mike Griswold, U.S. Forest Service
Ogden, Utah
Phone: (801) 626-3502

Panel Members: Brian Nelson, Utah Environmental Health Services
Salt Lake City, Utah
(Water Resources)

John Gill, Fish & Wildlife Service
Salt Lake City, Utah
(Endangered Species)

Richard Fike, Bureau of Land Management
Salt Lake City, Utah
(Cultural Resources)

Montie Keller, Utah Environmental Health,
Bureau of Air Quality
Salt Lake City, Utah
(Air Quality/Visibility)

John Williams, Five County Association
of Governments
St. George, Utah
(Socioeconomics)

Jay Roundy, Utah Power & Light Company
Salt Lake City, Utah
(Visual Resource Management)

Bob Eastvedt, Bonneville Power Administration
Portland, Oregon
(Compatibility Risk Analysis)

9:30 a.m. Break

9:45 a.m. Right-of-Way Granting, Temporary Use Permits, Stipulations, Notice to Proceed, and Operation Plans:

Moderator: Dell Waddoups, Bureau of Land Management
Salt Lake City, Utah
(Phone: (801) 524-5645

Panel Members: Garth Heaton, U.S. Forest Service
Richfield, Utah

Bill Toskey, Office of Federal Inspector
Washington, D.C.

John Wilson, Northwest Pipeline Corporation
Salt Lake City, Utah

Bill Huhtala, Northwest Pipeline Corporation
Salt Lake City, Utah

Bruce Campbell, Los Angeles Dept. of Water &
Power (IPP)
Los Angeles, California

11:00 a.m. Compliance Program and Monitoring of Construction and Operations:

Moderator: Larry Ouellette, Office of Federal Inspector
Washington, D.C.
Phone: (202) 275-0577

Panel Members: Mel Staheli, Bureau of Land Management
Salt Lake City, Utah

Jerry Smith, U.S. Forest Service
Provo, Utah

D. C. Venable, MAPCO, Inc.
Tulsa, Oklahoma

Bob Turri, Bureau of Land Management
Monticello, Utah

12:00 p.m. Lunch - "Energy Alternatives - Soft Path Approach"

Guest Speaker: Dr. Joan L. Coles, Utah Chapter, Sierra Club

1:30 p.m. Summary and Wrap-up - "Where Do We Go From Here?"

Moderator: John Stephenson, Bureau of Land Management
Salt Lake City, Utah
Phone: (801) 524-5645

Panel Members: Rosemary Richardson, Utah Power & Light Company
Salt Lake City, Utah

Jim Butler, U.S. Forest Service
Ogden, Utah

W.A. Thomason, Northwest Pipeline Corporation
Salt Lake City, Utah

Buzz Hunt, Utah Energy Office,
Salt Lake City, Utah

3:00 p.m. Adjourn

CONFERENCE ATTENDEES

Arne Adams
Union Oil Company of
California
P.O. Box 7600
Los Angeles, CA 90051

Arlo Allen
Water & Power Resources Service
125 South State Street
Salt Lake City, Utah

Allan R. Ansell
Idaho Power Company
P.O. Box 70
Boise, Idaho 83707

John W. Arlidge
Nevada Power Company
P.O. Box 230
Las Vegas, Nevada 89151

Tom Armstrong
Southwest Gas Corp.
P.O. Box 15015
Las Vegas, Nevada 89114

Ned Artz
U.S. Water & Power
Resources Service
P.O. Box 11568
Salt Lake City, UT 84147

Larry R. Aull
Arthur D. Little, Inc.
One Maritime Plaza
San Francisco, CA 94939

Robert E. Babcock
Land Management
P.O. Box 1980
Salt River Project
Phoenix, AZ 85022

Howard Bauman
Oak Ridge National Lab
Box Y
Oak Ridge, Tennessee 37830

Douglas E. Bean
Idaho Petroleum Council
P.O. Box 547
Boise, Idaho 83701

Lindsey Bierer
Ecology & Environment, Inc.
P.O. Box D
Buffalo, New York 14225

Pat R. Bird
Mountain States Telephone
P.O. Box 30960
Salt Lake City, Utah

Tim Blackham
Mountain Fuel Supply Co.
180 East 1st South
Salt Lake City, UT 84139

Dick Bobertz
Clark County Department of
Comprehensive Planning
300 South 4th Street #506
Las Vegas, Nevada 89101

Bobby R. Bond
Western Area Power Administration
P.O. Box 1205
Golden, Colorado

T. Craig Bott
State Budget Office
Room #121 State Capitol
Salt Lake City, Utah 84164

(Conference Attendees, continued)

Brent C. Bradford
Utah State Division of Environmental Health
Department of Social Services
150 West North Temple
Salt Lake City, UT 84110

Patrick Bradley
Southern California Gas Company
810 South Flower Street
Los Angeles, CA 90017

Laurence M. Brickman
Ecology & Environment, Inc.
P.O. Box D
Buffalo, New York 14225

Ronda Brinkerhoff
Bureau of Economy & Business Research
University of Utah
Salt Lake City, UT

Jeff Brinton
Union Pacific Railroad
Room 538
1416 Dodge Street
Omaha, Nebraska

Richard A. Burnkrant
Western Area Power Administration
333 Quebec Street, #2300
Denver, CO 80207

Jim Butler
Forest Service
324 25th Street
Ogden, Utah 84404

Jim Byrne
Utah Energy Office
825 North 300 West
Salt Lake City, UT 84103

Bruce Campbell
Los Angeles Department of Water & Power
P.O. Box 111
Los Angeles, CA 90051

Don Canning
U.S. Air Force
AFRCE/MX
Norton AFB, CA 92409

John C. Cheek
Pacific Power & Light Co.
920 S.W. 6th
Portland, Oregon 97204

Ray Christensen
West America Energy, Inc.
601 Commercial Club Building
32 Exchange Place
Salt Lake City, UT 84111

Reed C. Christensen
Manti-Lasal National Forest
599 West Price River Drive
Price, Utah 84501

Juline Christofferson
State Planning Coordinator's Office
124 State Capitol Building
Salt Lake City, UT 84114

Bill Cochran
Western Area Power Adm.
P.O. Box 1205
Golden, Colorado

James S. Cochrane
USDA-FS
324 25th Street
Ogden, UT 84401

Gary M. Coleman
Uinta National Forest
P.O. Box 1428
Provo, UT 84601

Abijah Cook
USDI/BLM
Richfield District Office
150 East 900 North
Richfield, Utah

Norm Corbridge
Uinta National Forest
P.O. Box 1428
Provo, UT 84601

Jim Couture
Montana Power Company
40 East Broadway
Butte, Montana 59701

(Conference Attendees, continued)

Roy H. Daniels
U.S. Forest Service
P.O. Box 190
Heber City, Utah

David J. Davies
Utility Program Manager
US Forest Service, Region II
P.O. Box 25127
Lakewood, CO 80228

Dave Davis
USDI/BLM
136 E. So. Temple
Salt Lake City, UT

George E. Detsis
BLM/Office of Special Projects
3rd Floor East - 555 Zang Street
Lakewood, CO 80228

Wilson Dietrich
Northwest Pipeline Corp.
P.O. Box 1526
Salt Lake City, UT 84110

Inez G. Dominguez
Public Service Company
of Colorado
P.O. Box 840 - Room 1130
Denver, CO 80201

Denise Dragoo
Division of Oil, Gas, & Mining
1588 West North Temple
Salt Lake City, UT 84116

Fred Eiserman
ETSI
330 South Center #219
Casper, Wyoming 82601

Dave Elam
Mountain Fuel Supply Company
180 East 1st South
Salt Lake City, UT 84139

M.E. Elliott
Bureau of Land Management
2800 Cottage Way
Sacramento, CA 95825

D.L. Ellis
Colorado Interstate Gas Co.
P.O. Box 1465
Rawlins, Wyoming 82301

R.L. Emerson
Colorado Interstate Gas
P.O. Box 1465
Rawlins, Wyoming 82301

Joe Evans
Wyoming Department of Econ
Planning & Development
Bartoft Building
Cheyenne, Wyoming 82002

Kent Evans
Utah Power & Light Co.
P.O. Box 899
Salt Lake City, UT 84110

R.E. Fleehor
Cheyenne Pipeline Company
P.O. Box 1283
Cheyenne, Wyoming 82001

A. Fletcher
Mail Box 325
Old Highway Road
Mountain Green, Utah 84050

Stanley C. Frazier
Bureau of Land Management
550 West Fort Street
Boise, Idaho 83724

Gary W. Frey
Western Area Power Administration
P.O. Box 3402
Golden, CO 80401

Bob Garrison
US Fish & Wildlife Service
Room 1311, Federal Building
125 South State Street
Salt Lake City, UT 84138

(Conference Attendees, continued)

John Gartner
Ecology & Environment, Inc.
P.O. Box D
Buffalo, New York 14225

Bill Gebhardt
U.S. Water & Power Resources Service
P.O. Box 11568
Salt Lake City, UT 84147

James F. George
El Paso Natural Gas Co.
P.O. Box 1492
El Paso, Texas 79978

Jack C. Griswold
USDA/Forest Service
1005 Park Blvd.
Boise, Idaho 83702

Marcel Grunspan
Department of Energy
Room 1113, Mail Stop 3344
Federal Building
Washington, D.C. 20461

Ed Guynn
U.S. Geological Survey
2000 Administration Building
1745 West 1700 South
Salt Lake City, UT 84104

John Hafterson
Bureau of Land Management
Washington Office (W-330)
18th and C Streets, N.W.
Washington, D.C. 20240

Rich Hagan
Bureau of Land Management
300 Booth Street
Reno, Nevada 89520

Wes Harvey
Forest Service
324 25th Street
Ogden, Utah 84401

W.D. Haynes
Colorado Interstate Gas
P.O. Box 1087
Colorado Springs, CO 80944

Rex Headd
Mountain Fuel Supply
P.O. Box 1129
Rock Springs, Wyoming 82901

Garth Heaton
Forest Service/USDA
Fishlake National Forest
Richfield, UT 84701

Rod Heller
Wirth Associates
2701 E. Camelback
Suite 391
Phoenix, AZ 85016

Charles Hendricks
Caribou National Forest
Pocatello, Idaho

Richard D. Heninger
Forest Service/USDA
Targhee National Forest
420 North Bridge Street
St. Anthony, Idaho 83445

Walfred Hensala
Northwest Pipeline Corp.
P.O. Box 1526
Salt Lake City, UT 84110

Paul Herrsher, Jr.
Chevron Pipeline Company
P.O. Box 25817
Salt Lake City, UT 84125

Kurt Higgins
Division of State Lands
231 East 100 South
Salt Lake City, UT

Larry Hill
US Department of Agriculture
Forest Service
P.O. Box 2417
Washington, D.C. 20013

(Conference Attendees, continued)

Ed J. Hoffmann
9183 Winter Wren Drive
Sandy, UT 84092

Rich Hoffmann
FERC - OPPR
825 North Capitol Street
Washington, D.C. 20426

Terry Hopson
437 East Main Street
Vernal, Utah 84078

Hale Hubbard
Fishlake National Forest
170 North Main
Richfield, Utah 84701

Buzz Hunt
Utah Energy Office
825 North 300 West
Salt Lake City, UT 84103

Alan C. Hurt
AFRCE/MX/Devp
Norton AFB, CA 92409

Scott Imus
VTN Consolidated, Inc.
2301 Campus Drive
Irvine, CA 92713

Darwin Jackson
Garkane Power Assn.
56 East Center STreet
Richfield, UT 84701

Wayne Jackson
Western Area Power Administration
P.O. Box 11606
Salt Lake City, UT 84147

William L. Johnson
Forest Service/USDA
Minerals/Energy
324 25th Street
Ogden, Utah 84401

Cheryl A. Karpowicz
Ecology & Environment, Inc.
120 Howard Street - Suite 640
San Francisco, CA 94105

Mark Kennedy
Colorado-Ute Electric Assn.
P.O. Box 1189
Montrose, CO 81401

Paul Kilburn
International Environmental Consultants
1800 Jackson Street
Suite #211
Golden, CO 80401

Doug Larson
Western Interstate Energy Board
3333 Quebec, Suite 2500
Denver, CO 80015

Clark Layton
Intermountain Power Agency
P.O. Box BB
Sandy, Utah

Lynn Leishman
Bureau of Land Management
150 East 900 North
Richfield, Utah 84701

Ira H. Lindsey
Nevada Power Company
P.O. Box 230
Las Vegas, Nevada 89151

Drew Ludwig
ERT
1716 Heath Parkway
Ft. Collins, CO 80522

Roy L. MacArt
Northwest Pipeline Corp.
P.O. Box 1526
Salt Lake City, UT 84111

Bob Maestro
Interstate Commerce Commission
12th & Constitution Avenue, N.W.
Room 5377
Washington, D.C. 20423

Gerald Magnuson
BLM/USDI
136 E. So. Temple
Salt Lake City, UT 84111

S.G. Maxfield
Deseret Generation & Transmission
P.O. Box BB
Sandy, Utah 84019

Arthur S. Maynard
Forest Service/USDA
Land Uses Work Group-Rec. Staff Unit
517 Gold Avenue
Albuquerque, New Mexico 87111

Kent Mays
Forest Service/USDA
324 25th Street
Ogden, Utah

Bob McCaig
US Water & Power Resources Svc.
P.O. Box 11568
Salt Lake City, UT 84147

Robert McDonald
Environmental Research & Technology
P.O. Box 2105
Ft. Collins, CO 80522

J.N. McDowell
Colorado Interstate Gas
P.O. Box 1087
Colorado Springs, CO 80944

Jack Mehlman
Right-of-Way Engineer (Room 1051)
L.A. Department of Water & Power
P.O. Box 111
Los Angeles, CA 90051

C.W. Meyer
Pacific Gas Transmission Co.
245 Market Street
San Francisco, CA 94105

Lynn W. Mitton
Deseret G&T Cooperative
P.O. Box BB
Sandy, UT 84070

Mike Moran
Bureau of Land Management
Nevada State Office
300 Booth Street
Reno, Nevada 89509

Neil F. Morck
Bureau of Land Management
P.O. Box 30157
Billings, Montana 59107

Lee Moussafir
Dept. of Water & Power, Los Angeles
111 North Hope Street
Los Angeles, CA 90012

Randall F. Moy
Facility Siting Division
ONRC
32 South Ewing
Helena, Montana 59601

Akira Murakami
AFRCE/MX
Norton AFB, CA 92409

Rob Nauert
Bureau of Land Management
Las Vegas District Office
P.O. Box 5400
Las Vegas, Nevada 89102

Lloyd D. Nelson
Western Area Power Administration
Salt Lake City Area Office
1800 South Rio Grande Avenue
Montrose, CO 81401

(Conference Attendees, continued)

Bob Nelson
FERC - 9B204H
825 North Capitol Street
Washington, D.C. 20426

David R. Neilson
Utah Power & Light
P.O. Box 899
Salt Lake City, Utah 84110

Bud Novak
Southern California Gas Company
810 S. Flower Street
Los Angeles, CA 90017

Peter F. Olsen
Dames & Moore
250 East Broadway
Salt Lake City, UT 84111

Larry Ouellette
Office of Federal Inspector (ANGTS)
12th & Pennsylvania, N.W.
Washington, D.C. 20044

Roy Parker
Western Interstate Energy Board
3333 Quebec Street
Denver, CO

Walt Pawlowski
Southern Cal Gas Co.
P.O. Box 3249
Los Angeles, CA 90631

Bill Payne
Bureau of Land Management
Planning & Environmental Coordination
2800 Cottage Way
Sacramento, CA 95825

Adam Poe
Joint Review Process
Colorado Department of Natural Resources
1313 Sherman
Denver, CO 80203

Dave Pomerinke
Bureau of Land Management
P.O. Box 1828
Cheyenne, Wyoming 82001

Andrea Ray
Bureau of Indian Affairs
P.O. Box 7007
Phoenix, AZ 85031

Ralph Rawlinson
Dixie National Forest
82 North 100 East
Cedar City, UT 84720

Germaine Reyes - French
Environmental Research & Technology
1716 Heath Parkway
Ft. Collins, CO 80522

Wayne Richards
BLM/USDI
136 E. So. Temple
Salt Lake City, UT 84111

Rosemary Richardson
Utah Power & Light
P.O. Box 899
Salt Lake City, UT 84110

Floyd C. Robertson
Colorado Interstate Gas Co.
P.O. Box 1087
Colorado Springs, CO 80944

M.J. Ronco
Standard Oil of California
555 Market Street
San Francisco, CA

Rod Rozier
Syntana-Utah
P.O. Box 78
Vernal, Utah 84078

Marlow Rudningen
AFRCE/MX
Norton AFB, CA 92409

(Conference Attendees, continued)

Stephen M. Rushton
Targhee National Forest
420 North Bridge Street
St. Anthony, Idaho 83445

Joan Russell
BLM/California State Office
2800 Cottage Way
Sacramento, CA 95825

Marilyn A. Ryan
Pacific Gas Transmission Company
245 Market Street
San Francisco, CA 94105

R.B. Shafer
Tri-State G&T
c/o Box 1880
Dillon, CO 80435

Jim A. Shelley
Black Mesa Pipeline
1509 East Butler Avenue
Flagstaff, AZ 86001

Larry J. Sieber
Chevron Pipeline Company
P.O. Box 25117
Salt Lake City, UT

Jeff Sirmon
Forest Service/USDA
324 25th Street
Ogden, UT 84401

Thom Slater
BLM/USDI
136 E. So. Temple
Salt Lake City, UT 84111

Jerry L. Smith
Forest Service/USDA
Uinta National Forest
P.O. Box 1428
Provo, UT 84601

Hoyle Sorenson
Forest Service/USDA
4445 Taylor Avenue
Ogden, Utah

Sharon Sorensen
Mountain Fuel Supply Company
180 East 1st South
Salt Lake City, UT 84139

Mel Staheli
BLM/USDI
136 E. So. Temple
Salt Lake City, UT 84111

Chandler St. John
4183 South Shanna
Salt Lake City, UT 84117

Dean Stepanek
BLM/USDI
136 E. So. Temple
Salt Lake City, UT 84111

John Stephenson
BLM/USDI
136 E. So. Temple
Salt Lake City, UT 84111

Lillian K. Stone
Office of Environmental Project Review
Department of the Interior
18th & C Streets, N.W.
Washington, D.C. 20240

Jerry Story
Colorado Ute Electric Assoc., Inc.
P.O. Box 1149
Montrose, CO 81401

Greg Thayn
BLM/USDI
136 E. So. Temple
Salt Lake City, UT 84111

(Conference Attendees, continued)

W.A. Thomasson
P.O. Box 1526
Northwest Pipeline Corp.
Salt Lake City, UT 84110

R.W. Thompson
2244 Walnut Grove
Rosemead, California

Bill Toskey
Department of the Interior
Alaska Natural Gas Transportation System
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20044

Bob Turri
Bureau of Land Management
P.O. Box 7
Monticello, Utah 84535

Martin E. Vaughn
Puget Sound Power & Light Co.
Puget Power Building
Bellevue, Washington 48009

D.C. Venable
MAPCO
1800 S. Baltimore
Tulsa, OK 74119

George J. Vonesh, Jr.
Public Service Company of Colorado
Room 1130 - P.O. Box 840
Denver, CO 80201

Irvin M. Waitsman
TRW
P.O. Box 1310
San Bernadino, CA 92402

Alvin H. Walke
410 Agate Street
Rock Springs, Wyoming 82901

Melvin Walters
Puget Sound Power & Light Co.
Puget Power Building
Bellevue, Washington 48009

Ralph P. Wayne
Public Service Company of New Mexico
P.O. Box 2267
Albuquerque, New Mexico 87103

Glen B. Wells
P.O. Box 899
Salt Lake City, UT 84110

John Williams
Five County Association of Governments
P.O. Box O
St. George, Utah 84770

J. Clare Williams
Union Pacific Railroad
406 West 1st South
Salt Lake City, Utah

Vern S. Williams
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

Larry Wolfe
Rural Electrification Admin.
South Agriculture Building
14th & Independence Ave., S.W.
Washington, D.C. 20250

Dale Woodward
Southern California
P.O. Box 410
Long Beach, CA 90801

Stephen P. Younkin
Sierra Pacific Power Company
P.O. Box 10100
Reno, Nevada 89510

Ben Zerby
National Park Service
125 South State Street
Salt Lake City, UT 84138

Art Zimmerman
Idaho Power Company
P.O. Box 70
Boise, Idaho 83707