

# **federal register**

**TUESDAY, JANUARY 25, 1977**

**PART IV**



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## **DEPARTMENT OF TRANSPORTATION**

**Federal Railroad  
Administration**

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### **RAILROAD REVITALIZATION AND REGULATORY REFORM**

**Procedures for Computing the Internal  
Rate of Return on Projects**

## RULES AND REGULATIONS

## Title 49—Transportation

## CHAPTER II—FEDERAL RAILROAD ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

[Docket No. 76-01]

## PART 258—REGULATIONS GOVERNING SECTION 505 OF THE RAILROAD REVITALIZATION AND REGULATORY REFORM ACT OF 1976

## Procedures for Computing the Internal Rate of Return on Projects

Section 505(b)(2)(A) of the Railroad Revitalization and Regulatory Reform Act of 1976, as amended ("Act"), requires that the rate of return be considered in evaluating projects under section 505. The purpose of this document is to amend the regulations under section 505 of the Act to provide applicants for Federal financial assistance under that section with uniform guidance regarding: (1) The procedures to be followed in computing the internal rate of return ("IRR") on a project for which assistance is being requested; and (2) the format to be utilized in presenting the steps of that computation.

Part 260 of this chapter is being amended concurrently to provide applicants for Federal financial assistance under section 511 of the Act with the same uniform guidance regarding the computation of IRR on a project for which assistance under that section is being requested. The preamble to those amendments is equally applicable to this document, and is incorporated herein by reference.

The impact of section 505 assistance, including the inflationary impact of the regulations, was fully considered prior to publication of the initial regulations on October 8, 1976. The procedures proposed herein will not affect the overall costs or benefits of the program as it was set forth in the initial regulations. Accordingly, an evaluation of the expected impact of the regulations pursuant to the Department of Transportation Policies to Improve Analysis and Review of Regulations (41 FR 16200) is not required.

In consideration of the foregoing, Part 258 of Chapter II of Title 49 of the Code of Federal Regulations is amended as follows:

1. Paragraph (a)(4)(v) of § 258.7 is revised to read:

## § 258.7 Form and content of application.

- (a) . . . .  
(4) . . . .

(v) A detailed statement setting forth the estimated internal rate of return on the project, computed in accordance with the provisions of subpart C of part 260 of this chapter which is hereby incorporated herein by reference. This statement shall follow the procedures and utilize the format required by Subpart C of Part 260 of this chapter. Relevant material presented elsewhere in the application need not be repeated in this statement, but must be explicitly referenced.

Effective date: These amendments to 49 CFR Part 258 become effective January 25, 1977.

Dated: January 19, 1977.

ASAPH H. HALL,  
Administrator, Federal  
Railroad Administration.

[FR Doc. 77-2342 Filed 1-24-77; 8:45 am]

[Docket No. 76-02]

## PART 260—REGULATIONS GOVERNING SECTION 511 OF THE RAILROAD REVITALIZATION AND REGULATORY REFORM ACT OF 1976

## Procedures for Computing the Internal Rate of Return on Projects

On October 8, 1976, the Federal Railroad Administrator ("Administrator") published in the FEDERAL REGISTER final regulations under section 505 (41 FR 44570) and section 511 (41 FR 44577) of the Railroad Revitalization and Regulatory Reform Act of 1976, later amended ("Act"), concerning applications for Federal financial assistance. On December 10, 1976, the Administrator published in the FEDERAL REGISTER (41 FR 53996) miscellaneous amendments to the section 511 regulations. The purpose of this document is to amend the regulations under section 511 to provide applicants with uniform guidance regarding: (1) The procedures to be followed in computing the internal rate of return ("IRR") on a project for which assistance is being requested; and (2) the format to be utilized in presenting the steps of that computation.

For approximately a year and a half, the Department of Transportation ("Department") has been examining the manner in which railroads calculate the rate of return on railroad investment projects in order to develop standard procedures for use by the railroad industry. During this period project evaluation in general and IRR in particular were discussed in detail with both senior officials and technical staff at thirteen railroads. Dozens of project analyses done by railroads were examined in great detail. This study, which is continuing, revealed that IRR is widely used by railroads to support their investment decisions, but that the procedures followed and the assumptions used varied considerably among railroads. Such diversity would greatly complicate the task of the Federal Railroad Administration ("FRA") in assessing the projects submitted for financial assistance under section 511 of the Act. Furthermore, not all the procedures followed by railroads in their IRR computations are appropriate for the FRA's purposes. Therefore, these regulations have been developed to promote uniformity in the procedures to be followed and the format to be used by applicants seeking financial assistance under section 511.

Use of the IRR. With respect to projects under section 511, rate of return is useful in determining: (1) Whether the

facilities or equipment to be acquired, rehabilitated, improved, constructed, developed or established with the proceeds of the obligation guaranteed will be economically and efficiently utilized (section 511(g)(4)); and (2) whether there is reasonable security and protection for the United States (section 511(g)(5)).

Revisions to these regulations. As previously noted, the Department's study on IRR in the railroad industry is not completed. FRA therefore welcomes comments from railroads and other interested parties regarding these regulations. Changes to these regulations may be made as a result of those comments, the continuing research of the Department, and FRA's experiences in administering the programs under sections 505 and 511.

The impact of section 511 assistance, including the inflationary impact of the regulations, was fully considered prior to publication of the initial regulations on October 8, 1976. The procedures proposed herein will not affect the overall costs or benefits of the program as it was set forth in the initial regulations. Accordingly, an evaluation of the expected impact of the regulations pursuant to the Department of Transportation Policies to Improve Analysis and Review of Regulations (41 FR 16200) is not required.

Since these amendments relate to public benefits and contracts, public notice and an opportunity to comment are not required. These amendments will, therefore, become effective upon publication.

In consideration of the foregoing, Part 260 of Chapter II of Title 49 of the Code of Federal Regulations is amended as follows:

1. Paragraph (a)(7)(i) of § 260.7 is revised and Subpart C is added as follows:

## § 260.7 [Amended].

- (a) . . . .  
(7) . . . .

(i) A detailed statement setting forth the estimated internal rate of return on the project, computed in accordance with the provisions of subpart C of this part. This statement shall follow the procedures and utilize the format required by Subpart C. Relevant material presented elsewhere in the application need not be repeated in this statement, but must be explicitly referenced.

## Subpart C—Procedures for Computing the Internal Rate of Return on Projects

- Sec.  
260.31 Applicability.  
260.33 Definitions.  
260.35 Procedures to be followed and format to be utilized.  
Appendix A—Selected cash flow impacts.  
Appendix B—Forms to be used in computing IRR.  
Form I—Analysis of capitalized investment.  
Form II—Analysis of sale or retirement of assets.  
Form III—Analysis of expenses and contribution to profit.  
Form IV—Consolidation of cash flows.  
Form V—Computation of IRR.

§ 260.31 Applicability.

This subpart prescribes the procedures to be followed and the format to be utilized in computing the IRR under paragraph (a) (7) (i) of § 260.7 of subpart A of this part.

§ 260.33 Definitions.

As used in this subpart—

(a) Investment means any substantial non-recurring expenditure even if expensed for accounting purposes.

(b) IRR means the estimated internal rate of return on a project for which an application for financial assistance is filed pursuant to this part.

(c) IRS means the Internal Revenue Service.

(d) Project has the meaning set forth in subpart A of this part and for purposes of this subpart shall include as separate projects each part or subpart into which the total project for which the applicant seeks funding may reasonably be divided and for which the cost is considered independent of the remainder of the total project cost. The cost of a part or subpart is independent of the remainder of the total project cost if the cash flow impact upon the applicant resulting from the part or subpart would be approximately the same regardless of whether or not the remainder of the total project were undertaken. The cost of each part or subpart shall comprise all expenditures (including those for which no Federal assistance is requested) necessary to carry out the objectives of that part or subpart.

§ 260.35 Procedures to be followed and format to be utilized.

(a) A narrative discussion of the IRR computation for the project consisting of the following five parts shall be prepared and provided:

(1) *A detailed description of the project.* This description must present the following: the objectives of the project; what assets will be improved, rehabilitated, acquired or constructed; where they will be located; and how they will be used. It must also describe any other work to be done as a part of the project, and any operating changes, including retirement of assets, which will accompany the investment.

(2) *A detailed description of the base case.* The base case is the most favorable alternative action the applicant could take with little or no investment. The description must be comparable in scope to the description of the project. In some cases, the most favorable alternative action may be to do nothing, i.e., making no change in the current situation. In other cases, the applicant may have other alternative actions such as rerouting traffic, changing operating practices (perhaps with an increase in operating costs), or relying more heavily on facilities or equipment belonging to others. If the applicant has considered more than one alternative action (not requiring major investment) to the project, the applicant must describe each of the actions considered and give the rationale for the

selection of the base case from among those other actions.

(3) *A discussion of key assumptions.* All general assumptions and those relating only to a particular cash flow impact which substantially affect the IRR should be explained. Assumptions regarding traffic volumes deserve particular attention. The applicant must specify how much traffic is expected if the project and base case are undertaken, and where the difference, if any, between the project and base case is expected to come from (e.g., diverted from truck, diverted from other railroads, generated by the project, etc.). Other key assumptions may relate to actions by third parties, such as regulatory agencies and other railroads.

(4) *A discussion of each of the project's and base case's cash flow impacts.* The applicant must identify all the benefits and costs of the project and base case which will affect its cash flow. For each cost and benefit used in the IRR computations, the applicant must explain why the particular cash flow will result from the project or base case, and how the size of the cash flow and the corresponding measure in physical units were estimated. In addition, the applicant should identify and discuss important costs and benefits which it has not been able to quantify. Since the project will be audited to provide a continuing assessment of the IRR computation, applicant must indicate how an audit trail could best be facilitated. Appendix A of this subpart lists the most common cash flow impacts of railroad investment projects and base case alternatives, indicates the kinds of actions likely to involve each type of cash flow, suggests how each might be measured (both in physical and monetary units), and discusses special problems associated with each. Appendix A is not exhaustive; other cash flow items should be included in the analysis as appropriate.

(5) *A discussion of the principal areas of uncertainty.* This discussion must indicate why particular values might be different from those used in the computation, and the range into which each uncertain value could be expected to fall. It must also indicate the applicant's subjective level of confidence that the computed IRR is a reasonably close prediction of the project's and base case's financial performance. Such a level of confidence may, for example, indicate that a prospective labor saving, although quantifiable, has little likelihood of realization. In some circumstances, the applicant must point out where the IRR fails to incorporate certain important features of the project or the base case, or both. Applicant may enhance its discussion by presenting examples of its own prior experiences with IRR, stating, perhaps, that an audit of past computations has shown marked deviations from actual results regardless of the detail of those computations.

(b) For the project (as it relates to its base case alternative), a thorough presentation of all the computations underlying the IRR using the Forms I-V of

Appendix B to this subpart shall be prepared and provided. The computation of the IRR must follow the four steps described below. (This procedure cannot be used if the project consists of replacing an asset, usually equipment, which would otherwise remain in service (at high cost) for only a few more years. In that situation, the lifetime of the project (the new asset) is substantially longer than the lifetime of the base case (the old asset), so that it is not possible to get a differential cash flow in every year of the project's life. A possible approach for handling such cases is to determine the discount rate which gives the same average annual cost per unit of output for both the project and the base case. Because it is expected that very few of the applications will involve such replacements, the procedure for handling them will not be detailed here but will be provided upon request.)

(1) *Step 1: Determination of before-tax cash flows.* The applicant must determine, for each year of the project's expected useful life, up to a maximum of 15 years (unless the cash flow impacts of later years would substantially affect the IRR), both the project's and base case's before-tax cash flow impacts (receipts and disbursements). The cash flow estimates must not include the effects of inflation, but rather must be done in constant dollars. The effects of financing must also be excluded; that is the cash flows must be estimated as if the financing were consummated at no cost.

The various cash flow impacts for this step 1 must be shown on Forms I through V of Appendix B as explained below. On Forms I through V cash flow impacts occurring in the first year of the project and base case are assigned to and recorded in the time period year 1. Cash flows in subsequent years are all assigned to and recorded in the year in which they occur regardless of whether they occur at the beginning or end of the year. For purposes of assigning and recording cash flow impacts of the project and base case, it will be assumed that the project's starting date and thus the commencement of year 1 begins as of the first of the January following the year in which an application for financial assistance is filed.

(i) Capitalized investments which would occur as a part of the project or the base case must be entered in Column 1 of Form I. The capitalized investment includes capitalized engineering work, installation expenditures and other start-up costs allowable in reporting to the IRS. The total investment for the project or base case must be divided into portions which are homogeneous with respect to depreciation method (if depreciable), depreciation period (if depreciable), year in which the assets enter service, and whether the assets qualify for investment tax credit. (If applicant has a considerable tax credit carryforward, the tax credit must be shown only in the year or years it will result in a reduction of tax payments.) A separate form should be completed for each such portion.

(ii) Sales of released assets (as a useful assets or as scrap), which would occur

as a part of the project or the base case, must be entered in Column 1 of Form II. As was the case for capitalized investments, there must be a separate Form II for each portion of the assets sold, such that each portion is homogeneous with respect to tax treatment and year of sale. Form II must also be completed for retirements of assets, even though the sale price is zero, if the retirement will affect the applicant's income taxes and thereby the applicant's cash flow. The sale or retirement of an asset at the end of the project's life, if the cash flow impact is substantial enough to merit inclusion in the computation, must also appear on one or more Forms II. (If a project would continue an asset already owned in its prior use but the base case would put the asset to an alternative use, and if the cash flow from that alternative use is difficult to determine, the applicant may do the analysis as if the asset were to be sold in the base case at its fair market value when put to the alternative use. Similarly, if the base case would continue an asset in its present use but the project would result in the asset being employed in an alternative use, the anticipated cash flow of which would be difficult to determine, the asset in the project may be treated as a sale at fair market value in the IRR computations. In either event, the market value of the asset otherwise put to an alternative use would be entered in Column 1 of a Form II and the asset in its current use (in either the project or base case, as the case may be) would be recorded, as to continuing depreciation and income tax credit, if any, on Form I and, as to expenses and contribution to profit, on Form III. However, whenever possible, the anticipated cash flow of the alternative use, whether in the project or base case, should be entered on Form III rather than treated as a theoretical sale at fair market value.)

(iii) Expense items or contributions to profit which arise by reason of the project or the base case must be documented on Form III for the respective case, with a separate form being used for each item.

Columns 1 and 2 of Form III must be completed unless the difference of column 3 can be ascertained only through a direct computation (as, e.g., car-day savings by reason of track rehabilitation time sensitivity). When practical, expenses and traffic are to be expressed first in physical units (Columns 1, 2 and 3) and then converted to dollars (Column 4). In instances where this is not practical, the applicant may estimate expenses and contribution directly in dollars using only Columns 1, 2, and 4. In Columns 1 and 2, expense items should always be enclosed in parentheses because they represent cash outflows. Thus, positive numbers in Columns 3 and 4 will indicate that the project produces a larger cash inflow (or smaller cash outflow) than the base case.

(2) *Step 2: Determination of after-tax cash flows relating to capital assets.* The applicant must compute the annual after-tax cash flows corresponding to each of the before-tax flows recorded on each Form I and Form II in the

previous step. If the applicant expects to pay taxes in some years but not others, the applicant will undoubtedly carry forward (or back) the tax losses and credits from years in which no tax was paid, so as to take full advantage of them. In that case, the applicant must estimate when such tax benefits will actually be received, and include them in the cash flow stream at the appropriate time. State and local taxes should be included unless applicant is unable to estimate a project's or base case's impact on those taxes. The appropriate tax rate for such computations is the applicant's marginal tax rate. This is the rate which would apply to one additional dollar of income earned by the applicant. Normally, the marginal rate will be 48% for Federal taxes except in years in which the applicant does not expect to pay taxes. The average or effective tax rate (found by dividing a firm's actual tax payments by its net income before taxes) is not appropriate for this purpose. If the tax rate assumed is different from 48%, or if the computations assume the applicant will not pay taxes in certain years, then those assumptions must be explained in the discussion of key assumptions. The tax-related computations must be shown on the same forms as were used to record the pre-tax cash flows. Additional working papers should be submitted as necessary to clarify the computations. The computations to be done on the two forms are as follows:

(i) On each Form I, the applicant must indicate in Column 2 the depreciation schedule which it expects to use in reporting to the IRS. In Column 3, the applicant must indicate how much its tax bill will be reduced as a result of the depreciation shown in Column 2. (If the applicant expects to pay taxes every year, Column 3 is simply 48% of Column 2.) In Column 4, the applicant must indicate the tax reduction, if any, it expects from investment tax credit. (The effect of the tax credit must be computed using the flow through method.) Column 5 is the net after-tax cash inflow associated with the investment.

(ii) On each Form II, the applicant must indicate in Column 2 the increase (or decrease) in its Federal income tax payments resulting from the difference between the sale price and the book value of assets to be sold by reason of the project or base case. If an asset is released without a sale or a corresponding write down of book value, Form II is not used, but Form I is used to reflect continuing depreciation as before the release. In Column 3, the applicant must record any recapture of investment tax credit by the IRS. (Such recapture can only occur when an asset is disposed of before it has been in service for seven years.) Finally, Column 4 records the net cash flow in or out.

(3) *Step 3: Determination of aggregate after-tax cash flow.* The applicant must determine the project's aggregate after-tax cash flow using Form IV. This shall be done as follows:

(i) For each year, the corresponding after-tax cash flow (Column 5) on the various Forms I on which the "project" box was checked are summed, and the total entered into Column 1 of Form IV. Then the net after-tax cash flows on the base case Forms I are summed and entered into Column 2 of Form IV.

(ii) Similarly, the project and base case Forms II (Column 4) are consolidated and entered into columns 3 and 4, respectively, of Form IV.

(iii) The Forms III (Column 4) are consolidated into Column 5 of Form IV. The corresponding after-tax cash flow is recorded in Column 6. If the applicant expects to pay taxes every year, Column 6 is simply 52% of Column 5. If applicant expects to pay no taxes, the two columns are identical. If applicant expects to pay taxes in some years but not others, the applicant must incorporate the effects of carrying losses forward (or back) into the estimated after-tax cash flow.

(iv) The aggregate net cash flow for the project relative to the base case is then found and entered in Column 7 of Form IV.

(4) *Step 4: Computation of the IRR.* The applicant must determine the discount rate for which the present value of the differential cash flow stream is zero. That is, the applicant must find the value of  $r$  which makes the expression

$$\sum_{i=1}^n \frac{c_i}{(1+r)^i}$$

equal to zero. In the above expression,  $r$  is the discount rate applied to future cash flows;  $i$  is an index denoting a particular year of a project's life;  $n$  is the number of years in the project's life; and  $c_i$  is the differential cash flow in year  $i$ . Computer programs for calculating the rate of return are widely available. If a program is utilized, copies of the printout showing input and output data, and a brief explanation of the program function must be included in the application. If the applicant chooses not to use such a computer program to find the IRR, the applicant may use Form V. If the IRR lies off the graph, it is sufficient to report that the IRR is negative or above 50%. If the nature of the cash flow stream is such that a unique IRR cannot be found, the work done to develop the cash flow stream must be submitted with a note that no IRR could be computed.

(c) Copies of all financial analyses which the applicant did on rejected alternatives to the project, including changes in scale or scope. The applicant need not do any such analyses beyond those already done, nor need the format, assumptions, or procedures used in those analyses be changed to conform to the requirements of these regulations.

(d) A reconciliation between the cash flows used in the IRR computations and all forecasted data presented in the application, both before (for the base case) and after (for the project) giving effect to Federal assistance. This reconciliation must indicate what inflation factor or factors were used in developing the fore-

casted financial statements as compared to the constant dollar figures used in the IRR computations. The reconciliation must also show how each of the individual parts and subparts of the project relates to the applicant's forecasted financial statements.

APPENDIX A—SELECTED CASH FLOW IMPACTS

Railroad investments usually affect the investor's cash flow by changing some of the following things:

- Use of assets.
- Contribution from traffic.
- Labor requirements.
- Locomotive requirements.
- Requirements for cars, trailers, and containers.
- Maintenance material consumption.
- Energy consumption.
- Accident rates and severity.
- Expenditures needed to meet legal requirements.
- Salvage value.
- Installation and start up expenses.

While this list is not exhaustive it does identify the most common cash flow impacts.

Some of the items listed, such as start up expenses, are almost always costs of projects or base cases, rather than benefits. Others, such as salvage value, are usually benefits. Most of the items, however, may be either project or base case benefits or costs, depending on the particular situation.

This appendix briefly discusses each of the eleven factors listed above. The discussions include four parts: a list of the kinds of actions which often involve the particular cash flow impact in question; the physical units in which the impact is generally measured; suggestions for converting the physical units to their monetary equivalent; and notes on special characteristics or problems associated with the particular cash flow impact.

USE OF ASSETS

**Characteristic Actions:** Assets are often released for sale or alternative uses when they are replaced or made unnecessary by new assets. Examples are pole line materials released when microwave is installed; shop equipment released when similar new equipment is acquired; rail replaced by rail in better condition; and land and track materials released when yards, shops, and terminals are made unnecessary by new facilities elsewhere. Some other types of actions, such as line changes and the installation of centralized traffic control, often permits some tract segments to be abandoned, thereby releasing track material for sale or other uses.

On the other hand, some actions involve the use of assets already owned, thereby prohibiting their sale or use of assets already for other purposes. Examples are car modifications and projects involving land and buildings already owned.

**Physical Units:** Feet (or miles) of rail, number of ties, acres of land, etc.

**Monetary Value:** The value of an asset released by an action depends on what will be done with it. The value of an asset occupied by an action, on the other hand, depends on what would have been done with it in the absence of the action. Regardless of whether it is the action or its alternative which makes the material available, one must first carefully specify what is assumed to happen to the asset both with and without, the action, and identify the factors which change the cash flow stream. Depending on the particular circumstances, any of the following might be involved: payment received from selling the asset; a multi-year stream of income produced by the asset in some use;

tax paid on the sale of the asset; expenditure, for dismantling and or moving the asset; recapture by the IRS of investment tax credit taken when the asset was purchased (if it had been in use for less than seven years). It is the use of the released asset which values it. Thus, a released asset such as rail which, by cascading, results in the subsequent release of less valuable rail, must be valued in its use and not as the value of subsequently released assets.

In cases in which the asset is transferred to another use which produces income over several years, the effect of releasing the asset extends over several years, and must be expressed as a series of annual cash flows, rather than a lump sum.

**Special Features:** A common error in project evaluations is to value a used asset at its book value (i.e., purchase price less accumulated depreciation). The book value may be far from the value of the asset on the open market, especially in the case of rail released by track abandonments and land released by the abandonment of facilities in urban areas. The only way the book value of retired assets enters into the cash flow stream is in determining the tax paid on the sale of the asset (or the tax saving if the asset is discarded or sold for less than its book value).

In calculating the tax paid on the sale of a released asset, the ordinary tax rate (48%) should be used, except when the capital gains rate applies.

It is sometimes difficult or impossible to estimate the contribution to profit which a particular asset, such as second hand rail, will produce in an alternative use. In such cases, it is better to do the financial analysis on the assumption that the asset in question would be sold at its fair market value (even though it would in fact be put to an alternative use), rather than leaving the asset out of the computations entirely.

CONTRIBUTION FROM TRAFFIC

**Characteristic Actions:** Actions which affect the availability and attractiveness of the railroad to shippers. The action may involve giving the shipper better access to the railroad (track extensions and terminal improvements) or better service. Line consolidations, on the other hand, may involve abandonments which deprive some shippers of service, or may result in such degradations in service quality that some shippers switch to other carriers. Faster service can result from more power or improvements in track, yards, terminals, signals, and communication. Another component of service quality, reduced loss and damage to lading, can be occasionally improved by eliminating accidents (wayside warning devices), using specialized cars, and making improvements to yard and terminal facilities. Service quality can also be enhanced by purchases of additional freight cars and trailers, so as to reduce the likelihood of car shortages. Another aspect of service quality is reliability, which may be affected by improvements in yards, terminals, and communications, as well as the elimination of accidents. Still another component of service quality is the cost to the shipper of packing and loading, which may be affected by investments in specialized cars and terminal facilities.

**Physical Units:** Car-loads.

**Monetary Value:** The contribution to profit is found by subtracting the variable cost of moving the traffic from the associated revenue. The variable cost is best estimated by a careful study of the operations and costs of the particular movements involved.

Such a study is not practical for certain traffic. In these cases the best alternative may be to estimate the variable cost using system averages, as is done in the Interstate

Commerce Commission's Rail Form A, Carload Cost Scales, and Rail Revenue Contribution studies. Where appropriate, such system average costs should be adjusted to exclude costs not involved in the particular movement, and to reflect the current, not the historical, costs of assets to be purchased in the future.

**Special Features:** The contribution from new traffic resulting from an improvement is, extremely important, but it is also one of the most difficult of all project benefits to estimate. One major problem is estimating the volume of traffic likely to result from a particular improvement, especially if the improvement affects service quality. A second serious problem is estimating the variable cost of particular movements. (These estimates may be facilitated by a six-part FRA cost study currently in progress.)

LABOR REQUIREMENTS

**Characteristic Actions:** Labor requirements are often reduced, by automation, facility consolidation, faster train running times, reductions in switch engine requirements, and better communications for operations, and reductions in maintenance needs. On the other hand, actions involving new or expanded yards, terminals, or shop facilities may increase manpower requirements.

**Physical Units:** Man-hours, number of employees.

**Monetary Value:** The value of labor depends on the particular situation. If the action results in a change in the number of employees or in overtime, hours, the wages and fringe benefits associated with that change directly affects the railroad's cash flow. If an action changes or eliminates work for employees without changing jobs or overtime, the change will affect the railroad's cash flow if either:

The man-hours released or occupied by the change can be used on other profitable tasks which would otherwise not be done, or which would be accomplished by paying overtime or hiring more people; or

The action can be combined with one or more other actions, each of which saves or requires a fraction of an employee, so that the set of actions results in a change in the size of the work force.

In either case, the value of the man-hours released or consumed is the cost of the associated wages and fringe benefits. On the other hand, if the result of the action is simply to give existing employees more (or less) free time on the job, no cash impacts should be attributed to the change in the amount of work.

**Special Features:** There are several different kinds of labor which a project might affect: road crews, yard crews, maintenance-of-way, shop, inspection, clerical, and other.

Determining the wages and fringe benefits associated with a particular man-hour is often not straightforward because of rules governing employee compensation. The payment of some train crews on a mileage rather than a time basis is an example.

Wage and fringe benefits savings resulting from the elimination of jobs may be at least partially offset by costs incurred as a result of labor protection agreements. Depending on the situation, these costs may be lump-sum or recurring. Determination of employee protection costs is complicated by the fact that the individual who holds a position which is to be eliminated may not be the person who is actually laid off as a result of the elimination. Rather, the person whose job is eliminated may displace a person with less seniority holding a similar job. That person may, in turn, displace another employee and so on.

## LOCOMOTIVE REQUIREMENTS

**Characteristic Actions:** Actions reducing train running time (track upgrading, line changes, signal system improvements, etc.), or which permit moving the same traffic with fewer trains (yard consolidations) or with fewer terminal delays (yard and terminal improvements) can all reduce the number of road engines needed. The number of switch engines needed can be reduced by some types of yard and terminal improvements, such as yard consolidations, track changes, and the installation of weigh-in-motion scales. Actions which lead to increased traffic, such as track extensions, may increase the need for both types of locomotives.

**Physical Units:** Locomotive-years (or locomotive-hours or locomotive-days). Note that one does not have to save 365 locomotive-days to save a locomotive-year, since locomotives are not available for service 365 days per year because of maintenance work. If a railroad's locomotives were available for service 78% of the time, it would only have to save 285 locomotive-days to save a locomotive-year.

**Monetary Value:** One way to estimate the value of a locomotive-year is the following four-step process:

1. Estimate the after-tax cash flow stream resulting from owning a locomotive. The components of this stream would be: the investment expenditure; investment tax credit; tax savings from depreciation; normal maintenance; overhauls; and salvage value. The cash flow stream must be in constant dollars of the same base year as would be used in the rest of the IRR computation.

2. Calculating the net present value of the cash flow stream, using the yield on 180-day United States treasury bills as the discount rate.

3. Find a stream of equal annual outlays which produces the same net present value as was found in Step 2. The annual outlay may be found by multiplying the net present value by

$$\frac{r(1+r)^n}{(1+r)^n - 1}$$

where  $r$  is the yield in Step 2, and  $n$  is the number of equal annual outlays.

4. Find the pre-tax equivalent of the after-tax annual payment found in Step 3, by dividing the after-tax figure by one minus the railroad's marginal tax rate. This is the pre-tax value of a locomotive year, expressed in dollars of the base year chosen in Step 1.

Increased locomotive productivity is somewhat analogous to increased labor productivity (see Labor Requirements) in that it may not always lead to significant cash savings. This is especially true with switch engines, since a decrease in car movements may not reduce the number of engines required if the number of locations which the switch fleet must serve does not also change. On the other hand, reducing the number of locations covered (by consolidating yards, for example) may decrease switch engine requirements. As in the case of increased labor productivity, increased locomotive productivity affects a railroad's cash flow only if a locomotive can be sold (or a purchase avoided) or if the locomotive is able to do other profitable work which would not be done otherwise.

**Special Features:** The locomotive values computed using the procedure above include maintenance and overhaul expense, but not fuel or other labor expense. Therefore any concomitant change in fuel or labor (except maintenance) should be estimated separately. Care should be taken to exclude changes in locomotive maintenance costs from any other estimates of changes in

maintenance costs resulting from the investment project.

## REQUIREMENTS FOR CARS, TRAILERS, AND CONTAINERS

**Characteristic Actions:** Actions which change train running time (such as track upgrading, purchase of additional power, line changes and signal improvements); actions which change the time cars spend in yards, or permit bypassing yards altogether (yard improvements and improved communication systems); actions which change the time cars are out of service for maintenance (shop facilities, car modifications, track upgrading); and actions which affect the turnaround time for cars in terminals.

**Physical Units:** Car-days.

**Monetary Value:** The procedure for finding the value of a locomotive-year or day is equally applicable to cars. (See Locomotive Requirements).

Another acceptable approach is to use per diem costs (including incentive per diem) since those charges approximate the cost of ownership. Although incentive per diem is in addition to car ownership costs, its inclusion in the car-day value is justified because it reflects, to some degree, the fact that a railroad sometimes loses business during short peaks in demand, because it is not immediately able to buy or hire the cars necessary to take advantage of a particular business opportunity.

Over the long run, however, a railroad need not continually lose traffic, so long as it is willing to incur the cost of owning a sufficient number of cars. Therefore, it is not appropriate to use the investing railroad's average contribution per car-day to value improved car utilization in IRR calculations. Given that per diem is a satisfactory approximation to the cost of car ownership, there is no need to distinguish between foreign car-days saved and investor car-days saved by an action.

**Special Features:** The valuation of improved car utilization is complicated by the fact that some projects, such as improvements in classification yards, may affect the entire car fleet, while other projects may affect only certain kinds of cars. For example, it may be that all the cars affected by a particular terminal improvement are refrigerator cars. The car-day value to be used is therefore not necessarily the same in all projects. Rather, it depends on the type of cars involved.

## MAINTENANCE MATERIAL CONSUMPTION

**Characteristic Actions:** Since nearly all assets require maintenance, almost any action involving the acquisition of new assets will lead to expenditures for maintenance materials. On the other hand, actions which involve taking assets out of service, such as replacements, eliminate the need to maintain the retired assets. Improving track conditions may decrease equipment maintenance, while decreasing traffic volumes may decrease track maintenance needs.

**Primary Units:** List of materials involved (and quantities).

**Monetary Value:** The value of maintenance materials is the price of those materials (plus freight in and labor added, if any). Where a direct relationship exists between maintenance labor and materials, it may be more convenient to first estimate man-hours and then compute material costs in proportion to the man hours.

**Special Features:** The material costs (or savings) associated with changes in maintenance may include work equipment, as well as the materials consumed during maintenance.

Usually the best basis for predicting maintenance costs is the maintenance his-

tory of similar assets in similar service. Manufacturers can also sometimes provide projections of maintenance expense. To the extent practical, care should be taken to specifically reflect cyclical maintenance (overhauls) by assigning the maintenance costs (or savings) to the years in which they will actually occur, rather than normalizing, or smoothing out, the cash flow stream.

Assets which permit maintenance savings often involve maintenance costs which partially offset those savings.

## ENERGY CONSUMPTION

**Characteristic Actions:** Actions changing locomotive activity or locomotive efficiency. Line changes and locomotive replacements may reduce fuel consumption by road engines. Improvements in yards and terminals, as well as locomotive replacements, may reduce the fuel consumed by switch engines. Improvements in buildings and structures can cut heating costs.

**Physical Units:** Gallons, kilowatt-hours, etc.

**Monetary Value:** Found by multiplying the fuel or electricity by the current price per unit.

**Special Features:** Road engine energy consumption generally varies with gross ton-miles and speed. Yard engines are frequently idling, consuming energy, even when not in use. Thus, energy consumption may vary with the number of switch engine crew shifts rather than the amount of work done. Care should be taken not to count changes in locomotive energy consumption twice, once as a change in locomotive requirements and once as a change in energy consumption.

## ACCIDENT RATES AND SEVERITY

**Characteristic Actions:** Accidents may be reduced by wayside warning detectors (hot box detectors, grade crossing protection, dragging equipment detectors, etc.), lading protection devices, some specially equipped cars, some yard and terminal improvements, and track upgrading.

**Physical Units:** Accidents (of several different types) per year.

**Monetary Value:** Only the monetary cost likely to be borne by the railroad would be relevant to the IRR computation. This would include damage to equipment, roadway and lading, and the cost of wreckage removal as well as injury to people. The expected cost of an accident varies drastically, depending on the particular situation.

**Special Features:** Accidents delay trains and yard and terminal operations. Thus, actions which reduce accidents may also improve car and locomotive productivity. Care should be exercised that such benefits are counted only once.

## EXPENDITURES NEEDED TO MEET LEGAL REQUIREMENTS

**Characteristic Actions:** Actions permitting abandonment of old facilities or equipment may reduce the need for such expenditures. New facilities may make some such expenditures necessary.

**Physical Units:** List of actions, such as grade crossing protection, water treatment facilities, or the installation of retention toilets, which would be required to bring the facilities or equipment in question up to legal standards.

**Monetary Value:** The total cost of the improvements including engineering (except engineering work already done), capital expenditure, maintenance, and operation. These expenditures should be offset by the appropriate tax reductions (resulting from depreciation and investment tax credit) which would result from those improvements.

SALVAGE VALUE

**Characteristic Actions:** Acquisition of new assets or disposal of existing assets.

**Physical Units:** List of the particular assets involved (such as tamping machine, 500' of 112# rail, etc.)

**Monetary Value:** The cash flow resulting from disposing of the assets or using them elsewhere. (See Use of Assets).

**Special Features:** The salvage value of most assets declines as the asset ages. The value of land often remains roughly constant, as does the value of materials in well maintained track. The salvage value of assets which cannot be used for other purposes, such as a culvert, is zero.

When salvage values are small relative to other benefits and costs, and when they are heavily discounted (because they occur far

in the future), their impact on the IRR is likely to be negligible. In such cases, the salvage value can be safely ignored.

INSTALLATION AND START-UP EXPENSES

**Characteristic Actions:** Most fixed facilities.  
**Physical Units:** Man-hours, list of materials required.

**Monetary Value:** As noted in the discussion of labor requirements the value of the labor depends on the particular situation. The value of the materials would normally be their market price.

**Special Features:** Often all or part of the expenditures needed to get a new asset in place and operating is capitalized. In such a case, the capitalized portion of the expenditure should be included as part of the investment cost, but not counted again as a start-up expense.

APPENDIX B—FORMS TO BE USED IN COMPUTING IRR

FORM I.—Analysis of capitalized investment (constant dollars)

Applicant .....  
Project .....  
Date .....  
Sheet No. .... of .....

Portion of investment covered by this sheet .....  
Depreciation method used ..... Depreciation period .....  
This investment would occur in the  Project  Base case (check one) (check one)

Year	(1) Amount capitalized	(2) Depreciation	(3) Tax reduction from depreciation	(4) Tax reduction from investment tax credit	(5) Net cash flow in (out)
1.....					
2.....					
3.....					
4.....					
5.....					
6.....					
7.....					
8.....					
9.....					
10.....					
11.....					
12.....					
13.....					
14.....					
15.....					
Totals.....					

**Instructions**  
Use separate forms for portions of the investment which would receive different tax treatment or which would enter service in different years.  
Estimate amounts in cols. 1-4 as would be done in reporting to IRS.  
Col. 5 equals col. 3 plus col. 4 minus col. 1.

Applicant .....  
Project .....  
Date .....  
Sheet No. .... of .....

FORM II.—Analysis of sale or retirement of assets (constant dollars)

Assets covered by this sheet .....  
Depreciation method used ..... Depreciation period .....  
Book value of assets at time of sale .....  
This sale would occur in the  Project  Base case (check one)

Year	(1) Sale price	(2) Tax on gain (or tax saving on loss) from disposal	(3) Tax credit recapture	(4) Net cash flow in (out)
1.....				
2.....				
3.....				
4.....				
5.....				
6.....				
7.....				
8.....				
9.....				
10.....				
11.....				
12.....				
13.....				
14.....				
15.....				
Totals.....				

**Instructions**  
Use a separate form for each portion of the assets which would receive different tax treatment or be disposed of at different times.  
Estimate amounts in cols. 1-3 as would be done in reporting to the IRS.  
Col. 4 equals col. 1 minus col. 2 (plus col. 2 if a tax saving occurs) minus col. 3.

RULES AND REGULATIONS

Applicant .....  
 Project .....  
 Date .....  
 Sheet No. .... of .....

**FORM III.—Analysis of expenses and contribution to profit (constant dollars)**

Expense or contribution .....  
 Physical units used ..... Monetary value per physical unit .....

Year	Physical units			Cash difference (in before-tax constant dollars)
	Project	Base case	Difference	
	(1)	(2)	(3)	(4)
1.....				
2.....				
3.....				
4.....				
5.....				
6.....				
7.....				
8.....				
9.....				
10.....				
11.....				
12.....				
13.....				
14.....				
15.....				
Totals.....				

**Instructions**

This form applies to all cashflow impacts except capitalised investments and sales or retirements of assets. Use a separate form for each type of expense or contribution to profit.  
 Col. 3 equals col. 1 minus col. 2.  
 Col. 4 equals col. 3 times monetary value per physical unit.

Applicant .....  
 Project .....  
 Date .....  
 Sheet No. .... of .....

**FORM IV.—Consolidation of cash flows (constant dollars)**

Year	Form I totals		Form II totals		Form III		Net cash flow in (out)
	Project	Base case	Project	Base case	Before tax totals	After tax	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.....							
2.....							
3.....							
4.....							
5.....							
6.....							
7.....							
8.....							
9.....							
10.....							
11.....							
12.....							
13.....							
14.....							
15.....							
Total.....							

**Instructions**

Cols. 1 through 5 are found by summing the right most columns on the indicated forms I-III.  
 Col. 6 equals col. 5 times (1 minus marginal tax rate) unless taxes will be paid in some years but not others.  
 Col. 7 equals col. 1 plus col. 3 plus col. 6 minus col. 2 minus col. 4. The subtracting of a (net cash flow out) results in the addition of a positive number.

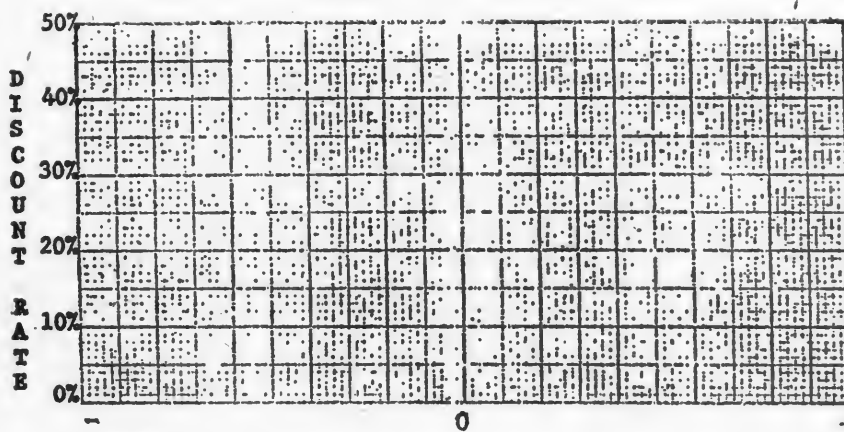


Date .....  
Sheet No. .... of .....

**Form V.—Computation of IRR (constant dollars)**

Year	(1) Cash flow	Present value					
		At 10 pct		At 25 pct		At 40 pct	
		(2) Factor	(2) Value	(3) Factor	(3) Value	(4) Factor	(4) Value
1.....		0.909		0.800		0.714	
2.....		.826		.640		.510	
3.....		.751		.512		.364	
4.....		.683		.410		.260	
5.....		.621		.328		.196	
6.....		.564		.262		.133	
7.....		.513		.210		.095	
8.....		.467		.168		.068	
9.....		.424		.134		.048	
10.....		.386		.107		.035	
11.....		.350		.086		.025	
12.....		.319		.069		.018	
13.....		.290		.055		.013	
14.....		.263		.044		.009	
15.....		.239		.035		.006	
Total.....							

INTERPOLATION CHART



PRESENT VALUE OF CASHFLOW STREAM

IRR = —

**Instructions**

1. Col. 1 is brought from form IV col. 7.
2. Cols. 2, 3, and 4 are found by multiplying col. 1 each time by the indicated factor.
3. Plot totals of cols. 1, 2, 3, and 4 against discount rate used (0, 10, 25, and 40 pct respectively). Applicant must indicate scale on horizontal axis of chart and connect the points in a column (1-4) sequence.
4. IRR is the discount rate corresponding to the point at which the graphical presentation intersects the zero present value ordinate.

Effective date: These amendments to 49 CFR Part 260 become effective January 25, 1977.

Dated: January 19, 1977.

**ASAPH H. HALL,**  
**Administrator,**  
**Federal Railroad Administration.**

[FR Doc.77-2363 Filed 1-24-77;8:45 am]

**DEPARTMENT OF  
TRANSPORTATION**

Federal Railroad Administration

[ 49 CFR Part 258 ]

[ Docket No. 76-01 ]

**RAILROAD REVITALIZATION AND  
REGULATORY REFORM ACT OF 1976**

**Proposed Standards for Evaluation and  
Other Miscellaneous Amendments**

On October 8, 1976, the Federal Railroad Administrator ("Administrator") published in the FEDERAL REGISTER (41 FR 44577) final regulations governing applications under section 505 of the Railroad Revitalization and Regulatory Reform Act of 1976 ("Act"), concerning the purchase of redeemable preference shares. On October 19, 1976, the President signed into law the Rail Transportation Improvement Act ("RTIA"), Pub. L. 94-555, which, among other things, amends sections 505 and 506 of the Act. The purpose of this document is to correct certain technical errors that were contained in the regulations, clarify or revise certain provisions, and amend this part to reflect changes to the Act contained in the RTIA. Major changes in sections 505 and 506 are discussed below.

**AMENDMENTS TO SECTIONS 505 AND 506  
CONTAINED IN THE RTIA**

1. *Distinction between Facilities Rehabilitation and Improvement and Other Projects.* Prior to enactment of the RTIA, section 505(a) of the Act prohibited the Administrator from acting finally on an application for facilities rehabilitation and improvement financing until the date of publication of the Final Standards, Classification and Designation of Lines of Class I Railroads in the United States under section 503 (e) of the Act ("final section 503 report"). Section 212 of the RTIA eliminates this prohibition.

2. *Determination of the Public Interest.* Section 505(b)(2) of the Act sets forth factors which the Administrator must consider in determining the public interest. One of these factors is—

The availability of funds from other sources at a cost which is reasonable under principles of prudent railroad financial management in light of the railroad's projected rate of return for the project to be financed . . .

Section 216(a)(2) of the RTIA adds as a factor which must be evaluated in determining whether the cost of funds from other sources is reasonable—

The railroad's rate of return on total capital (represented by the ratio which such carrier's net income, including interest on long-term debt, bore to the sum of average shareholder's equity, long-term debt, and accumulated deferred income tax for fiscal year 1975) as determined in accordance with the uniform system of accounts promulgated by the [Interstate Commerce] Commission . . .

As the information required for this evaluation is available in reports filed with the Interstate Commerce Commission, no changes in the regulations with respect to this additional factor are required.

In determining the public interest under section 505(b)(2) of the Act, the Administrator must also evaluate and consider—

The public benefits to be realized from the project to be financed in relation to the public costs of such financing and whether the proposed project will return public benefits sufficient to justify the public costs.

Section 216(a)(3) of the RTIA amends section 505(b)(2) of the Act to provide in addition that (except as between applications that would return equal public benefits, where funding priority is to be given to the application that provides safety improvements) in determining the extent to which a project will provide public benefits, the Administrator shall "give the highest priority to projects which will enhance the ability of the applicant carrier or other carriers to provide essential freight services". This requirement has been taken into consideration in the standards for evaluations and determinations under section 505 (b)(2) of the Act, which are discussed below.

3. *Standards for Evaluations and Determinations under Section 505(b)(2) of the Act.* Section 212 of the RTIA provides that any regulations published under section 505 of the Act " . . . shall include specific and detailed standards in accordance with which the [Administrator] shall conduct the evaluations and make the determinations required in subsection (b)(2) of [section 505]." The conference report on the RTIA indicates that such standards should " . . . fully explain the rationale for, and method of, defining and determining the elements of the public interest." H.R. Rep. No. 94-1743, 94th Cong., 2d Sess. 47 (1976). These standards are published herein as a new subpart B of this part.

Section 505(b)(2) of the Act, as amended, requires the Administrator to consider the following three factors in determining if the requested financial assistance is in the public interest:

(A) The availability of funds from other sources at a cost which is reasonable under principles of prudent railroad financial management in light of the railroad's projected rate of return for the project to be financed and the railroad's rate of return on total capital for fiscal year 1975;

(B) The interest of the public in supplementing such other funds as may be available for railroad financing; and

(C) The public benefits to be realized from the project to be financed in relation to the public costs of such financing and whether the proposed project will return public benefits sufficient to justify the public costs.

In accordance with section 505(a) of the Act, as amended, these regulations set forth standards by which the Administrator will evaluate each of these factors to determine whether the requested financial assistance is in the public interest. An applicant will receive Federal assistance only if all of the standards have been satisfied. The Administrator will determine the appropri-

ate level of funding for all projects that qualify for assistance. For example, where an applicant applies for funds sufficient to rehabilitate a section of mainline trackage to a physical level adequate to carry high volume of overhead traffic at high speeds, the Administrator may determine that the public interest justifies rehabilitation only to a level adequate to serve traffic originating or terminating on the line. A discussion of the standards proposed under each of the three factors follows below.

**A. THE COST OF FUNDS AVAILABLE FROM  
OTHER SOURCES**

Section 258.23 of these regulations proposes evaluation tests by which the Administrator can determine whether the cost of alternative funding from any of three different types of sources is unreasonable under principles of prudent railroad financial management, thus satisfying the first part of the evaluation process. The Administrator will carefully review the statement submitted under § 258.7(a)(7) of this part to determine whether applicant has thoroughly explored all alternative sources of funds, including funds available from affiliated companies or pursuant to arrangements under section 15(19) of the Interstate Commerce Act, 49 U.S.C. 15(19).

The first of the three standards, set forth in § 258.23(b)(1) of the proposed regulations, applies to "borrowed money" and establishes three tests of when the cost of such borrowing is unreasonable. If any of these tests is met, this standard is satisfied. Subparagraph (1) (A) of this standard recognizes that no railroad can remain viable by investing borrowed money at returns which are, on average, less than the concomitant costs. Because the after-tax, internal rate of return on a project (without giving effect to debt service) provides a measure of the maximum cost of capital which may be prudently incurred to finance that project, it would generally be financially imprudent for a railroad to employ borrowed money with an after-tax effective cost higher than a project's internal rate of return. If the interest cost of the money is not higher than the current market yield on debt securities of like tenor of the applicant (or, if none, of debt securities of like tenor of other companies having a Moody's bond rating similar to that of the applicant), however, that cost will not be deemed unreasonable.

Subparagraphs (1) (B) and (C) of this standard recognize that even where the rate of return on a project exceeds the cost of the financing, the cost of borrowing may nonetheless be unreasonable. Thus, under subparagraph (1) (B), if the financial condition and operating results of the applicant (after giving effect to a project's net cash stream) appear inadequate to enable the applicant to service its total debt, the cost of the borrowed money will be deemed unreasonable under principles of prudent railroad financial management. Under subparagraph (1) (C), if the applicant's fiscal

1975 rate of return on total capital, as defined in section 505(b)(2) of the Act, as amended, would be reduced by more than 10 percent as a result of a project whose size is reasonable in comparison to the applicant's total capitalization, the cost will be deemed to be unreasonable. This test may be applicable whether or not the return on the project exceeds the cost of financing. The test is made applicable only to projects whose total cost does not exceed 25 percent of the applicant's total capitalization so that increases in debt load remain at a reasonable level and the standard cannot be satisfied solely because of the magnitude of the project's cost.

The second of the three standards applies to "excess working capital". Working capital is deemed to be "excess" to the extent that (1) it represents an excess of the sum of cash, cash equivalents, and accounts and notes receivable over current liabilities including long-term debt due within one year net of any special funds to be used to pay that debt, and (2) its conversion into less liquid assets is not likely to impair the continuing operations of the railroad. The standard recognizes that every railroad manages its internally available funds to maximize the rate of return on those funds. Such management, whether through short or long range cash planning, establishes for the railroad an opportunity cost theoretically incurred when using such funds to foster internal business growth. The standard defines this opportunity cost as the effective after-tax annual percentage rate of return available on short term securities in which the applicant customarily invests. The cost of excess working capital will be deemed to be unreasonable if (i) the opportunity cost is equal to or greater than the rate of return on the project to be funded and (ii) the use of such excess working capital to finance the project would reduce the applicant's fiscal 1975 rate of return on total capital, as defined in section 505(b)(2) of the Act, as amended, by more than 10 percent.

The third of the three standards applies to "new equity capital" and sets forth different standards for common stock and preferred stock. The cost of new common stock equity is deemed to be unreasonable if the issuance and sale of such common stock would result in dilution of the book value of common stock held by the current shareholders or would reduce the applicant's rate of return on total capital, as defined in section 505(b)(2) of the Act, as amended, by more than 10 percent. The cost of new preferred stock equity is deemed to be unreasonable if the annualized percentage cost of the new issue, including dividends and placement charges, is equal to or greater than the rate of return on the project to be financed or the issuance would reduce the applicant's rate of return on total capital, as defined in section 505(b)(2) of the Act, as amended, by more than 10 percent. However, as provided in § 258.23(b)(3)(iii)

of the proposed regulations, the issuance by the applicant of new private equity capital will not be deemed to be unreasonable if the applicant's long-term debt exceeds 67 percent of its total capitalization, regardless of dilutive effects and effects on the applicant's rate of return on total capital.

This standard may require the use of parent company figures if a railroad is a wholly-owned subsidiary. Because a parent company will benefit from improvements in subsidiary operating results, the Administrator will consider the possibility of parent company equity funding, regardless of how it is passed through to its railroad subsidiary, to be a viable source of "new equity capital".

#### B. THE PUBLIC INTEREST IN SUPPLEMENTING TOTAL RAILROAD FUNDING

Section 505(b)(2)(B) requires the Administrator to consider "the interest of the public in supplementing such other funds as may be available in order to increase the total amount of funds available for railroad financing." In determining whether a specific application is consistent with this overall objective of the Act, it is appropriate that the Administrator be able to evaluate the applicant's long-term role in a viable, efficient, competitive national rail system. Because the nation's railroads are separate, for-profit corporations providing important rail services, the viability of individual carriers is crucial to the overall viability of the system. It is therefore, appropriate that applicants be required to set forth a long-term program to achieve and maintain, without the need for continuing Federal assistance, essential rail services either as a viable business enterprise or through merger or consolidation. The information requirements of the regulations have been revised to require submission of such a program.

By the purchase of redeemable preference shares, the Federal government will be assuming equity ownership in individual corporations, not in the system as a whole. Fiduciary responsibilities, therefore, dictate that care be taken to assure that the applicant be able to redeem the preference shares according to their terms, and the second part of this standard so provides. Finally, because it would clearly not be in the public interest for railroads to undertake financial investments whose burden would undermine the overall financial condition of the corporation, section 258.25(b)(iii) of the proposed regulations provides that the rate of return on the proposed project must equal or exceed the yield applicable on the preference shares.

#### C. PUBLIC BENEFITS AND COSTS

The third area which the standards address is determination of public benefits and costs associated with each proposed project. Because of the multiplicity of project types and variations between applicants and their markets, the standards establish specific thresholds above which the public benefits associated with proposed projects are substantial and will

exceed whatever monetary or social costs are involved, subject to an assessment of its environmental impact.

Consistent with the major thrust of the Act, as amended, the public benefit standards are based on the identification of project categories that will contribute to the establishment and continued maintenance of a high capacity, highly efficient, competitive interstate rail system, in order to provide for essential rail services to meet the current and future needs of the nation for rail transportation. Under section 505(b)(2)(B) of the Act, as amended, discussed above, the Administrator evaluates the applicant carrier and his ability to be a viable element of the national rail system. This section relates the specific project of the applicant to the public interest in strengthening the most significant segments of the national rail network. In this regard, the following four standards, or categories, have been established. If an applicant satisfies any one of these standards, the public benefits of the proposed project will be deemed to justify the public costs.

(1) *Essential Freight Services.* Section 505(b)(2) of the Act provides that (except as between applications that would return equal public benefits, where priority is to be given to the application that provides safety improvements) in determining the extent to which a project will provide public benefits, the Administrator shall "give the highest priority to projects which will enhance the ability of the applicant carrier or other carriers to provide essential freight services". While it could be argued that any service which is economic to the railroad or in demand by shippers is "essential", such an interpretation, by its very breadth, would render the statutory language meaningless as a guide to administrative action.

The proposed standard establishes seven categories of lines that provide essential freight services. Whenever the demand for funds to finance all qualified projects exceeds the availability of appropriated funds, projects which meet this standard will be financed first and in the order in which the category of lines to be rehabilitated or improved is set forth within the standard. The categories are primarily based on the density of traffic that is currently moving on the line or can be demonstrated with specificity to be reasonably likely to move on the line in the immediate future. These categories are set forth in § 258.27(b)(1) of the proposed regulations.

The proposed density standards do not identify an interstate rail system. Rather, the density standards when combined with the other elements of these regulations, identify facilities which provide for substantial movements of freight traffic and are likely to survive any future restructuring of the existing system. It must be remembered that section 505 funding is interim in nature, and that subsequent studies will define the rail network essential to the national interest.

Within corridors of consolidation potential, as identified in the final section 503 report, and with regard to certain lower density mainlines, an additional threshold of two million net tons of revenue freight per mile originating or terminating on the line is used to identify lines that warrant investment to meet long-term service needs. Projects which involve a consolidation of lines or coordination of traffic flows are given priority over projects on lines of similar densities which do not involve a consolidation or coordination. Thus, under the proposed standard, the Administrator would not fund a project within a corridor of consolidation potential unless the facility on which funds are to be expended can be supported as a consolidated facility or as a line that will continue to be necessary to carry substantial traffic which originates or terminates on the line.

(2) *Competitive Freight Services.* The presence and viability of rail competition serving major markets is an integral element of a high capacity, highly efficient interstate rail network. On the other hand, rail competition now exists in many economic centers whose traffic base is too small to sustain the ability of even two railroads in the market to compete. The proposed standards, therefore, establish criteria for strengthening competition through two distinct types of assistance.

First, assistance may be given to rehabilitate or improve rail lines in markets where there is a sufficient level of traffic to support competition between two rail carriers. The proposed standard will assure that only those projects which are justified by current traffic levels and the presence of few rail carriers in the market will be funded. The information provided under § 258.7(a)(10) of the proposed regulations will be expected to confirm the strategic role of a carrier in a multi-road market as justification for assistance.

Second, assistance may be given to fund costs associated with the withdrawal of the applicant from a market when the applicant demonstrates his service is uneconomic at current levels of competition. Assistance under this provision may include extraordinary labor costs that result from the withdrawal.

(3) *Special Projects.* Projects which eliminate identifiable and severe public safety hazards will be deemed to have public benefits which justify the public costs.

(4) *Equipment Rebuilding.* Most railroads are able to finance acquisition of new equipment without recourse to Federal assistance programs. For those railroads which cannot obtain private financing of new equipment, the loan guarantee program under section 511 of the Act, as amended, is an available Federal assistance source.

However, because financing of equipment rebuilding, unlike equipment acquisition, may not be available from private sources or appropriate under section 511 of the Act, the fourth standard with respect to public benefits would

allow for funding of equipment rebuilding if that equipment is necessary for the applicant to serve adequately current and reasonably prospective traffic which originates or terminates on the lines of the applicant. Rebuilding of locomotives would be allowed where necessary to provide local service and switching.

4. *Order of Funding.* Section 505(b)(2) of the Act requires the Administrator to " . . . act upon each . . . application within 6 months after the date on which all required information is received." Applicants will be notified promptly whether their application is complete and, if not, of the deficiencies. Within 6 months after the date on which the application is complete, the Administrator will determine whether funding of the proposed project is in the public interest.

A determination by the Administrator that the proposed assistance is in the public interest, however, does not automatically mean that the proposed project will be funded. A project will only be funded if there are sufficient appropriated funds available after funding all other projects that have been found to have greater public benefits and thus a higher priority for funding. The order of funding is set forth in § 258.29 of the proposed regulations. It is anticipated that demand for preference share financing will be such that funds will be available only for projects in the higher priority groups.

Fiscal year 1977 appropriated funds become available for commitment on the date of publication of the final standards for evaluations and determinations under section 505 of the Act, as amended, and each application received by that time will be assigned a funding priority based on its relative public benefits. Potential applicants for fiscal year 1977 funds should, therefore, file their applications as soon as possible. Fiscal year 1978 appropriations become available for commitment on October 1, 1977. Projects which have been approved prior to that date will be weighed against each other on that date for available fiscal year 1978 funds.

5. *Priority and Dividend Rate of Redeemable Preference Shares.* The RTIA makes two changes in the characteristics of redeemable preference shares as prescribed in section 506 of the Act. First, section 213 of the RTIA provides that the Administrator may make redeemable preference shares subordinate to any common stock that was issued pursuant to a court-approved reorganization plan under section 77 of the Bankruptcy Act (11 U.S.C. 205) and in exchange for securities that were senior in right to common stock, if the railroad was in reorganization under section 77 prior to February 5, 1976. Second, section 214 of the RTIA modifies the dividend rate payable on preference shares by requiring a minimum of fifteen annual redemption payments (except in the event of prepayment) and providing a maximum yield with respect to those shares which are used solely to reduce the deferred maintenance on facilities. With respect to this latter change, section 214 of the RTIA

provides that the yield on such shares shall not be less than the minimum yield that could be calculated under sections 506(a)(3) and (4) of the Act or more than—

Such railroad's rate of return on total capital (represented by the ratio which such carrier's net income, including interest on long-term debt, bore to the sum of the average shareholder's equity, long-term debt, and accumulated deferred income tax credits for the 3 fiscal years preceding the date of submission of the application) as determined in accordance with the uniform system of accounts promulgated by the [Interstate Commerce] Commission in those cases in which such rate of return exceeded such minimum permissible yield.

For the purpose of this section, deferred maintenance is defined as the accumulated physical deterioration in the component parts of a railroad facility, as defined in section 501(3) of the Act, as amended, which causes that facility to fail to meet the standard reasonably necessary to provide adequate freight services. The amount of deferred maintenance that exists on a line is therefore related to the type and density of traffic and the desired quality of service, as well as the previous condition of the facility.

The assessment of the physical condition or remaining useful life of the component parts of a facility and the amount of deferred maintenance in a facility must be based on engineering and maintenance practices customary in the industry. The determination must be made by professionally qualified railroad engineers and managers, projecting the quantities and types of work necessary to restore the facility to a condition adequate to meet current service requirements. The Administrator will review the applicant's submittal in this regard and carefully examine the methodology and assumptions used to calculate the amount and type deferred maintenance associated with a project.

Where it is determined that the proposed Federal assistance is to be " . . . expended solely to reduce deferred maintenance on facilities . . . ", a schedule of dividend and redemption payments for the preference shares will be established which produces the maximum yield permissible under section 506(a)(5) of the Act, as amended. In the case of shares whose proceeds result in no reduction in the level of deferred maintenance on facilities, a schedule of dividend and redemption payments will be established which results in a yield that equals the cost of money to the government, except where the public benefits associated with the proposed project clearly warrant a lower yield. In all other cases, the yield will be a weighted average that reflects the portion of total project cost which is expended to reduce deferred maintenance.

#### REVISIONS NOT REQUIRED BY THE RTIA

Revisions not required by the RTIA are proposed in five areas. First, the requirements of §§ 258.9 (a) and (b), 258.13, and 258.15 of the regulations will be deleted because they set forth statutorily

prescribed duties or powers of the Administrator or Comptroller General of the United States or deal with matters that are more properly addressed in the financing documents. If an application is approved, purchase of redeemable preference shares will occur in accordance with a financing agreement which will include such terms and conditions as the Administrator deems appropriate, consistent with the purposes of the Act. The terms and conditions that will be imposed as a minimum in the financing documents will be discussed with applicants at an appropriate time during the application process.

Second, it is proposed that renumbered § 258.9 (c), (d) and (e) be revised to require the submission of additional balance sheet or income statement data needed to assess accurately the applicant's financial condition both before and after giving effect to the assistance requested in the application. There has been added to the provisions of § 258.9(c) a requirement that applicants submit the most recent year-end general balance sheet certified by applicant's independent public accountants, if available. Section 258.9(d) has been revised to add the requirements of (1) a submission of applicant's most recent annual income statement certified by applicant's independent public accountants, if available, (2) a spread sheet showing unaudited monthly and year-to-date income statement data for the calendar year in which the application is filed, (3) estimated month-end balance sheets for the months between the date of the unaudited balance sheet presented in Exhibit C and the filing of the application, and (4) a forecasted balance sheet as at the year end for the year in which the application was filed. Section 258.9(e) is amended to add the requirement of forecasted year-end balance sheets for each of the four years subsequent to the year in which the application is filed, both before and after giving effect to the proceeds of the assistance requested in the application. An applicant which does not submit a balance sheet and income statement that have been certified by independent public accountants, as requested in § 258.9 (c) and (d), will be required to supply such statements prior to closing in the event its application for financial assistance is approved, and execution of the financing documents will be contingent upon such certification being satisfactory to the Administrator.

Third, in response to comments by several applicants that more guidance is desired with respect to environmental assessments, § 258.7(a) (8) of the regulations has been revised and an appendix to the regulations has been added which sets forth required environmental information.

Since publication of the initial regulations on October 8, 1976, FRA has published procedures for computing the internal rate of return on proposed projects. Accordingly, § 258.7(a) (4) (v) has been revised to require applicants to follow that methodology.

Finally, a new § 258.7(a) (11) has been added which permits an applicant to supplement his application with any additional information that the applicant feels will assist the Administrator in making the evaluations or determinations required by the Act or otherwise supports the application.

The impact of section 505 assistance, including the inflationary impact of the regulations, was fully considered prior to publication of the initial regulations on October 8, 1976. The standards proposed herein will not affect the overall costs or benefits of the program as it was set forth in the initial regulations. Accordingly, an evaluation of the expected impact of the regulations pursuant to the Department of Transportation Policies to Improve Analysis and Review of Regulations (41 FR 16200) is not required.

Any person or organization may submit written data, views, or comments on these proposed amendments to the Office of Chief Counsel, Federal Railroad Administration, 400 Seventh Street, SW., Washington, D.C. 20590. All material received on or before February 24, 1977, will be considered by the Administrator before taking final action on the proposed amendments. To the extent practicable, comments received after that date will also be considered. All comments received will be available for examination during regular business hours in Room 5101, Nassif Building, 400 Seventh Street, SW., Washington, D.C. The proposals contained in this notice may be changed in light of comments received.

In consideration of the foregoing, it is proposed that 49 CFR Part 258 be amended as follows:

1. The heading to the regulations is amended to read:

**PART 258—REGULATIONS GOVERNING SECTION 505 OF THE RAILROAD REVITALIZATION AND REGULATORY REFORM ACT OF 1976**

**Subpart A—Procedures for Applications for Preference Share Financing**

- Sec. 258.1 Applicability.
- 258.3 Definitions.
- 258.5 Eligibility.
- 258.7 Form and content of application.
- 258.9 Required exhibits.
- 258.11 Preapplication and application procedure.
- 258.13 Information requests.
- 258.15 Waivers and modifications.

**Subpart B—Standards for Evaluations and Determinations Under Section 505(b)(2) of the Act**

- 258.17 Purpose.
  - 258.19 Definitions.
  - 258.21 Evaluation process.
  - 258.23 Cost of funds available from other sources.
  - 258.25 Public interest in supplementing total railroad funding.
  - 258.27 Public benefits and costs.
  - 258.29 Order of funding.
- Appendix—Environmental Assessments.

**AUTHORITY:** Railroad Revitalization and Regulatory Reform Act of 1976, Pub. L. 94-210, as amended; the Department of Transportation Act, 49 U.S.C. 1651 et seq., Regulations of the Office of the Secretary of Transportation, 49 CFR 1.49(u).

§ 258.1 [Amended]

2. In the first sentence of § 258.1, the phrase “, as amended” is inserted after “1976.”

3. Section 258.3(a) is revised to read:

§ 258.3 Definitions.

(a) “Act” means the Railroad Revitalization and Regulatory Reform Act of 1976 (Pub. L. 94-210, February 5, 1976), as amended.

4. Section 258.3(g) is deleted, and § 258.3 (h) and (i) are redesignated as § 258.3 (g) and (h), respectively.

5. Section 258.3(j) is deleted, and § 258.3 (k) through (p) are redesignated as § 258.3 (i) through (n), respectively.

6. Section 258.7(a) (4) (v), and (8) are revised to read:

§ 258.7 Form and content of application.

- (a) \* \* \*
- (4) \* \* \*

(v) Estimated rate of return on the project, calculated in accordance with the methodology set forth in subpart C of part 260 of Title 49 of the Code of Federal Regulations (42 FR -----, January 25, 1977).

(8) Detailed assessment of the impact of the project on the environment, in the general format and including the information set forth in the appendix to this part.

7. The word “and” following the semicolon in § 258.7(a) (9) is deleted, § 258.7 (a) (10) is renumbered as § 258.7(a) (12), and two new sections numbered 258.7(a) (10) and (11) are inserted which read:

- (a) \* \* \*

(10) A narrative statement detailing management's long-term program to achieve or maintain applicant's ability to provide essential rail freight services as a viable business enterprise. The statement shall include as a minimum a discussion of each of the elements listed as (i) through (viii) in this section including how each relates to the four year financial forecasts provided in Exhibits E and G of the application. The statement should not be limited, however, to the next four years, but should cover a period sufficient in management's judgment to demonstrate applicant's ability to maintain adequately on a continuing basis plant and equipment and meet all present and future financial obligations.

(i) Applicant's current and prospective traffic base, including by commodity and geographic region major markets served, major interchange points, and market development plans.

(ii) Applicant's current operating patterns, and plans, if any, to enhance its ability to serve the prospective traffic base identified in (a) (i) of this section.

(iii) System-wide plans to maintain (A) equipment and (B) right-of-way by major segments at levels adequate to serve markets and maintain operating patterns discussed in (i) and (ii) above.

(iv) Active or proposed plans, if any, including any application currently pending before the Commission, to seek a corporate merger with another carrier.

(v) Specific plans for rationalization of marginal or uneconomic services including coordination with other carriers in jointly served markets, withdrawal from markets served by two railroads other than the applicant and in which the applicant's services produce marginal or no earnings, and the abandonment of uneconomic facilities.

(vi) Facilities and services not discussed in (v) above that are physically or operationally susceptible to consolidation or coordination with other carriers or internally, and summary of plans or discussions with other carriers regarding same.

(vii) Relationship of current requests for Federal financial assistance to the program discussed in this section, including a specific explanation of the impact of the assistance as stated in the financial forecasts of applicant in Exhibits E and G.

(viii) Any plans to seek further financial assistance from the FRA or assistance from any other public source.

(ix) A full explanation of the methodology and reasoning used in making the analyses specified in this section together with supporting documentation as appropriate.

(11) Any information that the applicant deems appropriate to convey a full and complete understanding of the project and its impact or to assist the Administrator in making the statutorily prescribed determinations; and

#### § 258.9 [Amended]

8. Section 258.9(a) and (b) are deleted, and § 258.9 (c) through (l) are redesignated as § 258.9 (a) through (j), respectively, with concomitant changes in the lettering of the exhibits required therein.

9. The portion of renumbered § 258.9 (c) through the colon is revised to read:

(c) *Exhibit C.* A copy of applicant's most recent year-end general balance sheet certified by applicant's independent public accountants, if available, and a copy of applicant's most recent unaudited general balance sheet as of a date no less recent than the end of the third month preceding the date of filing of the application. The unaudited balance sheet shall be presented in account form and detail as required in schedule 200 of the Commission's annual report R-1 or R-2, as appropriate, together with the following schedules (where changes in accounts from the end of the prior year to date of the application have not been significant, copies of the appropriate schedules in the prior year's R-1 or R-2 with marginal notations listing the changes may be submitted).

10. Renumbered § 258.9 (d) and (e) are revised to read:

(d) *Exhibit D.* Applicant's most recent annual income statement certified by applicant's independent public accountants, if available, and a spread sheet showing unaudited monthly and

year-to-date income statement data for the calendar year in which the application is filed in account form similar to that required in column (a) of schedule 300 of annual report R-1 or R-2, as appropriate. For those months preceding and ending upon the date of the unaudited balance sheet presented in Exhibit C, the income statement data shall be reported on an actual basis and so noted. For those months between the dates of the unaudited balance sheet and the filing of the application, the income statement data shall be reported on an estimated basis and so noted and shall be submitted in conjunction with corresponding estimated month-end balance sheets. For those months between the dates of the application and the end of the year, the income statement data shall be presented on a forecasted basis and so noted and shall be submitted in conjunction with a forecasted balance sheet as at the year end.

(e) *Exhibit E.* Spread sheets showing for each of the four years subsequent to the year in which the application is filed, both before and after giving effect to the proceeds of the assistance requested in the application:

(1) Forecasted annual income statement data in account form and detail similar to that required in column (a) of schedule 300 of annual report R-1 or R-2 as appropriate; and

(2) Forecasted year-end balance sheets in account form and detail similar to that required in schedule 200 of annual report R-1 and R-2, as appropriate.

These spread sheets shall be accompanied by a statement setting forth the bases for such forecasts.

11. Renumbered § 258.9(f) (1) is amended by inserting the word "unaudited" immediately prior to the words "balance sheets" and by striking "Exhibit E" and inserting in lieu thereof "Exhibit C".

12. Sections 258.13 and 258.15 are deleted, and §§ 258-17 and 259.19 are renumbered as §§ 258.13 and 258.15, respectively.

13. A new Subpart B is added which shall read:

#### Subpart B—Standards for Evaluation and Determinations Under Section 505(b)(2) of the Act

Sec.	Purpose.
258.17	Definitions.
258.19	Evaluation process.
258.21	Cost of funds available from other sources.
258.23	Public interest in supplementing total railroad funding.
258.25	Public benefits and costs.
258.27	Order of funding.

(Sec. 505, Railroad Revitalization and Regulatory Reform Act of 1976 (Pub. L. 94-210, as amended).)

#### Subpart B—Standards for Evaluations and Determinations Under Section 505(b)(2) of the Act

##### § 258.17 Purpose.

This subpart prescribes standards in accordance with which the Administrator will make the evaluations and determinations required under section 505(b)(2) of the Act.

#### § 258.19 Definitions.

As used in this subpart—

(a) "Consolidation" means the combination of separate rail facilities into fewer facilities and the abandonment of the excess facilities.

(b) "Coordination" means the combination of rail freight traffic flows through the use of joint facilities arrangements or internally that result in a partial or complete discontinuance of service on the less essential facility.

(c) "Corridor of consolidation potential" means a corridor of consolidation potential as identified in the Final Standards, Classification and Designation of Lines of Class I Railroads in the United States, published by the United States Department of Transportation pursuant to section 503(e) of the Act.

(d) "Excess Working Capital" means the amount, if any, by which the current assets of an applicant (consisting of cash, cash equivalents, and accounts and notes receivable) exceeds the sum of (i) current liabilities of the applicant and (ii) long-term debt due within one year, deducting special funds, if any, to be used to pay that debt, and the deployment of which working capital is not likely to impair the continuing operations of the railroad.

(e) "Mainline" means a line that has an overall annual traffic density of at least five million gross ton-miles per mile.

(f) "Ratio" means the applicant's fiscal 1975 rate of return on total capital, represented by the ratio which such applicant's net income, including interest on long-term debt, bore to the sum of average shareholders' equity, long-term debt, and accumulated deferred income tax credits in fiscal year 1975.

(g) "Return" means the anticipated after-tax, internal rate of return on a proposed project, computed in accordance with the methodology set forth in Subpart C of Part 260 of Title 49 of the Code of Federal Regulations (42 FR 4652, January 25, 1977).

#### § 258.21 Evaluation process.

(a) Section 505(b)(2) of the Act requires the Administrator to consider the following three factors in determining if financial assistance applied for under this part is in the public interest:

(1) The availability of funds from other sources at a cost which is reasonable under principles of prudent railroad financial management in light of the railroad's projected rate of return for the project to be financed and the applicant's Ratio.

(2) The interest of the public in supplementing such other funds as may be available for railroad financing; and

(3) The public benefits to be realized from the project to be financed in relation to the public costs of such financing and whether the proposed project will return public benefits sufficient to justify such public costs.

(b) In accordance with section 505(a) of the Act, this subpart sets forth standards for each of the three factors listed above, by which the Administrator will

make his determination of whether the requested financial assistance is in the public interest. Except where otherwise stated in this subpart, all of the standards must be satisfied in order for the applicant to qualify for the requested financial assistance. The Administrator retains discretion to determine the appropriate level of funding for all projects that qualify for assistance.

**§ 258.23 Cost of funds available from other sources.**

(a) *General.* Funds available from other sources may take the form of borrowed money, excess working capital, or new equity capital. Where the form of alternative financing combines one or more of these forms, an analysis of each affected form will be made independently. For example, if convertible debt is available, the cost of such debt will be evaluated against the standards below as if the convertible debt were borrowed money, and as if conversion to new equity capital would occur immediately on issuance. The Administrator will review the statement submitted under § 258.7(a)(7) of this part to determine whether applicant has thoroughly explored all alternative sources of funds, including funds available from affiliated companies or pursuant to transactions under section 15(19) of the Interstate Commerce Act, 49 U.S.C. 15(19).

(b) *Standards.* (1) *Borrowed Money.* The cost of borrowed money will be deemed to be unreasonable under principles of prudent railroad financial management if any of the following is true.

(i) The after-tax, effective, annualized cost (expressed as a percentage and including interest, placement, trustee's and other related charges) of borrowed money (hereafter in this § 258.23(b)(1) referred to as "Cost") is equal to or greater than the Return, and the Cost is higher than the current market yield on debt securities of like tenor of the applicant or, if none, then the market yield on debt securities of like tenor of other companies having a similar Moody's bond rating;

(ii) The financial condition and operating results of the applicant (after giving effect to a project's net cash stream) appear inadequate to enable the applicant to service its total debt; or

(iii) The amount of borrowed money is less than 25% of the denominator of the applicant's Ratio and the borrowing would result in a reduction of more than 10% in the applicant's Ratio, computed by adding an amount equal to the product of the Return and the borrowed money to the numerator of the Ratio, and an amount equal to the product of (I) the borrowed money and (II) the sum of 100% and the spread between the Return and the Cost (computed by subtracting the Cost from the Return) to the denominator of the Ratio.

(2) *Excess Working Capital.* The cost of Excess Working Capital will be deemed to be unreasonable under principles of prudent railroad financial management if (i) the after-tax opportunity

cost, expressed as an annual percentage rate representing the return available on short term securities customarily invested in by the applicant (hereafter in this § 258.23(b)(2) referred to as "Cost"), of applicant's Excess Working Capital is equal to or greater than the Return; and (ii) the railroad's Ratio is reduced by more than 10% when an amount equal to the product of the Excess Working Capital to be used for the project and the negative spread between the Return and the Cost (computed by subtracting the Cost from the Return), is added to both the numerator and the denominator of the Ratio.

(3) *New Equity Capital.* (i) *Common Stock.* The cost of new common stock equity will be deemed to be unreasonable under principles of prudent railroad financial management if either of the following is true.

(A) An amount equal to the product of the consideration to be received by the applicant or its holding company upon the issuance and sale of new common stock equity (hereafter in this § 258.23(b)(3) referred to as "Consideration") and the sum of 100% and the Return is less than an amount equal to the product of the tangible book value per common share immediately prior to the issuance and sale of new common stock equity and the number of shares of common stock to be issued and sold; or

(B) The amount of Consideration is less than 25% of the denominator of the applicant's Ratio and the issuance and sale would result in a reduction of more than 10% in the applicant's Ratio, computed by adding an amount equal to the product of the Return and the Consideration to the numerator of the Ratio, and an amount equal to the product of the Consideration and the sum of 100% and the Return to the denominator of the Ratio.

(ii) *Preferred Stock.* The cost of new preferred stock equity will be deemed to be unreasonable under principles of prudent railroad financial management if either of the following is true.

(A) The effective annualized cost (expressed as a percentage and including dividends and placement charges) of the preferred stock (hereafter in this subparagraph 258.23(b)(3) referred to as "Cost") is equal to or greater than the Return; or

(B) The amount of Consideration is less than 25 percent of the denominator of the applicant's Ratio and the issuance and sale would result in a reduction of more than 10 percent in the applicant's Ratio, computed by adding an amount equal to the product of the Return and the new preferred stock equity to the numerator of the Ratio, and an amount equal to the product of the new preferred stock equity and the sum of 100 percent and the spread between the Return and the Cost (computed by subtracting the Cost from the Return) to the denominator of the Ratio.

(iii) Notwithstanding subdivisions (b)(3)(i) and (ii) of this section, the standard will not be deemed to be satisfied if the applicant's long-term debt prior to

the issuance and sale of new equity capital exceeds 67 percent of its total capitalization.

**§ 258.25 Public interest in supplementing total railroad funding.**

(a) *General.* The standards set forth in paragraph (b) of this section will enable the Administrator to evaluate an applicant's long-term role in a viable national rail system in order to determine that the application is consistent with "the interest of the public in supplementing such other funds as may be available for railroad financing," as stated in section 505(b)(2)(b) of the Act.

(b) *Standards.* (i) Management's long-term program submitted under § 258.7(a)(10) of this part is reasonably likely to assure that essential rail freight services currently provided by the applicant will continue to be provided by the applicant as a viable business enterprise or by another carrier as the result of a merger of companies or consolidation of lines, and the financing applied for will contribute to that program.

(ii) The applicant is reasonably likely to be able to redeem any preference shares issued to finance the project according to a dividend and redemption schedule which results in a yield as set forth in paragraph (b)(iii) of this section.

(iii) The Return on the proposed project is not less than the yield on the redeemable preference shares, expressed as the effective annual percentage rate applicable from the date of issuance of the shares, which shall be:

(A) in the case of shares whose proceeds are to be expended solely to reduce the level of deferred maintenance on facilities, equal to the applicant's average rate of return on total capital, as defined in section 506(a)(5) of the Act, for the three fiscal years preceding the date of submission of the application;

(B) in the case of shares whose proceeds result in no reduction in the level of deferred maintenance on facilities, equal to the cost of money to the government, except where the public benefits associated with the project clearly warrant a lower yield; and

(C) in all other cases, equal to a weighted average yield determined by applying the yields obtained in paragraphs (b)(iii)(A) and (B) of this section to the appropriate portion of the total project cost. In no event shall the yield under this subparagraph (iii) be lower than the minimum permissible yield determinable under sections 506(a)(3) and (4) of the Act.

**§ 258.27 Public benefits and costs.**

(a) *General.* Each project for which assistance is sought must satisfy a set of public benefit standards based on national goals and objectives in order to qualify for funding. Public benefits and costs related to rail facility improvements encompass a wide range of values and are not easily quantified. Because of the multiplicity of project types, variations between applicants and their markets, and the difficulty of measuring cer-

tain benefits and costs, consideration of public benefits and costs is accomplished through identification of broad categories of projects for which the public benefits associated with proposed projects are substantial and will equal or exceed whatever monetary and social costs are involved, subject to an assessment of its environmental impact.

(b) *Standards.* The public benefits associated with a proposed project will be deemed to justify the public costs associated with the project if the project satisfies any of the following standards.

(1) *Essential Freight Services.* The proposed project enhances the ability of the applicant or other carriers to provide essential freight services by acquiring by lease, purchase or merger, constructing, rehabilitating, or significantly improving mainlines, including yards or other facilities used primarily to serve traffic moving on such lines, which are:

(i) Located in a corridor of consolidation potential and as a result of a consolidation of mainlines or coordination of traffic of the applicant and at least one other carrier will have a current or reasonably prospective annual traffic density of not less than 20 million gross ton-miles per mile;

(ii) Not located in a corridor of consolidation potential and as a result of a consolidation of mainlines or coordination of traffic by the applicant or between the applicant and at least one other carrier will have a current or reasonably prospective annual traffic density of not less than 20 million gross ton-miles per mile;

(iii) Not located in a corridor of consolidation potential and have a current or reasonably prospective annual traffic density of not less than 20 million gross ton-miles per mile;

(iv) Located in a corridor of consolidation potential and as a result of a consolidation of facilities or coordination of traffic of the applicant and at least one other carrier will have an annual traffic density of not less than two million net tons of revenue freight per mile originating or terminating on the line but have an overall annual traffic density of less than 20 million gross ton-miles per mile;

(v) Not located in a corridor of consolidation potential and have a current or reasonably prospective annual traffic density of not less than two million net tons of revenue freight per mile originating or terminating on the line but have an overall current or reasonably prospective annual traffic density of less than 20 million gross ton-miles per mile;

(vi) Located in a corridor of consolidation potential and have a current or reasonably prospective annual traffic density of not less than two million net tons of revenue freight per mile originating or terminating on the line; or

(vii) Not located in a corridor of consolidation potential and have a current or reasonably prospective annual traffic density of less than two million net tons of revenue freight per mile originating or terminating on the line, but have an overall current or reasonably prospective

annual traffic density of less than 20 million gross ton-miles per mile.

The current annual traffic density of a line under this standard in net tons of revenue freight per mile originating or terminating on the line or gross ton-miles per mile will be deemed to be the average annual traffic density for the three calendar years preceding the filing of the application. In segmenting lines for the purpose of determining traffic density in (iv), (v), (vi) and (vii) above, originating and terminating traffic is measured from its originating or terminating point to the next operationally feasible interchange point consistent with traffic flows. A forecasted level of traffic will be deemed to be "reasonably prospective" under this standard if the increment of traffic above the average annual traffic density for the three calendar years preceding the filing of the application is accounted for by newly generated traffic which applicant demonstrates is the result of an increase in the capacity of shippers or receivers currently located on the line to produce or consume commodities that are traditionally shipped by rail or is the result of new shippers or receivers locating on the line and cannot be shipped by an alternate rail carrier.

(2) *Competitive Freight Services.* The application provides for:

(1) Rehabilitation or improvement of a line of an applicant who is competitive with no more than one rail carrier in the market served by the line and is shown by applicant to be economic in light of the current or reasonably prospective levels of traffic in the market and the number of alternative rail carriers in the market; or

(ii) Financial assistance to enable an applicant to withdraw from a market which has more than two competing rail carriers, where the applicant demonstrates that the reasonably prospective levels of traffic in the market are insufficient to enable all of the railroads competing in that market to earn a reasonable rate of return.

(3) *Special Projects.* The proposed project will eliminate identifiable and severe public safety hazards.

(4) *Equipment Rebuilding.* The proposed project provides for rebuilding equipment which the applicant requires in order to serve adequately traffic which originates or terminates on applicant's lines at levels which are consistent with the applicant's average market share in the commodity hauled for the three calendar years preceding the filing of the application or are reasonably prospective as defined in subparagraph (b)(1) of this section, and, in the case of locomotives, are necessary to the performance of local service and switching.

#### § 258.29 Order of funding.

(a) Where appropriated funds are inadequate to finance all projects which qualify for Federal assistance, projects will be funded in the order in which the categories in which they fall are set forth in section 258.27 of this subpart; that is, in descending order of priority from

§ 258.27(b)(1) to § 258.27(b)(4) and within § 258.27(b)(1), from paragraph (i) to paragraph (vii).

(b) Where appropriated funds are adequate to finance some but not all projects which qualify for Federal assistance within any one of the categories described in paragraph (a) of this section, priority for funding will be given to projects that provide safety improvements and signals, including underpasses or overpasses at railroad crossings at which injury or loss of life has frequently occurred or is likely to occur.

(c) As between two projects within the same category, as described in paragraph (a) above, which both either provide or do not provide safety improvements and signals, priority for funding will be given to the project which was first proposed in a complete application.

14. An Appendix is added to Part 258 as follows:

#### APPENDIX—ENVIRONMENTAL ASSESSMENTS

Part I: Description of the environment in the area of the project before commencement of such project, together with statement of other Federal activities in the area which are known, or should be known, to the applicant. This description shall include, without limitation, the following information:

(A) *Demographic data.* Statement of population and growth characteristics of area and of any population and growth assumptions made by applicant in planning the project. Such statement should use the rates of growth in the projection compiled for the Water Resources Council by the Bureau of Economic Analysis of the Department of Commerce and the Economic Research Service of the Department of Agriculture, commonly referred to as the OBERS projection of regional economic activity in the United States. Applicants should refer to 1972 OBERS projections for economic areas, and provide 1969 data and 1980 projections for the following: population; manufacturing earnings; transportation, communications and public utilities earnings; agriculture, forestry and fisheries earnings; and mining earnings. Information should be provided for economic areas which the applicant's proposal would affect.

(B) *Current land use patterns.* Statement of the project's relationship to proposed land use plans, policies, and controls of affected communities, including, where appropriate, maps or diagrams. Where the project is inconsistent with any such plans, policies, or controls, the statement should describe and explain in detail the reasons for such inconsistency.

(C) *Characteristics of current operations.* The Applicant should indicate the maximum allowable speed and frequency of current rail traffic on any affected line, the number and location of grade crossings, and the length of time such grade crossings are blocked during a typical day. The Applicant should indicate derailments and fatalities or injuries resulting from accidents involving trains and motor vehicles or pedestrians on such lines. The Applicant should also indicate the hours of operation on such lines and noise levels of rail operations at 100' from the right of way. Applicants should refer to the United States Environmental Protection Agency document titled "Information on Levels of Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety", which provides a system of measuring day and night noises on a weighted average.



(D) *Air quality.* The Applicant should indicate the air quality in the region, as found in the state Air Quality Implementation Plans to meet ambient air quality standards. Each state is required to prepare such a plan under the Clean Air Act (42 U.S.C. 1857). Some states are required to have Transportation Control Plans to meet ambient air quality standards where transportation sources pose major air quality problems. Applicants should refer to state air quality agencies or to the Regional Offices of the U.S. Environmental Protection Agency for guidance.

(E) *Wetland or coastal zones.* Location, types, and extent of wetland areas or coastal zones that might be affected by the project.

(F) *Properties and sites of historical or cultural significance.* Identification of districts, sites, buildings and other structures, and objects of historical, architectural, archeological, or cultural significance that may be affected by the project. This should be accomplished by consulting the National Register and applying the National Register Criteria (36 CFR Part 800) to determine which properties that may be affected by the project are included in or eligible for inclusion in the National Register of Historic Places. The National Register is published in its entirety each February in the FEDERAL REGISTER. Monthly additions and listings of eligible properties are published in the FEDERAL REGISTER the first Tuesday of each month. The Secretary of the Interior will advise, upon request, whether properties are eligible for the National Register. Officials designated by their Governors to act as State Historic Preservation Officers responsible for state activities under the National Historic Preservation Act may also be consulted. A listing of these state officials may be found at 36 CFR 60.5(d), or may be obtained from the Director, National Parks Service, U.S. Department of the Interior, Washington, D.C. 20240.

(G) *Publicly-owned parklands, recreational areas, and waterfowl refuges, and historic sites (45 U.S.C. 1653(f)).* (1) Protected land proposed to be used. Describe any publicly-owned land from a public park, recreation area or wildlife and waterfowl refuge or any land from an historic site or wildlife and waterfowl refuge or any land from an historic site which would be affected or taken by the proposed program or project, including the size of the land proposed to be affected or taken, available activities on the land, use, patronage, unique or irreplaceable qualities, relationship to other similarly used land in the vicinity of the proposed project, and maps, plans, slides, photographs, and drawings in sufficient scale and detail to clearly show proposed project. Include a description of impacts of the proposed project on the land and changes in vehicular or pedestrian access.

(ii) *Significant area.* Include a statement of the national, State, or local significance of the entire park, recreation area, wildlife or waterfowl refuge, or historic site as determined by the Federal, State or local officials having jurisdiction thereof. In the absence of such a statement, protected land is presumed to be located in an area of national, State or local significance.

Part II: The probable impact of the project on the environment and measures which can be taken to mitigate adverse impacts. The applicant shall (1) assess the positive and negative environmental effects, including primary, secondary, and other foreseeable effects, on each of the areas specified in Part I above, including long-term impacts associated with the increased intensity, if any, of rail operations, and (2) list measures which can be taken to mitigate adverse impacts. Mitigation measures include control of hours of operation, coordination of street blockages with adjacent communities, dust and erosion control measures, and proposed methods of tie disposal. In addition, the applicant shall provide the following.

(A) Statement of the extent to which any of the impacts of the project represent irreversible or irretrievable commitments of resources. This requires identification of the extent to which implementation of the project irreversibly curtails the range of potential uses of the environment. "Resources" include the natural and cultural resources lost or destroyed as a result of the project.

(B) Statement of the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. This shall include a brief discussion of the extent to which the proposed action involves trade-offs between short-term environmental gains at the expense of long-term losses, or vice versa, and a discussion of the extent to which the proposed action forecloses future options.

(C) Statement of any probable adverse environmental effect which cannot be avoided, such as changes in exposure to noise and changes in level of noise or vibration; water or air pollution; undesirable land use patterns; impacts on public parks and recreation areas, wildlife and waterfowl refuges, or historic sites; damage to life systems; congestion of street traffic in adjacent communities; delays in the provision of essential services (police, fire, ambulance), anticipated changes in accident patterns and other threats to health; and other consequences adverse to the environmental goals set out in section 101(b) of the National Environmental Protection Act, 42 U.S.C. 4331(b). In considering noise levels, applicants should note any conflicts between projected noise levels from rail operations and HUD standards for noise at sensitive sites, such as schools, hospitals, parks and residential locations. (U.S. Department of Housing and Urban Development, "Noise Abatement and

Control: Department Policy Implementing Responsibilities and Standards," Departmental Circular 1390.2, Chart: External Noise Exposure Standards for New Construction, April 4, 197.)

(D) Statement of construction impacts, identifying any special problem areas and including: (1) Noise impacts from construction and any specifications setting maximum noise levels:

(ii) Disposal of spoil and effect on borrow areas and disposal sites (include any specifications).

(iii) Measures to minimize effects on traffic and pedestrians.

(iv) Consideration of non-point source pollution such as might result from water runoff.

(E) Statement of any positive or negative impacts on energy supply and natural resource development, including, where applicable, any effect on either the production or consumption of energy or other natural resources. Discuss such effects if they are significant.

(F) Discussion of problems and objections raised by other Federal, State or local agencies, and citizens with respect to impact of the project on the environment.

Part III. Discussion of any alternatives to the project that have been considered with respect to impact on the environment. If cost-benefit analyses have been performed, the extent to which environmental costs have been reflected in the analysis should be stated. Underlying studies, reports, and other information obtained and considered in preparing each section of the statement should be identified. For energy comparisons, a possible source is Oak Ridge National Laboratory Report, "Energy Intensiveness of Passenger and Freight Transport Modes" by Dr. Eric Hirst, April, 1973. For analyzing community impacts, the following report may be useful: "The Impacts on Communities of Abandonment of Railroad Service," July, 1975, prepared for the U.S. Railway Association by the Public Interest Economics Center, Washington, D.C. In examining the environmental effects of highway transport as an alternative to rail service, applicants may wish to use the following publication: "A Study of the Environmental Impact of Projected Increases in Intercity Freight Traffic, August, 1971, prepared for the Association of American Railroads by Battelle, Columbus, Ohio."

(Sec. 505, Railroad Revitalization and Regulatory Reform Act of 1976 (Pub. L. 94-210), as amended.)

Dated: January 19, 1977.

ASAPH H. HALL,  
Administrator,  
Federal Railroad Administration.

[FR Doc. 77-2341 Filed 1-24-77; 8:45 am]