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UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Utilities Service

BULLETIN 183-1
RD-GD-1977-04

SUBJECT: Depreciation Rates and Procedures

EFFECTIVE DATE: January 1, 1978.

OFFICE OF PRIMARY INTEREST: Assistant Administrator, Electric Program.

FILING INSTRUCTIONS: This bulletin revises RUS Bulletin 183-1 "Depreciation Rates and Procedures" dated November 3, 1969. Suggestion to borrowers: Distribute copies of this bulletin to all units responsible for elements of the report.

PURPOSE: This bulletin is issued to aid borrowers in their accounting for depreciation. Specific rates are prescribed for production and transmission plant. Ranges of rates are prescribed for distribution plant and recommended for general plant. A method is furnished for borrowers to appraise their reserve ratio for distribution plant. Borrowers may continue to use rates which have received specific REA approval since January 1, 1967. Otherwise, no deviations are to be made from these depreciation procedures and prescribed rates with-out specific approval of REA except where other rates or procedures are required by a regulatory agency having jurisdiction over the borrower. Borrowers under commission jurisdiction should inform REA of depreciation rates prescribed by the Commission.

UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Electrification Administration

October 28, 1977

REVISION OF REA BULLETIN 183-1

Attached is revised REA Bulletin 183-1, Depreciation Rates and Procedures.

Depreciation rates and procedures prescribed in this bulletin are effective January 1, 1978. However, borrowers wishing to make the changes retroactive to January 1, 1977, may do so. Borrowers may continue to use those rates which REA has approved on the basis of special studies.

A recent review of current industry depreciation rates and practices indicates REA's prescribed rates for generation and transmission and the ranges of rates for distribution plant are generally in agreement with current industry data. The review did indicate an upward trend in certain prescribed rates which have been reflected in the new rates as follows:

1. The prescribed rate for steam production plant is changed from 2.82 percent to 3.10 percent.
2. The prescribed rate for transmission lines is changed from 2.60 percent to 2.75 percent. If communication equipment is not "significant" (see page 14) borrowers may now use a composite rate of 2.75 percent for all transmission plant.
3. The prescribed range of rates for Account 364, Poles, Towers and Fixtures is changed from a range of 3.0 to 3.5 percent to a range of 3.0 to 4.0 percent.

The revised bulletin requires that the accumulated provision for depreciation of distribution plant be analyzed on at least an annual basis. The only other major change in the bulletin is the clarification {page 14, B) of the handling of depreciation rates for nuclear production plant.

To eliminate some apparent confusion, the following points concerning this bulletin are emphasized.

1. REA will not object to the use of the "unit method" of depreciation for "General Plant," where the board of directors approve of this procedure as being necessary to meet their management needs.
2. The use of REA approved rates for general plant has not been necessary since the 1969 revision of Bulletin 183-1. We recommend that borrowers use the range of rates for general plant provided in the bulletin. However, a rate based upon the experience of the cooperative, representing the estimated service life and salvage is satisfactory.

Attachment

UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Electrification Administration

October 28, 1977
Supersedes 11/3/69

REA BULLETIN 183-1

SUBJECT: Depreciation Rates and Procedures

- I. General: This bulletin is issued to aid borrowers in their accounting for depreciation. Specific rates are prescribed for production and transmission plant. Ranges of rates are prescribed for distribution plant and recommended for general plant. A method is furnished for borrowers to appraise their reserve ratio for distribution plant. Borrowers may continue to use rates which have received specific REA approval since January 1, 1967. Otherwise, no deviations are to be made from these depreciation procedures and prescribed rates without specific approval of REA except where other rates or procedures are required by a regulatory agency having jurisdiction over the borrower. Borrowers under commission jurisdiction should inform REA of depreciation rates prescribed by the Commission.

- II. Depreciation Defined: Depreciation is defined in the REA Uniform System of Accounts as "the loss in service value of depreciable plant not restored by current maintenance resulting from causes against which no insurance is carried, such as wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and requirements of public authorities."

- III. Objectives of Depreciation Accounting:
 - A. The objective of depreciation accounting is to charge to expense the capital investment in certain fixed assets, less salvage at time of retirement, over their useful lives. Thus it may be said that the cost of capital investments in plant is recovered by means of proper depreciation accounting. The useful life of such assets is dependent upon such factors as use, misuse, maintenance and obsolescence. The charge to expense is accomplished by establishing depreciation rates as a percentage. This percentage is applied to the asset cost to yield a monthly or annual amount of depreciation expense.

- B. Depreciation accounting provides for the systematic, periodic writedown or allocation of the cost of a limited-life asset or asset group. The established rate of depreciation should recognize useful life and recovery values. Depreciation is not intended to provide funds for replacement, nor is it to be legitimately considered as a means to make a desirable showing on the revenue and expense statement.

IV. Methods of Depreciation:

- A. REA recommends the straight-line method of computing depreciation for use by its borrowers to provide uniform accounting and reporting practices. The REA Uniform System of Accounts defines straight-line depreciation as "a method for periodically computing the expense represented by loss in service value of depreciable plant, under which the objective is to prorate such loan in equal installments over the estimated or remaining estimated service life."
- B. The REA Uniform System of Accounts, in conformity with the practice of electric and other utility industries, provides for the use of composite rates for each class of property including general plant. This is commonly referred to as "group method depreciation." Although the use of the unit method of computing depreciation is not consistent with general utility practices nor recognized in the Uniform System of Accounts Prescribed for Electric Borrowers of the Rural Electrification Administration (REA Bulletin 181-1), REA will not object to this method of computing depreciation for general plant where boards of directors approve this procedure as being necessary to meet their management needs.

The group method differs from the unit depreciation method in that a number of units of property are grouped for depreciation accounting purposes; depreciation is computed for the whole group. The units may be grouped by primary accounts or by functions, the essential requirement being that the property included in each group have some homogeneity. Under the group method, when retirement of a depreciable unit of plant occurs, the cost of the unit less net salvage is charged to the appropriate accumulated provision for depreciation account. No

recognition is given to so-called gain or loss until all the units included in the particular group are abandoned.

V. Depreciation Guideline Curves - Distribution Plant: The ratio of the accumulated provision for depreciation to gross plant in service (reserve ratio), has been widely recognized as an important measure of the propriety of depreciation rates and practices. Guideline curves are supplied in Section V.C. for use as a screening tool to determine whether a borrower's reserve ratio is consistent with normal experience. Using the procedure outlined in V.C. below, the cooperative should, on an annual basis, prepare an analysis of the adequacy of its accumulated provision for depreciation of distribution plant. This analysis should be maintained in the cooperative files and be made available for review by REA field personnel.

A. Underlying Theory:

1. Electric distribution plant is an example of a "continuous class" of property, consisting of many individual units of property, each of which is replaced when it reaches the end of its useful life. For such a "continuous class" of property, and with proper depreciation accounting, the reserve ratio for a particular company will be determined by the following factors:
 - a. Its history of growth.
 - b. Its age.
 - c. Its experience with respect to retirements and replacements. This involves not only the average useful life of the plant, but also the dispersion in the average useful life of the individual plant items.
 - d. Its experience with net salvage.
 - e. Its rate of depreciation.
2. The depreciation guideline curves are a simplified application of this underlying theory. The factor of growth is taken into account by the horizontal scale at the bottom of the chart which is a ratio comparing the present plant with plant ten years ago. The factor of age is taken into account by the fact that the curve is recommended for use only by borrowers with an elapsed age since energization of at least 20 years. The factors of experience with replacements and salvage are taken into account by the provision of a range between maximum and minimum

which encompasses the range in average life and in patterns of replacement dispersion which is most commonly experienced by REA borrowers. These ranges were determined by reference to industry experience, both public and private, and through simulated plant-record analyses made of a number of REA borrowers. The applicability of the basic factors of growth, age, and history of retirements to REA distribution borrowers' reserve ratios has been confirmed by statistical analysis, and it has been determined that the experience of most distribution borrowers which have followed good depreciation accounting practices will place their reserve ratio within the "normal" area between the maximum curve and the minimum curve.

3. It will be noted that there is a considerable spread between the maximum and the minimum guideline curves. It is significant that conditions which may result in fairly high reserve ratios for certain borrowers at the present time should lead to lower reserve ratios as these borrowers become older. It is more likely, therefore, that in later years the maximum curve may be lowered.

B. Application of Depreciation Guideline Curves:

1. Depreciation guideline curves can be used very easily by the borrower. Following the detailed procedure for use of the guideline curves (Section V C), the reserve ratio and rate of growth or distribution plant in service are determined for the latest ten year period. Reference to the depreciation guideline curves will immediately indicate whether the borrower's reserve ratio lies between the maximum and minimum curves for plant growing at such a rate.
2. If a borrower is above the maximum, or below the minimum, this is an indication of an unusual condition which warrants a more detailed study. Such a study may indicate need for correction in accounting procedures or a change in depreciation rates or both. In some instances, detailed study may reveal exceptional conditions which justify the unusually high or low reserve ratio.

3. It is also important to consider the change in the reserve ratio during the last several years, and the future reserve ratio as predicted in a long range financial projection. If the reserve ratio is below the minimum curve, but increasing, and if the financial projection indicates that it will soon reach the minimum curve, no corrective action may be required, though subsequent progress should be watched to see that it corresponds to the estimates.
4. Similarly, if the reserve ratio falls between the maximum and minimum guide curves, but the financial projection indicates that the reserve ratio is expected to increase within a few years to a point well above the maximum curve, a special study of the depreciation practices should be made to determine whether there is a need for corrective action.

C. Procedure for Use of the Depreciation Guideline Curves:

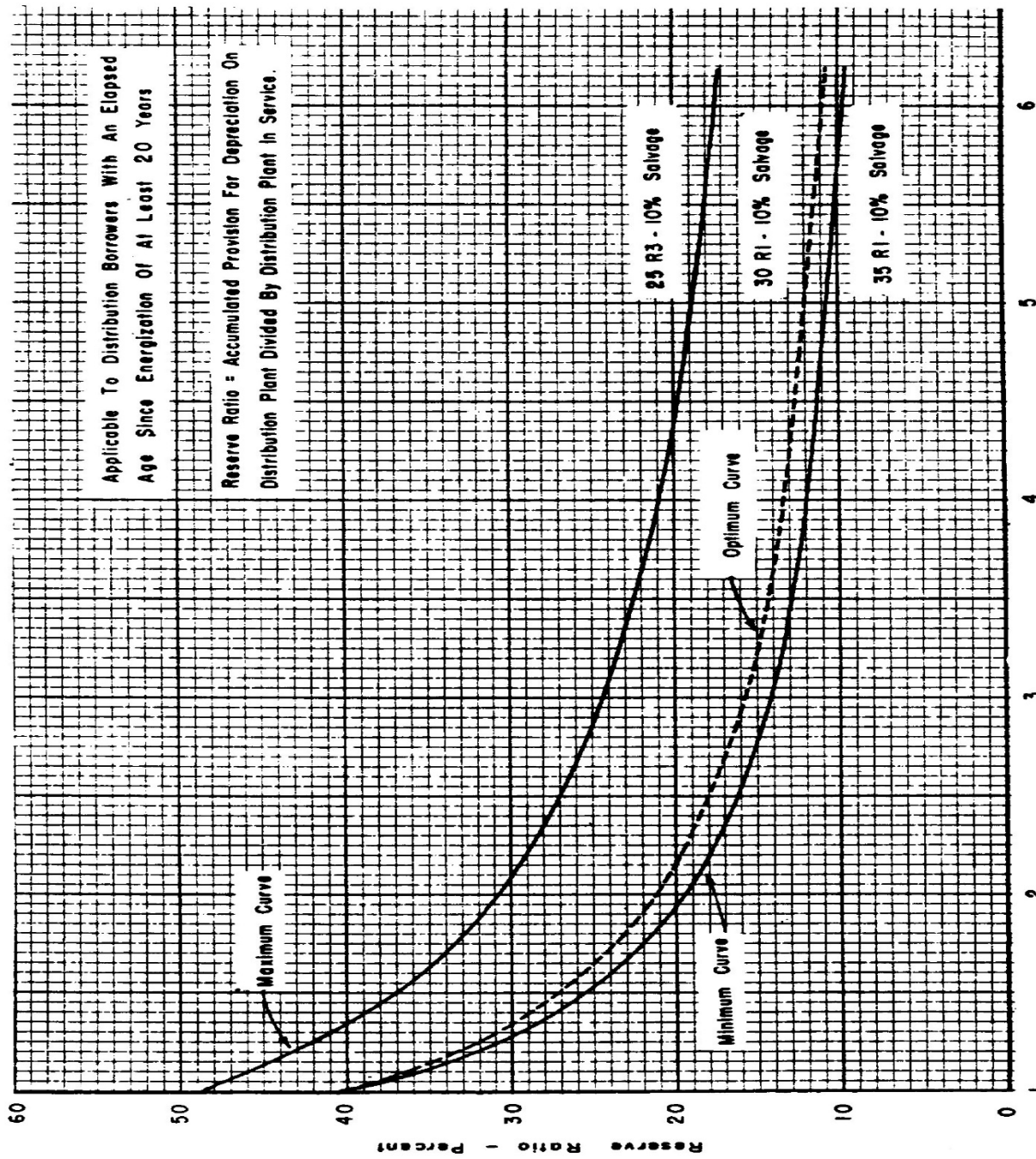
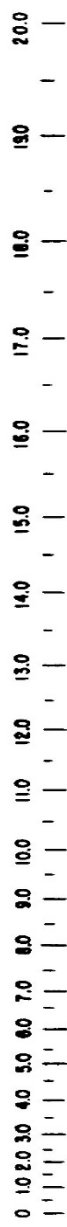
1. The chart which follows, shows depreciation guideline curves with suggested levels of depreciation reserve ratios at various growth rates. The solid curves indicate the upper and lower limits of normal reserve ratios for distribution plant. The curve shown by dashes indicates the optimum level of reserve ratios which might be expected in the case of a typical distribution borrower.
2. To check the accumulated provision for depreciation of distribution plant against the depreciation guideline curves, four steps are necessary:
 - a. Determine whether the elapsed age since energization is at least 20 years. If it is less than 20 years, the guideline curves are not applicable.
 - b. Determine the current reserve ratio by dividing the accumulated provision for depreciation on distribution plant by the distribution plant in service. Typical figures might be \$855,220 divided by \$2,861,150, which gives a reserve ratio of 29.9%.
 - c. Determine the ratio of current distribution plant in service to distribution plant in service ten

years before. To do this, divide the current distribution plant in service by the distribution plant in service ten years earlier. Typical figures might be \$2,861,150 divided by \$1,540,350, which gives a ratio of 1.86.

- d. Refer to the depreciation guideline curves. For a ratio of current distribution plant in service to distribution plant 10 years ago of 1.86, the maximum curve is about 32% and the minimum curve is about 21%. The example of 29.9%, in paragraph 2 above, lies within this range.
3. It may be desirable to use the depreciation guideline curve with a growth period of more than 10 years. In that case, it will be necessary to use compound interest tables to obtain the average annual compounded rate of growth of distribution plant in service for the particular number of years involved. Then the horizontal scale at the top of the chart will be used.
4. References: For general information on depreciation of a "continuous class" of property, see Report of the Committee on Depreciation, 1960, National Association of Railroad and Utilities Commissioners. For information on the "Iowa Curves" of plant mortality dispersion, which were used in the development of the REA depreciation guideline curve, see Statistical Analysis of Industrial Property Retirements by Robley Winfrey, Iowa Engineering Experiment Station, Bulletin No. 125, 1935, and Depreciation of Group Properties by Robley Winfrey, Iowa Engineering Station, Bulletin No. 155, 1942. For information on the simulated plant-record and other methods of life analysis, see Methods of Estimating Utility Plant Life, Publication 51-23, Published 1952, Edison Electric Institute. A more extensive bibliography can be obtained from REA on request.

DEPRECIATION GUIDELINE CURVES

Average Annual Compounded Rate Of Growth Of Distribution Plant In Service (Percent) For At Least The Last 10 Years



Applicable To Distribution Borrowers With An Elapsed Age Since Energization Of At Least 20 Years

Reserve Ratio = Accumulated Provision For Depreciation On Distribution Plant Divided By Distribution Plant In Service.

Ratio Of Current Distribution Plant In Service To Distribution Plant In Service 10 Years Ago

VI. Prescribed Depreciation Rates for Distribution Plant: The table below (paragraph C) sets forth the range of depreciation rates for distribution plant. Within this range each borrower should select the rate, or rates, which in its judgment would be most suitable in measuring expiration of the service life of its depreciable plant on a straight-line basis. Such judgment is essential since depreciation rates cannot be determined precisely through application of exact formulas.

- A. Calculation of Composite Depreciation Rates for Groups:
The primary plant accounts required by the REA Uniform System of Accounts represent groupings of plant units which are suitable for depreciation accounting purposes. Although not all units in a given account have identical characteristics or similar service lives, it is possible to calculate a composite rate for each primary account and, in turn, by utilizing the rates for each primary account to arrive at a composite rate for a functional group, such as distribution property. The rate for a primary account is computed by first determining a rate for each group of similar materials within an account; secondly, the cost of each group of similar materials is multiplied by the rate selected for that group; and finally, the products of these multiplications are totaled and divided by the balance in the primary account. This same procedure is followed in determining the composite rate for the functional group; that is, the balances in the respective primary accounts are multiplied by the individual rates selected for the various accounts and the products added to arrive at a total which, divided by the aggregate cost of the depreciable plant accounts involved, produces a composite rate for the functional group.
- B. Selection of Appropriate Rates Within Range:
1. Review Composition of Each Account: Rates for individual accounts, within the ranges set forth in Section VI.C. below, are to be used in calculating composite rates for functional plant groups. In selecting the rates for individual accounts, plant accounts should be reviewed to determine the composition of each. (For example, in Account 364, Poles, Towers and Fixtures, the types and relative proportions of poles, crossarms, and anchor-guys should be ascertained.) Estimates should be made as to the expected life, removal costs and material

to be salvaged for the various types of material comprising the property in each account. These data will form a basis for judgment as to the rate of depreciation within the recommended range to be applied to each account in computing the composite rate for the functional group.

2. Consider External Factors: Differences in geographical location, climate, operating practices, maintenance policy, load conditions and similar factors may justify differences in depreciation rates since any of these variables may affect or limit the service life of distribution plant.
 - a. Factors and conditions contributing to the use of the upper range of the rate for poles would be (1) growing conditions favorable for decay, fungi (and vegetation in general) such as in southeastern states with high average humidity and rainfall, or where irrigation and crop fertilization are widely practiced and (2) large numbers of substandard poles such as were produced in 1946 through 1948.
 - b. Factors and conditions contributing to the use of the lower range of the rate for poles are growing conditions that are slow or poor; for example, in dry and unirrigated areas, in northern states and at higher altitudes.
3. Select Rate for Each Account Within the Range: It is recommended that borrowers whose systems are operated under normal conditions select a rate for each account which is near the middle of the range. For systems operating under extreme conditions, such as prevail in coastal or sleet areas, or in extremely arid localities, the rate should be selected from near the top or bottom of the range as appropriate. However, in no case should the low end nor the high end of the range be selected unless extraordinary conditions exist which lead to long or to exceptionally short service life.

Illustrations of rate computations and accounting procedures to be followed by borrowers are included in the Appendix.

4. Review Prior Practices:

Consideration should be given to adjusting rates to compensate for the under or over accumulation of the provisions for depreciation resulting from inadequate accounting practices, procedures or improper rates. The guideline curves discussed in Section V above provide a basis for evaluating the need for changes in depreciation rates for distribution plant.

For instance, when it is determined that the accumulated provision for depreciation is excessive because high depreciation rates have been used, or incorrect accounting has been followed, corrective action should be taken. Accounting procedures should be checked and, if necessary, corrected. It may be necessary to reduce the depreciation rate. The reduction should be sufficient to bring the reserve ratio into line with the depreciation guideline curves on a gradual basis over a number of years.

C. Range of Rates - Distribution Plant:

Acct. No.	Account	Annual Depreciation Rate
361	Structures and Improvements	See Account 390
362	Station Equipment	2.7 - 3.2%*
364	Poles, Towers, and Fixtures	3.0 - 4.0%
365	Overhead Conductor and Devices	2.3 - 2.8%
366	Underground Conduit	1.8 - 2.3%
367	Underground Conductor and Devices	2.4 - 2.9%
368	Line Transformers	2.6 - 3.1%
369	Services	3.1 - 3.6%
370	Meters	2.9 - 3.4%
371	Installation on Consumers' Premises	3.9 - 4.4%
372	Leased Property on Consumers' Premises	3.6 - 4.1%
373	Street Lighting and Signal Systems	3.8 - 4.3%

* Power type borrowers should use 2.88 for distribution station equipment.

Requests for REA approval to use rates below or above the composite rate computed by using the ranges recommended must be supported by a clear statement of the factors and conditions which justify such rates.

- VII. Recommended Depreciation Rates for General Plant: The table below sets forth the range of recommended depreciation rates for general plant.

General plant is subdivided into six functional groups for depreciation purposes. Separate decimal subaccounts of the accumulated provision for depreciation of general plant should be maintained for each group. The six groups and the ranges of rates are:

<u>Functional Group</u>	<u>Annual Depreciation Rates</u>
Structures and Improvements	2.0 - 3.0%
Office Furniture and Equipment	5.0 - 7.0%*
Transportation Equipment	14.0 - 17.0%
Power Operated Equipment	11.0 - 16.0%
Communications Equipment	5.0 - 8.0%
Other General Plant	3.6 - 6.0%

A. Account 390, Structures and Improvements:

A composite rate should be computed for this account by selecting a rate appropriate for each structure recorded in it. A new composite rate should be computed when a structure is added or deleted. A rate at or near the lower side of the range should generally be used when structures are new or of masonry construction or in areas normally having favorable climatic conditions. A rate at or near the upper side of the range should normally be used when structures are frame type construction, or remodeled or in areas subject to severe climatic conditions.

B. Account 391, Office Furniture and Equipment:

In the computation of a composite rate, office furniture and equipment may be divided into three groups: (a) furniture and miscellaneous office fixtures and equipment,

*Upper limit of range increased to 12.5% when data processing and automatic accounting machines are included.

(b) office machines such as addressographs, typewriters, calculators and adding machines, and (c) data processing equipment and automatic accounting machines. If data processing equipment and automatic accounting machines are included, the annual composite rate may be greater than 7.0% but it should not exceed 12.5%.

To the amount of each group mentioned above a rate within the following ranges should be applied:

	<u>Estimated Service Life-Years</u>	<u>Range Depreciation Rate</u>
Furniture and Miscellaneous Office Fixtures and Equipment	15 to 25	4.0 to 6.0%
Adding Machines, Typewriters, Addressographs and Calculators	9 to 15	6.0 to 10.0%
Data Processing Equipment and Automatic Accounting Machines	6 to 10	10.0 to 16.0%

I

C. Account 392, Transportation Equipment:

The computation of annual depreciation on a composite basis may be in accordance with the following schedule:

<u>Type</u>	<u>Estimated Service Life-Years</u>	<u>Estimated Percent Salvage Value</u>	<u>Range Depreciation Rates</u>
Automobiles	3 to 5	20 to 40	16.0 to 20.0%
Pickups, Light Trucks, including Auxiliary Equipment	4 to 6	10 to 30	15.0 to 17.5%
Heavy Trucks, including Auxiliary Equipment	5 to 10	Zero to 20	10.0 to 16.0%
Trailers	8 to 14	Zero	7.0 to 12.5%

D. Account 396, Power Operated Equipment:

Ordinarily, depreciation should be computed on this account using an appropriate composite rate. However, units of exceptionally high cost which are used only occasionally, should be depreciated on a time basis, subject to a minimum monthly charge. Estimated life and salvage should be used in arriving at the time rate.

E. Account 397, Communications Equipment:

A composite depreciation rate on the low side of the range should be selected if towers and base stations for two-way radio systems and miscellaneous equipment represent a larger portion of the account balance. If, on the other hand, mobile radio units represent a larger portion of the balance, a rate on the high side should be used. When the account contains a considerable investment in such items as telephone, carrier, or supervisory and load control equipment properly included in general plant, a rate on the low side of the range should be used.

F. Other General Plant:

This group includes Accounts 393, Stores Equipment; 394, Tools, Shop and Garage Equipment; 395, Laboratory Equipment and 398, Miscellaneous Equipment.

VIII. Prescribed Depreciation Rates for Production and Transmission Plant: The tables below set forth the depreciation rates for various types of production and transmission plant. These rates are to be used by borrowers and REA except where regulatory commissions prescribe other rates or unusual conditions justify special rates. A detailed depreciation study should be made for the special cases and submitted to REA for approval of appropriate rates. The rates shown below should be used unless the special rates as determined by the study are more than 0.1 percentage point greater or less than the recommended rates.

B. Rates for Production Plant:

<u>Functional Group or Type of Facility</u>	<u>Annual Depreciation Rate</u>
Steam Production	3.10%
Diesel Production	
720 RPM and below	3.00%
Above 720 RPM	7.00%
Hydro Production	2.00%
Gas Turbine Production	3.00%

Nuclear Production

A proposed composite rate for nuclear production plant shall be submitted to REA for approval. For joint participation projects in which the borrower is a minor participant, the rate being used by the other participant(s), shall be used. Justification, including supporting studies and regulatory commission's order, for the proposed rate, shall be submitted to REA.

C. Rates for Transmission Plant:

<u>Functional Group or Type of Facility</u>	<u>Annual Depreciation Rate</u>
Transmission Lines	2.75%
Transmission Station Equipment	2.75%

When the amount of communication equipment recorded in Account 353, Station Equipment, is significant (7.5 percent or more of the account total), the depreciation on the communication equipment is computed using the same rate used for Account 397, Communication Equipment.

D. Depreciation Rates for Production and Certain Transmission Facilities to be Included in Loan Agreements:

1. To assure consistency in the use of depreciation rates by REA in its review and analyses of loan applications and by the borrower in its computation of depreciation expense, loan agreements, where production or certain

transmission facilities are involved, will include a provision that the borrower (a) shall adopt as its depreciation rates only those which have previously been approved for the borrower by the Administrator unless other depreciation rates are required by regulatory bodies having jurisdiction in the premises, and (b) shall not file with or submit for approval of regulatory bodies any proposed depreciation rates which have not previously been approved for the borrower by the Administrator.

2. Loan agreements will contain the above provisions for transmission facilities when:
 - a. The borrower will own both generation and transmission facilities; or
 - b. When more than 50 percent of the borrower's plant investment is in transmission facilities; or
 - c. When REA determines in other cases that the depreciation rates should be specified in the loan agreement.

IX. Periodic Review:

Depreciation guideline curves should be used to evaluate the adequacy of current depreciation practices and rates for distribution plant. Under the group method of depreciation, it is especially necessary to re-examine depreciation accounting practices periodically. (Every year is recommended for general plant.) Incorrect accounting procedures found should be corrected immediately. Rates should be altered where necessary to give effect to justifiable changes in estimates of service life or net salvage. When frequent reviews are made only modest changes in depreciation rates are necessary to keep the reserve ratio in line with the guideline curves.


Acting
Administrator

Attachment:

Appendix - Illustrations of Rate Computations and Accounting Procedures to be Followed by Borrowers

Index:

DEPRECIATION:
Rates and Procedures

APPENDIX

ILLUSTRATIONS OF RATE COMPUTATIONS AND ACCOUNTING PROCEDURES TO BE
FOLLOWED BY BORROWERS

1. Calculating a composite rate for distribution plant:

a. Showing effect of change in rate for each primary account:

<u>Account</u>	<u>Balance</u>	<u>Rate A</u>	<u>Depreciation Amount A</u>	<u>Rate B</u>	<u>Depreciation Amount B</u>
362	\$30,000	2.7%	\$ 810	3.2%	\$ 960
364	340,000	3.0	10,200	4.0	13,600
365	290,000	2.3	6,670	2.8	8,120
368	210,000	2.6	5,460	3.1	6,510
369	50,000	3.1	1,550	3.6	1,800
370	<u>40,000</u>	2.9	<u>1,160</u>	3.4	<u>1,360</u>
	\$960,000		\$25,850		\$32,350

$$\$25,850 \div \$960,000 = 2.7\%, \text{ composite rate A}$$

$$\$32,350 \div \$960,000 = 3.3\%, \text{ composite rate B}$$

b. Showing effect of change in composition of functional plant group with reference to respective proportions of cost in the various primary accounts:

<u>Account</u>	<u>Rate</u>	<u>Balance A</u>	<u>Depreciation Amount A</u>	<u>Balance B</u>	<u>Depreciation Amount B</u>
362	2.7%	\$ 30,000	\$ 810	\$ 20,000	\$ 540
364	3.5	340,000	11,900	375,000	13,125
365	2.3	290,000	6,670	280,000	6,440
368	2.6	210,000	5,460	125,000	3,250
369	3.6	50,000	1,800	100,000	3,600
370	3.4	<u>40,000</u>	<u>1,360</u>	<u>60,000</u>	<u>2,040</u>
		\$960,000	\$28,000	\$960,000	\$28,995

$$\$28,000 \div \$960,000 = 2.9, \text{ composite rate A}$$

$$\$28,995 \div \$960,000 = 3.0, \text{ composite rate B}$$

2. Calculating a composite rate for transportation equipment:

<u>Equip- ment</u>	<u>Esti- mated Life</u>	<u>Quan- tity</u>	<u>Total Cost</u>	<u>Esti- mated Salvage</u>	<u>Depre- ciable Cost</u>	<u>Annual Depre- ciation</u>
A	10 yrs.	1	\$18,000	\$- 0 -	\$18,000	\$ 1,800
B	5 yrs.	6	54,000	7,200	46,000	9,360
C	4 yrs.	2	<u>8,000</u>	<u>2,000</u>	<u>6,000</u>	<u>1,500</u>
			\$80,000	\$9,200	\$70,800	\$12,660

$$\$12,660 \div \$80,000 = 15.8\% \text{ composite rate}$$

3. Accounting procedure for trade-in of truck: (Note that under the group depreciation procedure the net book cost of any particular item of general plant is not ascertainable, as depreciation charges are not allocated to the individual items as is done under the unit depreciation method.)

a. Given a situation in which a truck with original cost of \$2,000 is traded for a \$2,600 new truck, with \$600 being allowed on the old truck:

b. Accounting procedure:

Account 392		Account 108.7	
<u>Transportation Equipment</u>		<u>Accumulated Provision for De- preciation of General Plant</u>	
17,000	2,000 (a)	(a) 2,000	9,000
(b) 2,600			600 (b)

Account 131
<u>Cash-General</u>
17,000
2,000 (b)

