BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

Rural Electrification Administration Loans to Electric Distribution Systems: Policy Changes Needed

The Rural Electrification Administration has been making subsidized loans to rural electric distribution systems since 1935. Do these systems continue to need such loans? For many, the answer is yes. Some may need even more assistance to help them charge electric rates comparable to those of their urban counterparts. But others could obtain loans from private sources and still charge comparable rates.

REA policies should be revised to better evaluate each system's needs for subsidized loans. In this way, more progress could be made in achieving the program objective of helping systems to become financially self-sufficient, and additional assistance could be given to those with greater needs.

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

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To the President of the Senate and the
Speaker of the House of Representatives

This report examines the policies followed by the Rural Electrification Administration in making insured loans to rural electric distribution systems and the progress made in assisting borrowers to become financially self-sufficient.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Agriculture; interested congressional committees and subcommittees; and to various Members of Congress.

Comptroller General
of the United States

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COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

RURAL ELECTRIFICATION ADMINISTRATION LOANS TO ELECTRIC DISTRIBUTION SYSTEMS: POLICY CHANGES NEEDED

D I G E S T

The Rural Electrification Administration's (REA's) loans and other assistance have played a major role in bringing electric service to rural America since 1935. Some electric distribution systems continue to need loan subsidies to assist them in charging rural residents electric rates comparable to those charged by their urban counterparts.

Other systems, however, could qualify for and obtain long-term credit from other sources at reasonable rates and terms and still have comparable costs and charge comparable electric rates. Legislative and administrative changes are needed in REA's loan policies and procedures to identify these borrowers and to better match REA loan subsidies with individual borrowers' needs.

PROGRESS IN ENCOURAGING BORROWERS' FINANCIAL SELF-SUFFICIENCY HAS BEEN LIMITED

One program objective set forth by the Congress in the 1973 amendments to the Rural Electrification Act is to encourage rural electric distribution borrowers to become financially self-sufficient. (See p. 2.) New criteria for making loans are needed to better meet this objective.

The 1973 amendments authorized an insured loan program under which loans could be made at a standard interest rate of 5 percent or a special interest rate of 2 percent. For loans made at the standard 5-percent rate, REA will generally fund either 70, 80, or 90 percent of a system's long-term loan needs for financing construction and improvement projects during a 2-year period. The borrower must obtain the balance of its loan needs from other lenders. REA usually bases the proportion of loan funds it will provide on the system's plant revenue ratio--a ratio

relating the cost of a system's plant to its revenues.

For loans made at the special 2-percent interest rate, REA will fund 100 percent of a system's loan needs if the system meets one of the eligibility criteria specified in the act; that is, customer line density, adjusted plant revenue ratio, or hardship.

Under its policies and procedures, REA has made limited progress in encouraging systems to become financially self-sufficient. For example, the proportion of borrowers' long-term credit needs met from non-REA sources increased by only about 1 percent a year from 1972 to 1978--from 15.4 to 21.9 percent. (See pp. 11 to 13.)

MANY BORROWERS COULD QUALIFY FOR LOANS FROM OTHER SOURCES

Many rural electric distribution systems appear financially sound and able to qualify for non-REA credit at reasonable rates and terms. Criteria are needed to identify such borrowers and to determine whether they need subsidized loans to charge reasonable electric rates. Without such criteria, progress in encouraging borrowers to be financially self-sufficient will continue to be limited.

About 42 percent of the 110 borrowers GAO reviewed could probably qualify for non-REA loans at reasonable rates and terms. Some of these borrowers, however, have high costs and, as a result, charge relatively high electric rates. Requiring these borrowers to bear the costs of private sector loans could run counter to program objectives. Others, however, have low costs and could absorb increased interest costs and still charge electric rates comparable to those charged by their urban counterparts. REA loan funds going to these borrowers could be better used to provide additional assistance to borrowers with high electric rates. (See pp. 13 to 19.)

Although interest costs generally are a relatively small percentage of a distribution

system's total costs, the effect additional costs of borrowing funds from non-REA sources could have on electric rates depends on each borrower's individual circumstances. (See pp. 19 to 22.)

BETTER CORRELATION NEEDED BETWEEN SUBSIDY PROVIDED AND BORROWERS' NEEDS

REA's loan-making criteria do not adequately correlate the type and/or amount of subsidized loan REA will provide with the borrowers' needs. As a result, borrowers that have high costs, which generally lead to higher electric rates, can receive the same subsidy or even less than borrowers with low costs and rates.

Of the 110 borrowers reviewed, 55 had electric charges at least 20 percent higher than neighboring investor-owned utilities, and 55 had charges at least 20 percent lower. About 58 percent of those with higher charges received the minimum subsidy (70 percent of their loan needs at a 5-percent interest rate), whereas 26 percent of those with lower charges received the maximum subsidy (100 percent of their loan needs at a 2-percent interest rate). (See pp. 28 to 33.)

The primary justification for subsidizing rural electric systems has been the high costs associated with providing electricity to sparsely populated areas. Although many of the borrowers are disadvantaged by low population density, other factors, such as low power costs, often offset this disadvantage. The rural electric distribution systems' cost of power has far more impact on their electric rates than the systems' cost of distributing electricity. (See pp. 36 to 41.)

Is rate comparability an objective of the program? The REA Administrator advised GAO that using rate comparability criteria for determining the need for assistance would be very difficult because of such matters as differences in geographic energy use and supply and in the philosophies of State rate-setting agencies. Nevertheless, GAO believes that policies and procedures that give borrowers with

low costs and low electric rates the same or even more of a subsidy than borrowers with high costs and rates may not result in equitable distribution of assistance nor effective use of Government resources.

Recognizing the difficulties in using rate comparisons as a means of determining need for assistance, GAO concluded that, since the most important factor in establishing electric rates is borrowers' costs, cost comparability should be used as a substitute for rate comparability. (See pp. 33 to 36.)

RECOMMENDATIONS

The Secretary of Agriculture should direct the Administrator of REA to develop a legislative plan for revising the policies for making insured loans to rural electric distribution systems.

As a part of the plan, the Administrator should develop criteria

--for determining which electric distribution system borrowers qualify for long-term loans from private creditors at reasonable rates and terms (see p. 23) and

--based on cost comparisons with investor-owned utilities, for determining the subsidized loans needed, if any, by electric distribution system borrowers to help enable them to charge comparable electric rates. (See p. 42.)

Also, the Secretary should direct the Administrator to establish a minimum equity level goal for borrowers; require borrowers with low equities to develop plans to increase their equity levels to the goal established; and, in reviewing electric rate changes, ensure that the borrowers' rates are, where practicable, sufficient to generate the income needed to meet equity level objectives set forth in the plan. (See p. 24.)

AGENCY COMMENTS

The Department of Agriculture said that REA is making a detailed evaluation of long-range

program objectives, regulations, and criteria governing borrower qualifications. The Department also said that program changes may be required to deliver insured loan benefits more equitably.

The Department made a number of critical comments on the methodology of GAO's study and on data included and not included in the report. These and other Department comments are incorporated in pertinent sections of the report, and its letter is included as appendix IV.

Contents

ABBREVIATIONS

CFC	National Rural Utilities Cooperative Finance Corporation
GAO	General Accounting Office
IOU	investor-owned utility
KWH	kilowatt-hour
MWH	megawatt-hour
O & M	operation and maintenance
OMB	Office of Management and Budget
REA	Rural Electrification Administration
TIER	times interest earned ratio
USDA	U.S. Department of Agriculture

GLOSSARY

Adjusted plant revenue ratio	A variation of the plant revenue ratio showing the relationship of distribution plant costs to the related revenue for that plant in a given year. The ratio is a statutory criterion used to determine borrowers' eligibility for 2-percent loans. It is calculated by dividing the total utility plant cost minus the cost of any generation and transmission plant by the operating revenue minus the cost of power and transmission expense.
Debt service coverage	A measure of the number of times cash from operations and certain noncash items cover the principal and interest payments on long-term debt.
Equity ratio	A ratio showing the relationship between a business' net worth and its total assets; that is, the proportion of the assets financed through owner's equity as opposed to borrowing.
Plant revenue ratio	A ratio showing the relationship of a plant's total costs to its revenue for a given time period. REA uses this ratio as a measure of a borrower's financial condition. The ratio is calculated by dividing the total utility plant costs by the operating revenue minus the cost of power and transmission expense.
Times interest earned ratio (TIER)	A ratio showing the number of times net income covers interest expense. It is calculated by dividing patronage capital and margins (net income) plus interest expense by interest expense.

CHAPTER 1

INTRODUCTION

The Rural Electrification Administration (REA) was established by Executive Order 7037 on May 11, 1935, as part of an unemployment relief program under authority of the Emergency Relief Appropriation Act of 1935 (49 Stat. 115). REA was made an independent agency in 1936 by the Rural Electrification Act (7 U.S.C. 901) and became a part of the U.S. Department of Agriculture (USDA) in 1939.

Public Law 93-32 (87 Stat. 65), enacted on May 11, 1973, amended the 1936 act to, among other things, establish the Rural Electrification and Telephone Revolving Fund and authorize REA to make insured loans and to fully guarantee loans made by others. The insured loans are funded through the Fund's receipts and through the sale of certificates of beneficial ownership (certificates) to the Federal Financing Bank, a wholly owned Government corporation. The guaranteed loans are made by non-REA lenders, usually the Federal Financing Bank, and guaranteed by REA. Prior to Public Law 93-32, REA was only authorized to make direct loans which were funded through REA borrowings from the Treasury.

This report examines the policies and procedures REA follows in making insured loans available to rural electric distribution systems. Specifically, it

--describes the progress made in accomplishing the Congress' policy objective, set forth in the preamble to Public Law 93-32, that rural electric systems be encouraged and assisted to become financially self-sufficient;

--evaluates the effectiveness of the policies and procedures followed in accomplishing the Congress' objective; and

--recommends changes to help encourage borrowers to become financially self-sufficient and provide a more equitable method for distributing assistance.

OBJECTIVES OF REA's ELECTRIC PROGRAM

The Rural Electrification Act, as amended (7 U.S.C. 902), authorizes the REA Administrator to make loans for rural electrification and for furnishing electric energy to persons in rural areas who are not receiving central station

electricity (that is, electricity received from a central generating plant as opposed to an individually owned electric generator). As defined in the act, a rural area is any area not within the boundaries of a city, village, or borough having a population in excess of 1,500 inhabitants. Once a rural area qualifies for and receives financial assistance, it remains eligible for REA assistance even though its population goes above 1,500. 1/

The act's objective of providing central station electricity to those persons living in rural areas without it, for all intents and purposes, has long been accomplished. Currently, most electric loans are made to finance the continuing need for improving systems and providing new facilities to accommodate the growth of rural areas.

In amendments to the act enacted on May 11, 1973, the Congress set forth the following policy.

> "That it is hereby declared to be the policy of the Congress that adequate funds should be made available to rural electric and telephone systems through direct, insured and guaranteed loans at interest rates which will allow them to achieve the objectives of the Rural Electrification Act of 1936, as amended, and that such rural electric and telephone systems should be encouraged and assisted to develop their resources and ability to achieve the financial strength needed to enable them to satisfy their credit needs from their own financial organizations and other sources at reasonable rates and terms consistent with the loan applicant's ability to pay and achievement of the Act's objectives." (Underscoring added.)

The objectives of REA's program, as stated in REA Bulletin 2-1 dated August 15, 1969, are as follows:

1/This practice was affirmed by S. Res. 21, 86th Cong., which states, in part, that it is the sense of the Senate that the act continue to be interpreted to authorize loans to serve those already being served with the aid of REA funds.

"The objectives of the Rural Electrification Administration programs are to provide, through self-liquidating loans under the Rural Electrification Act of 1936, as amended, and through technical assistance, adequate, dependable electric and telephone service sufficient to meet the needs of beneficiaries of the Act, both farm and nonfarm, in rural areas on an area coverage basis, under rates and conditions that permit full and productive use of these utility services."

REA Bulletin 2-1 also prescribes the REA policies for achieving the program objectives. One of the policies is that REA is to help develop the resources and ability of borrowers to meet their financial and other needs, handle their own affairs effectively, and achieve as soon as possible the internal strength and soundness to assure success as an independent enterprise. The bulletin states also that as borrowers develop adequate internal strength and financial soundness, direct REA assistance will diminish accordingly.

ELECTRIC LOAN PROGRAM

REA makes insured and guaranteed loans to rural electric systems to finance the construction and operation of electric generating, transmission, and distribution facilities. Insured loans are made at a standard interest rate of 5 percent or at a special rate of 2 percent to borrowers meeting certain criteria specified in the act. The maximum repayment term authorized is 35 years.

Guaranteed loans are to be made at an interest rate agreed to by the borrower and lender generally with maximum repayment terms of 35 years. Most of the loans guaranteed by REA (over 90 percent) have been made by the Federal Financing Bank.

Insured loans are made to both distribution and power supply systems, while guaranteed loans are generally made only to power supply systems. A distribution system typically buys its power at wholesale rates from existing suppliers and sells it to retail consumers, whereas a power supply system generates electrical power and wholesales it to others for resale. As of December 31, 1978, there were 983 active REA borrowers, of which 934 were engaged primarily in operating distribution systems and 49 engaged primarily in operating generation and transmission facilities.

Although REA is authorized to make loans to investor-owned utilities (IOUs), the act requires that preference be given to public bodies and cooperative, nonprofit, or limited-dividend associations. Most of REA's electric loans (over 90 percent) have been made to cooperatives.

FUNDING AND COSTS OF INSURED LOANS

During fiscal year 1978, REA approved 450 insured loans totaling $900 million, of which about $176.2 million were made at the special 2-percent interest rate. For fiscal year 1979, the Congress authorized a minimum of $850 million and a maximum of $1 billion of insured loans. Through September 30, 1978, cumulative insured and direct loans made by REA totaled $12.7 billion.

REA loan levels have grown substantially since the act was amended in 1973. The amount of insured loans REA approved during this period is about 55 percent of the amount of direct loans it approved in the previous 38 years. From inception of the program in 1935 through the end of 1972, 1/ REA approved a total of $8.4 billion of direct loans, whereas from May 1973 through December 1978 it approved about $4.6 billion of insured loans.

Insured loans are funded through the Rural Electrification and Telephone Revolving Fund established by Public Law 93-32 in May 1973. Public Law 93-32 required the transfer of the outstanding assets of the electric and telephone programs into the Fund. Also, all subsequent receipts of principal and interest were to go to the Fund and interest payments on outstanding Treasury borrowings used to finance the program were canceled. The law also authorized the sale of assets (borrowers' loan notes) in the form of certificates, which are sold to the Federal Financing Bank.

The Fund finances insured loans for electric and telephone programs, the interest subsidy costs incurred, and any defaults for insured and guaranteed loans. Income is derived

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1/In Dec. 1972 USDA announced the termination of the direct loan program and that future REA loans would be funded through the Farmers Home Administration's Rural Development Insurance Fund. As a result of this action, a number of bills were introduced in the Congress, culminating in the enactment of Public Law 93-32 in May 1973.

from principal and interest payments on outstanding loans, and interest expense is incurred on the funds obtained from the Federal Financing Bank through sales of certificates and on interim borrowings from the Treasury.

Funds for loans are obtained through principal repayments and interest receipts paid into the Fund on outstanding loans. Loans made in excess of principal repayments and interest receipts are funded on an interim basis by borrowings from the Treasury. In March and September of each year, certificates are sold in an amount necessary to refinance the interim borrowings plus interest expense incurred on the interim borrowings and on the balance of certificates outstanding at the beginning of the period.

As of December 31, 1978, a total of $7,865 million of unpaid, interest-free Treasury notes was outstanding in the Fund. These notes will mature and become due between the years 1993 and 2016. Primarily because of the large sum of interest-free Treasury notes outstanding, the Fund's interest earnings have exceeded its interest expense, and therefore no direct appropriations by the Congress have been needed. Based on REA projections, the Fund's interest expenses will exceed interest earnings by 1988, and REA could choose to ask the Congress for appropriations to make up the difference. However, if REA should choose not to do so, the Fund's disbursements are projected to exceed its receipts by about $24 million in 1999; $2.3 billion in 2000; and by greater amounts in succeeding years, which will require appropriations.

REA estimates that for fiscal year 1980, the Fund's actual interest expense applicable to electric loans is $72.9 million and that the estimated net interest cost to the Government (REA and the Treasury) for these loans is $383.3 million. These estimates were based on the 7.5-percent average interest rate in effect on all marketable issues of the Treasury outstanding as of October 31, 1978. REA estimates that interest expense on the $735 million of insured loans it projects will be made in fiscal year 1980 will cost the Government $464 million over the 35-year life of the loans. Estimated administrative expenses of the electric program for fiscal year 1980 are about $14 million.

PROGRAM ACCOMPLISHMENTS

At the start of REA's electrification program in 1935, about 11 percent of the Nation's farm families had electricity, whereas nearly all have electricity today. REA contributed significantly to this accomplishment.

With REA funding and support, rural electric cooperatives were formed to build and maintain distribution systems to serve their rural members. For the most part, the cooperatives purchased electric power from Federal power projects or electric companies and distributed it to consumers.

As the distribution network expanded across the country, the distribution cooperatives began to form member-owned generation and transmission (power) cooperatives. Initially, these power cooperatives served largely as a service organization for the members, arranging for the purchase of bulk power which in turn was sold to distribution members. Subsequently, some of these power cooperatives began to build their own generating capability to reduce their dependence on outside sources of electric power.

According to REA, part of the reason for the lack of central station electricity in rural areas before REA's creation is that costs were prohibitive. As an example, the cost of building electrical lines before REA was estimated at $1,500 to $2,000 per mile. By the end of 1936, REA was funding projects with line costs of $941 per mile, and by 1939 this cost averaged less than $825 per mile. REA was instrumental in reducing these costs.

The electrical power provided by cooperatives and other REA borrowers has resulted in increased prosperity and productivity and a better quality of life for millions of farmers and other rural residents. By January 1979, 1,101 former and present REA borrowers were providing electricity to about 9.9 million consumers, or an estimated 29 million people, in 46 States, Puerto Rico, and the Virgin Islands.

Cooperatives and other REA borrowers have grown significantly through the years to a point where today their operations are immense. In calendar year 1978, active distribution system borrowers 1/ sold 135 million megawatt-hours (MWH) of electricity and had revenues from sales of electric energy of about $4.8 billion, as shown on the following page.

1/Based on data reported by 925 of the 934 active distribution system borrowers.

Type of consumer	MWH sold	Revenue	Consumers
	(millions)		
Residential (farm and nonfarm)	85.9	$3,262	7,644,130
Commercial and industrial, small	10.1	415	525,072
Commercial and industrial, large	30.3	860	44,500
Irrigation	4.6	148	124,457
To others for resale	2.5	55	290
Other electric service	1.6	58	57,262
Total	135.0	$4,798	8,395,711

Power supply systems 1/ sold about 97 million megawatt-hour (MWH) of electricity and had revenues from sales of electricity of about $2.1 billion in calendar year 1978. As of December 31, 1978, the assets of the distribution systems totaled $10.1 billion and those of the power supply systems totaled $9.8 billion, with equity ratios 2/ of 31.5 and 3.5 percent, respectively.

REA's accomplishments have been achieved with minimal losses. For example, of the cumulative loans REA has made, only two, with principal and interest totaling about $45,000, have been written off as bad debts.

In addition to financial assistance, REA has provided rural electric systems with management and technical assistance in areas such as engineering, accounting, and financial management. This assistance has been in the form of technical bulletins and manuals as well as training and direct assistance.

1/Based on data reported by 46 of the 49 active power supply system borrowers.

2/The equity ratio represents the relationship between the net worth (equity) of the business to the total assets. It shows the proportion of the assets financed through owner's equity as opposed to borrowing.

SCOPE OF REVIEW

Our review of the policies and procedures followed by REA in making insured loans to rural electric distribution systems was part of an overall review of REA's administration of its electric loan program.

The review was made primarily at REA's national headquarters where all loan records are maintained. We also visited 12 active and 1 inactive distribution borrowers in 4 States. We interviewed officials and representatives of REA, other Government agencies, cooperative organizations, distribution borrowers, and lending institutions.

We selected for detailed review and analysis 110 borrowers that had received an REA loan in calendar years 1977 and/or 1978 and that were identified as having residential electric charges in mid-1977 which, at the average monthly usage level of their consumers, were at least 20 percent more or 20 percent less than their neighboring IOUs. 1/ We analyzed and compared financial and other data and statistics for those borrowers with low electric charges and those with high electric charges to determine, among other things, their relative needs for assistance. We also hired a consultant to assist us in reviewing and analyzing the borrowers' operations.

In previous reports, GAO has evaluated Federal power agencies and recommended basic role changes to increase their contribution toward the goals set forth in our National Energy Plan. Although in this review we accepted the program's goals, our doing so does not necessarily mean that we believe these goals are in line with those of the National Energy Plan.

1/Initially we identified 141 borrowers that met these criteria; however, 31 were eliminated for various reasons, primarily questions about the reliability of the data and whether the utility compared with was an IOU.

CHAPTER 2

NEED FOR CRITERIA TO IDENTIFY ELECTRIC DISTRIBUTION SYSTEMS THAT COULD QUALIFY FOR PRIVATE SECTOR LOANS AT REASONABLE RATES AND TERMS

The Congress' declared policy, as stated in the 1936 act, as amended, is that rural electric systems should be encouraged and assisted to achieve the financial strength needed to satisfy their credit needs from their own financial organization and from other sources at reasonable rates and terms, consistent with the loan applicant's ability to pay and achievement of program objectives. Under the policies and procedures for making insured loans to rural electric distribution systems, no criteria exist for identifying borrowers that do not require REA-insured loans. Such criteria are needed to fully implement the Congress' objective.

Many REA distribution borrowers appear financially sound and able to qualify for loans from private credit sources at reasonable rates and terms. Some of these borrowers charge electric rates which are substantially above those charged by their neighboring IOUs. Requiring these borrowers to bear the increased interest costs of private sector loans could run counter to program objectives. Others, however, could afford to obtain a greater proportion or all of their long-term loan needs from the private credit sector and still charge reasonable electric rates. Loan funds going to these borrowers could be used more effectively for providing greater assistance to other, more needy borrowers.

As a first step, criteria should be developed to determine which borrowers could qualify for private sector loans at reasonable rates and terms. This matter is discussed in this chapter. The need to better correlate the type and amount of subsidized loans provided with borrowers' individual needs is discussed in chapter 3.

INSURED LOAN POLICIES AND PROCEDURES

REA requires most borrowers to obtain a portion of their long-term financing needs from another source. The usual source is the National Rural Utilities Cooperative Finance Corporation (CFC)--a nonprofit financing cooperative, organized by rural electric systems in 1969 to provide themselves with an independent source of loan funds.

Section 307 of the 1936 act, as amended, provides that for those borrowers able to obtain part of their credit needs from a non-REA credit source at reasonable rates and terms, consistent with the applicant's ability to pay and the act's objectives, REA may request the applicant to obtain such a loan concurrently with an insured loan made at the standard interest rate of 5 percent. Accordingly, REA generally requires that distribution systems applying for insured loans at the standard rate obtain supplemental financing from CFC or other lenders.

Under REA's procedures, borrowers eligible for a 5-percent loan that have previously received a supplemental loan and those that have a "times interest earned ratio" (TIER) 1/ of 1.5 or more and a "debt service coverage" 2/ of 1.25 or more (based on the average of the highest 2 of the last 3 years) must obtain a portion of their loan funds from a supplemental lender. The proportions of supplemental loans required are based on the borrower's "plant revenue ratio" 3/--a ratio designed to measure the revenue generated by a system's plant. The following proportions, established in July 1972, are currently required.

Plant revenue ratio	REA loan percentage	Supplemental loan percentage
9.01 and above	90	10
8.01 to 9.00	80	20
8.00 and below	70	30

Borrowers desiring to obtain 100 percent, long-term financing from a non-REA source can do so with REA approval. CFC will provide such loans to borrowers with a TIER of 1.5 or more and a debt service coverage of 1.25 or more, subject to REA agreeing to share the lien on a loan security.

1/TIER represents the number of times net income covers interest expense.

2/Debt service coverage measures the number of times cash from operations and certain noncash items cover the principal and interest payments on long-term debt.

3/Plant revenue ratio is calculated by dividing the cost of the total utility plant by total operating revenue minus the cost of power and transmission expense.

Borrowers eligible to receive insured loans at the special 2-percent interest rate are not required to obtain supplemental financing. The eligibility criteria for these loans, as specified in the act, are an average consumer density of two or fewer per mile of line or an average "adjusted plant revenue ratio" 1/ of over 9.0. The act also authorizes REA to make loans at the 2-percent rate under special circumstances, such as extreme hardship.

Distribution systems applying for REA loans are required to prepare 2-year construction work plans. These plans are used as a basis for estimating capital requirements to be needed during the 2-year period which, in turn, aid in determining the amount of loan needed from REA. In effect, then, borrowers can obtain loans from REA every 2 years or so.

Distribution systems are also required to prepare 10-year financial forecasts. REA officials review these forecasts as part of REA's loan evaluation and approval process.

PROGRESS IN ENCOURAGING BORROWERS' FINANCIAL SELF-SUFFICIENCY HAS BEEN LIMITED

Under REA's policies and procedures for making insured loans to distribution systems, progress toward encouraging borrowers to make greater use of their own financial organization and other sources for their credit needs--that is, to become financially self-sufficient--has been limited. The proportion of the borrowers' long-term loan needs met through supplemental financing from other lenders increased by only about 1 percent a year from 1972 to 1978. This could be expected since the percentages of supplemental financing required of the borrowers--30, 20, or 10 percent--is the same today as it was in 1972.

The percentage of borrowers' long-term financing met through supplemental loans from CFC and others increased

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1/Adjusted plant revenue ratio is derived by dividing the cost of the borrower's distribution and general plant by gross revenue less the cost of power and transmission, averaged over 3 years. This adjusted ratio differs from the plant revenue ratio in that it does not include the cost of the borrower's generation and transmission plant and is an average.

from about 15.4 percent in fiscal year 1972--the last full fiscal year prior to the 1973 amendments--to 21.9 percent in fiscal year 1978 (about 1 percent a year), as shown below.

Fiscal year	REA 2-percent loans		REA 5-percent loans		Non-REA loans		Total amount
	Amount	Percent	Amount	Percent	Amount	Percent	
	(millions)		(millions)		(millions)		(millions)
1972	$282.6	84.6	N/A	N/A	$ 51.3	15.4	$ 333.9
1978	176.2	17.0	$633.8	61.1	226.6	21.9	1,036.6

Note: Distribution system borrowers also obtained $15.7 million of loans guaranteed by REA in 1978.

The borrowers' long-term financing needs met through non-REA sources was $175.3 million more in 1978 than it was in 1972 ($226.6 million minus $51.3 million). This increase was offset somewhat, however, by a cumulative decrease of about $199.7 million in the borrowers' advance loan payment accounts over the 1972-78 period. Advance loan payments by borrowers, as explained below, offset the amount of REA loans outstanding.

In a November 1963 report on REA's electric program, 1/ we stated that Federal expenditures under the electric loan program could be reduced without compromising program objectives if REA, in determining the need for loans and in establishing loan repayment periods, considered the availability of funds expected to be generated by the borrower's operations.

In commenting on our report in hearings before the Subcommittee of the House Committee on Appropriations in 1964, the then Administrator of REA stated that REA's policies regarding borrowers' general funds (the borrowers' cash and other investments) accomplish the GAO objective of reducing Federal expenditures. He explained that under REA's policies limiting the general funds a borrower can have and still be eligible for an REA loan, those funds over and above a borrower's proper needs come back to the Government in the

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1/"Possibilities for Reducing Federal Expenditures Under the Electric Loan Program and Other Matters Pertaining to the Rural Electrification Administration" (B-114838, Nov. 22, 1963).

form of advance payments on the loan. This practice, he said, tends to reduce the loan repayment time as well as the loan balance outstanding.

In hearings held in April 1965 before the same subcommittee, the Administrator, in discussing revisions to REA's general funds policy and the increased amount of advance payments made by borrowers, said that REA had made excellent progress in harnessing the general funds of the borrowers into the task of rural electrification.

REA records advance payments made by borrowers in separate accounts for each borrower. Borrowers can use funds from these accounts to obtain an interest credit, thereby reducing interest charges, or for interest and principal installments due. As of June 30, 1972, advance payments in the borrowers' accounts totaled about $293.5 million compared to $93.8 million as of September 30, 1978, a decrease of $199.7 million, or about 68 percent.

It has been argued that borrowers have become more self-sufficient in that they are paying higher interest rates than they did before enactment of Public Law 93-32 in May 1973, going from 2-percent interest loans to loans made at a standard rate of 5 percent and a special rate of 2 percent. However, the differential between the Government's borrowing and lending costs was greater in 1979 than it was before enactment of Public Law 93-32. For example, in December 1972 the average yield on long-term Treasury bonds was 5.63 percent, or 3.63 percent higher than the REA lending rate of 2 percent; whereas for the week ending July 27, 1979, the average yield on Treasury bonds was 8.42 percent, or 4.07 percent higher than the average lending rate of 4.35 percent for REA 5- and 2-percent insured loans made in fiscal year 1979 (through September 14).

MANY RURAL ELECTRIC DISTRIBUTION SYSTEMS ARE FINANCIALLY SOUND AND COULD QUALIFY FOR NON-REA LOANS AT REASONABLE RATES AND TERMS

As of December 31, 1978, 386 out of 922 REA distribution system borrowers, or about 42 percent, had a TIER of 2.5 or more and an equity ratio of 30 percent or more, levels which would generally be sufficient to obtain financing from private creditors at reasonable rates and terms. Although these borrowers could qualify for loans from CFC and other private lenders, some have to charge relatively high electric rates to maintain financial soundness. Others, however, do not.

Identifying borrowers that could qualify for non-REA loans at reasonable rates and terms

While many different factors are used to judge the credit-worthiness of a utility or other business, the TIER and equity ratio are two important measures the financial community uses in making this determination. Those businesses having higher TIERs and equities could be expected to have higher credit ratings and hence would generally pay lower interest rates on their borrowings.

The TIER, or ratio of income to interest expense, is a very important indicator of the amount of debt a firm can prudently carry. While the equity ratio is important in that it reveals the proportion of assets financed through owner's equity as opposed to borrowing, the TIER provides a better indication of a firm's current capability to meet its interest costs on long-term debt through its earnings. This is because while the equity ratio indicates the proportion of debt a firm has, it does not reveal the cost of that debt. In analyzing the financial soundness of REA borrowers, this factor can be particularly important because of the large amounts of low-interest REA loans they have outstanding.

To determine the number of borrowers which could likely qualify for non-REA loans at reasonable rates and terms, we used a TIER of 2.5 and an equity ratio of 30 percent. These levels were selected on the basis of our review of various studies and data dealing with the subject and through discussions with officials of REA and lending institutions.

As noted earlier, CFC, the primary supplemental lender, will provide 100 percent of a borrower's long-term financing if the borrower has a minimum TIER of 1.5 (and a debt service coverage of 1.25). CFC, however, recommends that its borrowers maintain a TIER of 2.5 or better. CFC has no minimum equity level for loan eligibility, but rather uses a formula to determine the optimum equity level each borrower should have and encourages each to work toward attaining this level.

Under REA's telephone loan program, a 20-percent equity level is used as a criterion for requiring borrowers to obtain non-REA loans. Section 412 of the 1936 act, as amended (7 U.S.C. 950b), provides that REA shall not make a loan to a rural telephone system which in the preceding year had an equity level of over 20 percent, unless the borrower is unable to obtain a loan from other sources at reasonable rates and terms.

According to CFC officials, CFC's

> "* * * relationship with the capital markets has been structured to permit increased amounts of financing on its part. The availability and cost of that capital is dependent on the ability of the market to absorb the amount of financing needed and upon the quality of collateral that CFC will have available to secure the debt capital that it sells. The quality of the collateral is directly dependent on the earnings and equity ratios of rural electric systems, which in turn are affected by the cost of capital to the systems."

CFC officials said that CFC's loan securities are rated AA. As a result of CFC's high rating, it is able to borrow moneys at favorable interest rates. This is reflected in the interest rates it charges borrowers, which for long-term loans was 9.5 percent 1/ during the period November 16 through December 31, 1979.

Some borrowers that could qualify for non-REA loans have high electric rates

Some borrowers that could qualify for non-REA loans charge relatively high electric rates to maintain their financial viability. Requiring these borrowers to incur additional interest costs could run counter to program objectives. Therefore, not only should a determination be made as to which borrowers qualify for non-REA loans but also whether the borrower can absorb the additional interest costs and still charge consumers reasonable electric rates.

We selected for detailed analysis 110 borrowers that had received REA loans in calendar years 1977 and/or 1978 and charged residential electric rates, which at the monthly average usage levels of their consumers would result in monthly bills either 20 percent higher or at least 20 percent lower than bills based on the rates of nearby investor-owned utilities. The rate information was obtained from a comparison of residential electric rates between REA borrowers and nearby IOUs in mid-1977, developed in conjunction

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1/The CFC rate remains fixed for the first 7 years of a loan, after which it may be adjusted by CFC.

with a joint Office of Management and Budget (OMB) and USDA unpublished study of REA's electric program. Of the 110 borrowers, 55 had rates which would result in bills at least 20 percent higher than the IOUs and 55 at least 20 percent lower (hereinafter referred to as borrowers with higher rates and borrowers with lower rates.)

Of the 110 borrowers we reviewed, 46, or about 42 percent, had both an average TIER of 2.5 or more and an equity ratio of 30 percent or more prior to loan approval. (All 46 had an average debt service coverage above 1.25 with 41 having an average above 2.0.) Twenty, or 36 percent, of the 55 borrowers with higher rates met these criteria and 26, or 47 percent, of the 55 borrowers with lower rates met these criteria. Following are some examples of borrowers in these two groups.

Examples of Borrowers with TIERs of 2.5 or More and Equities of 30 Percent or More

Borrower	REA loan Amount	REA loan Percent of total loan	Average TIER	Average debt service coverage	Equity percentage	Percent electric rates above (below) IOUs
	(thousands)					
Borrowers with lower rates						
A	$1,171	70	4.20	2.64	43	(47)
B	902	70	3.85	2.19	54	(44)
C	428	a/100	12.56	3.24	67	(35)
D	1,525	90	3.83	2.97	54	(42)
E	893	70	22.53	4.25	70	(25)
F	672	90	6.92	3.20	61	(46)
G	1,000	80	12.77	3.30	67	(52)
H	1,494	a/100	3.18	1.56	35	(35)
I	489	70	14.55	3.76	77	(32)
J	380	70	8.25	3.40	52	(37)
Borrowers with higher rates						
K	1,172	70	5.00	2.78	34	26
L	1,543	70	3.92	2.61	43	31
M	1,231	70	2.99	2.36	33	28
N	832	70	5.64	4.55	53	28
O	640	a/100	3.23	1.45	59	58
P	540	70	4.07	2.71	50	34
Q	829	a/100	4.76	2.37	58	43
R	1,672	70	2.67	1.86	35	26
S	1,791	70	3.32	2.59	35	21
T	1,045	70	4.21	2.71	35	29

a/Borrower received REA loan at special 2-percent interest rate.

Sixty-nine of the 110 borrowers had a TIER of 2.5 or more before loan approval. Our analysis of the equity ratios for these 69 borrowers showed that none had an equity ratio below 10 percent, that the equity ratios of the 5- and 2-percent borrowers did not vary significantly, and that a greater proportion of the borrowers with low electric rates

had higher equity levels than did the borrowers with high rates. (See app. II.)

Need for REA to do more to encourage borrowers to achieve minimum equity levels

Borrowers' ability to obtain loans from the private credit sector depends, in part, upon their having adequate equity. Many REA borrowers have low equity levels. For example, 40, or 36 percent, of the 110 borrowers we reviewed had equity levels below 20 percent. Such borrowers should be encouraged to increase their equity levels; REA could do so through its review of electric rate changes proposed by borrowers.

Although REA generally does not approve the retail electric rates of distribution borrowers, it does review all rate changes. Borrowers are required to give REA at least 90 days' prior written notice of any proposed change in the retail rate structure. An REA official advised us that REA's prime concern in reviewing rate changes is to ensure that they will generate sufficient income to repay the borrowers' loans. He said that rate changes are not reviewed to determine whether the rates are adequate to build borrowers' equity to any desired level.

For borrowers with equity levels of less than 40 percent, REA's mortgage agreement restricts the amount of equity which can be returned to cooperative members to 25 percent of the borrowers' prior year's margin (net income). According to REA officials, this restriction can be waived if the borrower has developed an acceptable plan showing how it intends to build its equity levels. Part of the electric rates paid to cooperatives covers the costs of service and part provides margins. These margins are the cooperatives' primary source of equity. Some borrowers, through the years, have kept their electric rates at a minimum and/or periodically returned equity to their members, thereby maintaining low equity positions.

For example, one cooperative we visited, with REA loans of about $6.4 million outstanding, had an equity ratio of 3.2 percent as of December 31, 1978. A cooperative official told us that the cooperative's policies, in the 40 years of its existence, have been to maintain rates as low as possible, not build high equities, and not return patronage capital (equity). He said that when members ask why patronage capital is not returned, he tells them that it is returned every month in the form of lower rates. He said also that

REA has not agreed with these policies and that the cooperative's present plans are to increase its equity level to 20 percent by 1988.

The Tennessee Valley Authority, which sells power to 53 REA borrowers, not only approves the retail rates of these borrowers but also prohibits returns of equity to members. This policy has worked to build the borrowers' equity levels. For example, 43, or 81 percent, of the borrowers had equity levels of 30 percent or higher as of December 1977, some as high as 80 and 90 percent. Conversely, only 11, or 24 percent, of the 45 REA borrowers that obtain power from the Bonneville Power Administration, which according to an REA official neither approves rates nor prohibits equity returns, had equity levels of 30 percent or more, with the highest being about 55 percent.

The Capital Credits Study Committee, jointly commissioned by CFC and the National Rural Electric Cooperative Association, in a study reported on in February 1976, 1/ recommended that rural electric cooperatives with relatively low equity levels develop plans to increase their equity levels to at least 30 percent.

We agree that borrowers should be encouraged to meet a minimum equity level of 30 percent or some other minimum determined by REA. To accomplish this we believe that REA should require borrowers with low equity levels to prepare equity development plans and that, in reviewing rate changes, REA should ensure that the borrowers' electric rates are, where practicable, sufficient to meet the equity level goals set forth in the plan.

EFFECT OF INCREASED BORROWING COSTS ON RESIDENTIAL ELECTRIC RATES

What effect would increased borrowing costs have on the systems' electric rates? Although interest costs of distribution borrowers are generally a relatively small portion of the distribution of total revenues--an average of 4 percent for all borrowers in 1978--the answer to this question depends on each borrower's individual circumstances. For example, for 870 borrowers reporting, the ratio of interest expense to total revenues ranged from 0 to 24.3 percent in 1978. (App. III shows the average values for this ratio, by quartile, for calendar years 1976-78.)

1/"Capital Credits Study Committee, Final Report and Recommendations," Feb. 1976.

We analyzed the effect increased interest rates would have on the costs of the 46 borrowers that had a TIER of at least 2.5 and an equity ratio of at least 30 percent. Using the borrowers' financial forecasts supporting their loan requests to obtain their projected REA borrowings, we compared the cost of borrowing the funds from REA during the 10-year forecasted period (at either 5 or 2 percent, as applicable) to the cost of borrowing these funds at the CFC interest rate in effect through June 1979 and at a 9-percent interest rate thereafter. 1/

If all REA loans were made at the higher interest rates, the borrowers' total costs in the fifth projected year would be increased from a low of 0.7 percent to a high of 9.9 percent. Some of the borrowers would also have to increase gross revenues to maintain desired TIER levels. To maintain a TIER of 2.5 on the increased interest costs, revenues in the fifth year would have to be increased from a low of about 1 percent to a high of about 30 percent. The following schedule shows the ranges of the percentage increases in total costs and revenues by category of borrower for the fifth projected year.

	Effects of increased interest costs in fifth year of borrowers' 10-year projections					
	Average percentage increase in costs	Range of percentage increase in costs		Average percentage increase in revenues	Range of percentage increase in revenues	
		Low	High		Low	High
Borrowers with lower rates						
Eligible for 5% loans	1.7	0.9	4.2	5.9	2.1	30.1
Eligible for 2% loans	4.7	1.4	8.8	11.8	3.7	24.0
Borrowers with higher rates						
Eligible for 5% loans	1.8	0.7	4.9	5.3	1.1	23.5
Eligible for 2% loans	5.2	1.4	9.9	12.0	3.2	21.6

1/The effective interest rate would be somewhat above the CFC rate used because borrowers have to purchase a certificate bearing a 3-percent interest rate from CFC equal to 5 percent of the amount borrowed. We do not believe, however, that this difference would significantly alter the results of our analysis.

Some factors affecting electric rates are beyond the borrowers' control. Others, however, can be dependent, at least in part, on the borrowers' policies and objectives. For example, to have a TIER of 2.5 a borrower has to ensure that electric rates are sufficient to produce margins one and one-half times greater than its interest expense, whereas a borrower desiring a TIER of 3.5 has to produce margins of two and one-half times its interest expense.

Therefore, whether or not electric rates would have to be increased to cover increases in borrowing costs depends on the borrowers' individual circumstances. Some could absorb the increased costs with little or no residential rate increase while others could not. This is demonstrated in an analysis of 14 of the 110 borrowers we reviewed which had computerized financial forecasts, as discussed below.

REA and the cooperative computer centers (generally private, nonprofit entities organized by REA borrowers) developed a computerized financial forecast for rural electric systems. The computerized forecast makes it possible to explore the financial implications of various alternative policies and objectives. We contracted with one center to run three computerized forecasts for 14 different borrowers. The first was run with no changes, and on the second the interest rate on REA loans was changed to that projected for CFC loans. On the third run the interest rate was changed to that of CFC and, to put the borrowers on a more equal footing, the following standard objectives were used: TIER of 2.5, debt service coverage of 2.0, rate of return of 5 percent, equity ratio of 35 percent, and patronage capital retirements to consumers on a 15-year cycle.

In comparing the first run with the second, 4 of the 14 borrowers absorbed the increased interest costs without making any changes to the electric rates charged their residential customers in any of the 7 years for which monthly rate data was projected (the rate data is shown for the first 6 and the last of the 10 years). The remaining 10 borrowers had increases in some years; the largest increase was 8.3 percent ($3.59 per month) at the projected average monthly usage.

In comparing the first run with the third, 3 of the 14 borrowers would have no increases or could actually reduce their residential rates 1/; 6 would have some years with no

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1/A reduction of electric rates would occur in those cases where the standardized objectives were lower than the borrowers' actual objectives. This is because the borrowers would require less revenues to meet the lower objectives.

changes, some with reductions, and others with increases; and 5 would have some years with no changes and others with increases. The largest decrease in the monthly bill was 12.8 percent ($12.25) and the largest increase was 21.1 percent ($10.69). The following schedule shows the results of the comparisons for the fifth projected year.

Borrower	Projected average monthly KWH residential usage	Run 1--borrower's projection		Run 2--interest rate change			Run 3--interest rate and goal changes		
		Cost per KWH	Aver. monthly bill	Cost per KWH	Aver. monthly bill	Increase (decrease) in monthly bill	Cost per KWH	Aver. monthly bill	Increase (decrease) in monthly bill
		(cents)		(cents)		(percent)	(cents)		(percent)
A	1,584	4.30	$ 68.11	4.30	$68.11	0	4.10	$ 64.94	(5)
B	1,408	5.80	81.66	6.10	85.88	5	5.80	81.66	0
C	2,035	3.00	61.05	3.10	63.08	3	2.90	59.01	(3)
D	2,072	1.80	37.29	1.80	37.29	0	1.70	35.22	(6)
E	1,340	5.20	69.68	5.20	69.68	0	5.00	67.00	(4)
F	1,244	5.00	62.20	5.10	63.44	2	5.10	63.44	2
G	1,075	5.30	56.97	5.30	56.97	0	5.30	56.97	0
H	2,660	4.20	111.72	4.20	111.72	0	4.00	106.40	(5)
I	2,745	3.90	107.05	3.90	107.05	0	3.80	104.31	(3)
J	1,177	4.30	50.61	4.30	50.61	0	4.40	51.78	2
K	1,465	6.20	90.83	6.30	92.29	2	6.30	92.29	2
L	2,330	4.60	107.18	4.60	107.18	0	4.40	102.52	(4)
M	872	6.80	59.29	7.00	61.04	3	7.30	63.65	7
N	1,538	4.70	72.28	4.80	73.82	2	4.80	73.82	2

CONCLUSIONS

Many borrowers have the financial strength to qualify for loans from their own financial organization and other sources at reasonable rates and terms. Criteria are needed to identify such borrowers and to determine which of them do and which do not need a subsidized loan in order to charge their consumers reasonable electric rates. In this way, borrowers that could qualify for loans from private creditors and still charge reasonable rates could be required to obtain their credit needs from private lenders. Without such criteria, future progress in meeting the Congress' objective of encouraging rural electric distribution borrowers to become financially self-sufficient will be limited.

Developing criteria to identify borrowers that could qualify for non-REA loans at reasonable rates and terms should not be difficult. Such determinations are a standard practice of lending institutions. The more difficult task is to develop criteria to use in determining the type and amount of subsidized loan needed, if any, to assist the borrowers in charging reasonable electric rates. (This matter is discussed in ch. 3.)

The financial self-sufficiency of distribution systems depends, in part, upon their having adequate amounts of equity. Equity also adds to the security of REA's loans. The wide variation in equity levels found among the distribution systems indicates both opportunities for better assistance criteria and opportunities to increase equity levels consistent with other needs and goals of the systems.

REA needs to do more to encourage borrowers to charge the electric rates necessary to build their equities to some minimum level. This could be done by requiring borrowers with low equity levels to prepare equity plans and by reviewing rate changes to ensure that, where practicable, they are sufficient to generate the income needed to meet equity level objectives set forth in the plan.

RECOMMENDATIONS

We recommend that the Secretary of Agriculture direct the Administrator of REA to develop criteria for determining which rural electric distribution system borrowers qualify for long-term loans from the private credit sector at reasonable rates and terms. The criteria should be incorporated into the plan we are recommending REA develop for proposing legislative changes to the insured loan program. (See p. 42.)

We recommend also that the Secretary direct the Administrator to establish a minimum equity goal for the borrowers; require borrowers with low equity levels to develop plans to increase their equity levels to the goal established; and, in reviewing electric rate changes, ensure that the borrowers' rates are, where practicable, sufficient to generate the income needed to meet equity level objectives set forth in the plan.

AGENCY COMMENTS AND OUR EVALUATION

In its comments (see app. IV), USDA did not specifically agree or disagree with the above recommendations (1) regarding the need to develop criteria for determining which distribution borrowers qualify for long-term loans from the private sector and (2) directed at increasing the equity levels of borrowers. USDA said, however, that an REA study of the loan program is underway which may result in recommendations for program changes. (USDA's comments on the study and other factors which may affect the above recommendations are discussed on pp. 43 to 45.)

In an attachment to USDA's letter, several problems were discussed about the recommendations on equity levels. One of the major problems was the difficulty borrowers may have in increasing equity levels, particularly in a period of rapidly rising costs. We recognize that some borrowers may have problems in building their equity levels, but with sound planning, including setting reasonable goals and timetables for achieving these goals, such problems can be minimized.

According to USDA, the report does not fully consider section 307 of the act, which requires the full use of insured loan authority made available by the Congress, nor the House and Senate Appropriations Committees' directives to continue the concurrent electric loan policies now in effect.

We recognize that constraints were imposed on REA for administering the program and that these constraints could hinder progress in achieving program objectives. Hopefully, REA's study of the program will identify and recommend eliminating any such constraints.

According to USDA, the percentage of total long-term financing needs of REA electric borrowers provided by REA direct and insured loans decreased from 100 percent in fiscal year 1970 to 14.8 percent in fiscal year 1979. USDA's calculations include insured and guaranteed loans to power supply systems; those we cite on page 12 do not. Most guaranteed loans are made by the Federal Financing Bank and, with one Government agency making a loan and another guaranteeing it,

are direct Government loans. Including such loans in the determination of borrowers' progress in becoming financially self-sufficient would show much less progress than what we have shown--only 7 percent of all REA-insured and -guaranteed loans approved in fiscal year 1979 were made by non-Federal sources.

USDA stated that the average interest rate of its borrowers on long-term financing increased from 2 percent in fiscal year 1970 to 8.3 percent in 1979. It said these rates include interest costs on loans to power supply systems in as much as these interest costs are included in the cost of power purchased by distribution systems that own the power systems.

While it is true that the interest costs of power supply systems are included in the cost of power of distribution systems, it is also true that the interest costs incurred by IOUs are included in the cost of power sold to distribution systems. However, one would not average the IOU's interest rates with those of the distribution systems they serve. Ownership of the power systems would not, in our opinion, be a sufficient reason to treat power systems otherwise.

CHAPTER 3

LOAN-MAKING CRITERIA SHOULD BE REVISED TO GIVE GREATER CONSIDERATION TO TYPE AND AMOUNT OF SUBSIDIZED LOAN NEEDED

REA's present criteria for making insured loans to distribution systems do not adequately correlate the type and/or amount of subsidized loan provided with the borrower's need. As a result, some borrowers with high costs and high electric rates received a lesser subsidy than borrowers with low costs and low rates. We believe new criteria should be developed to better match the subsidy provided with borrowers' individual needs.

MANY REA BORROWERS HAVE ELECTRIC RATES WHICH ARE LESS THAN OR COMPARABLE TO INVESTOR-OWNED UTILITIES

Many REA borrowers have electric rates which are less than or comparable to IOUs. If such borrowers can qualify for non-REA loans at reasonable rates and terms, their need to continue receiving subsidized loans is highly questionable.

On a national average, rural residents served by REA borrowers pay less per kilowatt-hour (KWH) of electricity than do the residential customers of IOUs, and until 1978 the gap appeared to be widening. 1/ For example, on a national basis, IOUs' residential customers paid an average of 4.31 cents per KWH of electricity used in calendar year 1978 compared to 3.80 cents paid by residential customers of REA borrowers--about 13 percent more--whereas, the IOUs' residential customers paid about 17 percent more in 1977, 14 percent more in 1971, and 11 percent more in 1965.

In conjunction with the OMB/USDA joint study of the REA program, the National Rural Electric Cooperative Association obtained residential rate information from REA borrowers in

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1/This gap is even wider if the margins of cooperatives, which are assigned to individual members' equity accounts, are taken into consideration. In calendar year 1978, REA distribution borrowers' reported margins were 4 percent of total revenues.

mid-1977. A comparison of these rates with the residential rates of neighboring IOUs 1/ showed that, at the average usage level, 52 percent of the REA borrowers charged rates which would result in lower monthly bills than would a similar amount of electrical power purchased from the IOUs. Of those borrowers eligible to receive 2-percent loans, 61 percent had residential charges below those of their neighboring IOUs at the average usage level. This is shown below. Note also that, on the average, the borrowers had higher charges for lower usages.

	Level of usage (note a)			
	250 KWH	500 KWH	700 KWH	Average usage
	(percent)			
Percent of borrowers with lower rates than IOUs	32.6	42.8	49.3	52.4
Percent of borrowers with higher rates than IOUs	67.3	57.1	50.6	47.6
Number of borrowers compared (note b)	858	859	861	731

a/The average monthly usage for REA borrowers in 1977 was 910 KWH.

b/Not all borrowers were included because of a lack of data in a few cases and/or a lack of a valid competing utility with which to compare.

REA recently began gathering similar rate information for its borrowers. Using the information compiled by REA along with IOU data obtained from the Department of Energy, we compared the rates charged at the average usage level for 101 of the 110 borrowers for which REA had rate data to rates charged by their neighboring IOUs.

1/In addition to the electric systems owned by investors and cooperatives, there are systems owned by public bodies such as municipalities. Because of the special circumstances of such publicly owned systems (for example, electric rates could be subsidized through local taxes), they were not used in either the OMB/USDA or GAO comparisons.

The comparison showed that as of January 1979, 47 of the 101 borrowers had lower charges at the average usage level than did the IOUs. The differences ranged from 47 percent lower to 104 percent higher. Of 29 borrowers eligible to receive 2-percent loans, 45 percent (13) had charges that were lower than their neighboring IOUs. The results of the comparison are summarized below.

Differences in residential electricity charges of borrowers and IOUs	Borrowers	
	Number	Percent
Lower:		
At least 20 percent	24	24
10 to 19.99 percent	13	13
0 to 9.99 percent	10	10
Higher:		
0 to 9.99 percent	8	8
10 to 19.99 percent	5	5
At least 20 percent	41	40
Total	101	100

PRESENT LOAN-MAKING CRITERIA DO NOT ADEQUATELY CORRELATE SUBSIDY PROVIDED WITH BORROWERS' NEED

Many borrowers charging electric rates substantially above those charged by their urban counterparts received the minimum subsidy allowed under REA's program--70 percent of their loan needs at a 5-percent interest rate--while others charging lower rates received the maximum subsidy allowed--100 percent of their loan needs at the special 2-percent interest rate.

Of the 55 borrowers with higher electric rates, 32 (or about 58 percent) received the minimum subsidy. On the other hand, of the 55 borrowers with lower electric rates, 14 (or about 26 percent) received the maximum subsidy. This is shown on the following page. Note also that the same number of borrowers with higher rates qualified for the minimum subsidy as did those with lower rates.

Type of REA loan eligible for and interest rate	Borrowers with lower rates		Borrowers with higher rates	
	No.	Percent	No.	Percent
70% REA loan at 5% interest rate	32	58	32	58
80% REA loan at 5% interest rate	5	9	3	6
90% REA loan at 5% interest rate	4	7	1	1
100% REA loan at 5% interest rate (note a)	0	-	2	4
100% REA loan at 2% interest rate	14	26	17	31
Total	55	100	55	100

a/Borrowers can receive 100-percent loans at the 5-percent interest rate under exceptional circumstances.

The plant revenue ratio governs the proportion of a borrower's loan needs which can be met with an REA loan at the standard interest rate of 5 percent. In the following schedule, we categorized the 110 borrowers with lower and higher electric rates according to their plant revenue ratio (including those borrowers that received REA loans at 2-percent interest). As shown, the plant revenue ratio does not appear to provide a very good correlation between the subsidy a borrower would be eligible to receive and its need for assistance to charge comparable rates. Only 18 percent of the borrowers with higher rates would be eligible for more than the minimum subsidy based on the plant revenue ratio, whereas 33 percent of those with lower rates would be eligible for more than the minimum subsidy.

Plant revenue ratio category	Borrowers with lower rates No.	Percent	Borrowers with higher rates No.	Percent
8.00 and below (70% REA loan)	37	67	45	82
8.01 to 9.00 (80% REA loan)	10	18	4	7
9.01 and above (90% REA loan)	8	15	6	11
Total	55	100	55	100

The eligibility criteria used for the special 2-percent interest rate does not appear to be an equitable basis upon which to determine need for the maximum subsidized loan REA can provide. As noted earlier, 52 percent of all borrowers had charges below their neighboring IOUs, while 61 percent of the 2-percent borrowers had lower charges. Of the borrowers we reviewed, 26 percent (14) of those with lower electric rates received an REA loan at the special 2-percent interest rate and 31 percent (17) of those with higher electric rates received an REA loan at the special rate.

Seventy-four percent of the 31 borrowers we reviewed which qualified for a 100-percent REA loan at the special 2-percent interest rate did so on the basis of the density criterion; that is, two or fewer consumers per mile.

A 1972 REA study concluded that consumer density is not as clearly related to the borrowers' financial need, or the financial need of their consumers, as may be commonly supposed and that density could not be equitably used as a criterion for 100-percent financing. (Note: At the time of the study, all REA loans were made at a 2-percent interest rate and density was being considered as a criterion to determine the extent to which supplemental financing would be required.)

As illustrated in the following examples, borrowers' operations and financial conditions vary greatly. Such variances, we believe, point to a need to tailor the assistance provided to the borrowers' individual needs.

Example 1

REA approved a 5-percent loan of $1 million in August 1977 to provide 80 percent of this borrower's loan needs.

As of December 31, 1976, the borrower had total assets of $5,498,596 and a net worth (equity) of $3,678,133, or an equity ratio of about 67 percent; an average TIER of 12.77; and an average debt service coverage of 3.30. On gross revenues of $1,942,271 in 1976, the borrower had a net margin (or income) of $253,094, or about 13 percent of total revenues. The borrower had returned equity (referred to as patronage capital) to its members of $102,041 in 1976 of which $31,358 was for special retirements (for example, to estates of deceased members).

The OMB/USDA rate comparison showed that in mid-1977 the borrower charged rates which, at the average monthly usage level, were about 52 percent below its nearby IOU. That is, at the average monthly usage level of 1,245 KWH, the monthly bill of the borrower's customers would be $33.14 based on the borrower's rates and $68.45 based on the IOU's rates.

We believe this borrower could have obtained all of its loan funds from CFC or another lender and still maintained rates which would be comparable to its nearby IOU.

Example 2

REA approved a 5-percent loan of $636,000 in July 1978 to provide 80 percent of this borrower's loan needs. As of December 31, 1977, the borrower had total assets of $13,047,176 and a net worth of $1,005,293, or an equity ratio of less than 8 percent; an average TIER of 1.40; and an average debt service coverage of 1.24. The borrower had gross revenues of $3,487,492 in 1977 and a loss of $144,580. The borrower did not return any patronage capital to its members in 1977.

The OMB/USDA rate comparison showed that in mid-1977 the borrower charged rates which, at the average monthly usage level, were about 47 percent higher than its nearby IOU. That is, at the average usage level of 485 KWH, the monthly bill of the borrower's customers would be $20.64 based on the borrower's rates and $14.00 based on the IOU's rates.

We believe that this borrower's financial condition was such that it might have had difficulty obtaining a non-REA loan at reasonable rates and terms--its TIER and debt service coverage were below CFC minimum requirements. Further, the borrower's relatively high electric rates might have had to be increased if it were required to obtain loans at a higher interest rate.

Example 3

REA approved a 5-percent loan of $489,000 in February 1977 to provide 70 percent of this borrower's loan needs. As of December 31, 1976, the borrower had total assets of $4,161,205 and a net worth of $3,203,710, or an equity ratio of 77 percent; an average TIER of 14.55; and an average debt service coverage of 3.76. On gross revenues of $1,727,471 in 1976, the borrower had a net margin of $226,234, or about 13 percent of total revenues. The borrower had returned patronage capital to its members of $89,136 in 1976, all of which was for general retirements.

The OMB/USDA rate comparison showed that in mid-1977 the borrower charged rates which, at the average usage level, were about 32 percent lower than its nearby IOU. That is, at the average monthly usage level of 1,371 KWH, the monthly bill of the borrower's customers would be $44.33 based on the borrower's rates and $64.84 based on the IOU's rates.

We believe this borrower could have obtained all, or at least a greater proportion, of its loan funds from CFC or another lender and still maintained rates which would be comparable to its nearby IOU.

Example 4

REA approved a 5-percent loan of $1,031,000 in January 1978 to provide 70 percent of this borrower's loan needs. As of December 31, 1977, the borrower had total assets of $10,013,885 and a net worth of $1,306,040, or an equity ratio of about 13 percent; an average TIER of 2.22; and an average debt service coverage of 1.60. On gross revenues of $4,447,524 in 1977, the borrower had a net margin of $361,768, or about 8 percent of total revenues. The borrower did not return any patronage capital to its members in 1977.

The OMB/USDA rate comparison showed that in mid-1977 the borrower charged rates which, at the average monthly usage level, were about 66 percent higher than its nearby IOU. That is, at the average usage level of 537 KWH, the monthly bill of the borrower's customers would be $46.18 based on the borrower's rates and $27.83 based on the IOU's rates.

We believe that while this borrower could have qualified for a loan from CFC or another lender, the increased borrowing costs would have increased its relatively high electric rates.

Example 5

REA approved a 2-percent loan of $683,000 in October 1978 to provide 100 percent of this borrower's loan needs. As of December 31, 1977, the borrower had total assets of $2,941,766 and a net worth of $1,712,476, or an equity ratio of about 58 percent; an average TIER of 14.91; and an average debt service coverage of 2.44. On gross revenues of $989,274 in 1977, the borrower had a net margin of $196,538, or about 20 percent of total revenues. The borrower had returned patronage capital to its members of $59,601 in 1977, of which $13,001 was for special retirements.

The OMB/USDA rate comparison showed that in mid-1977, the borrower charged rates which, at the average monthly usage level, were about 21 percent lower than its nearby IOU. That is, at the average usage level of 1,253 KWH, the monthly bill of the borrower's customers would be $36.50 based on the borrower's rates and $46.26 based on the IOU's rates.

Although this borrower had fewer than two customers per mile of line, it was in excellent financial condition and had relatively low rates. It appears to us that such a borrower could have absorbed the additional costs of a 5-percent loan from REA and a supplemental loan from CFC or another lender and still maintained rates which would be comparable to its nearby IOU.

ACHIEVING RATE COMPARABILITY SHOULD BE AN OBJECTIVE OF REA's ELECTRIC PROGRAM

The act does not directly set forth rate comparability with urban areas as an objective of REA's electric program. A former REA Administrator, in testifying before a Subcommittee of the House Committee on Appropriations in April 1965, stated that REA has had to translate into specific terms the purposes of the program and the intent of the Congress in enacting the legislation.

The Administrator said that the fundamental purpose of the rural electrification program, and the Congress' intent in supporting the program, has been that this vital service should be provided on even terms with that provided people in the city. More specifically, he explained that the first objective is to make electricity available to all rural residents in the areas served by rural electric systems; the second objective is that electrical rates and service should be on a par with those enjoyed by city people in the same general area; and the third is to make this service available from systems that are financially sound and stable.

In its report on Public Law 93-32, 1/ the House Committee on Agriculture stated:

> "The demand of our rural citizens for expanded and better quality electric and telephone service has greatly increased the capital needs of the rural electric and telephone systems of our country in the past few years. Much of this required capital must be furnished at low interest rates to permit the services to be provided at rates to the consumers which are comparable with their urban counterparts."
>
> * * * * *
>
> "The Committee, therefore, suggests that the REA Administrator exercise restraint and caution in requiring borrowers to accept non-government concurrent financing under the new 5 percent REA loan program in order to avoid jeopardizing the ability of such borrowers to provide reliable service at rates comparable to those charged for similar service by neighboring electric and telephone systems." (Underscoring added.)

By letter dated January 16, 1979, we asked the REA Administrator whether, on the basis of the above statements by the committee and statements by others, he would agree that REA's overall objective is to provide assistance to rural electric and telephone systems so that they in turn can provide reliable services to consumers at rates comparable to those charged for similar services by neighboring systems.

The Administrator, by letter dated March 9, 1979, replied that the Agriculture Committee used a comparable rate objective in urging REA to exercise restraint in requiring borrowers to accept concurrent financing, at higher interest rates, for distribution loans. He stated that the plant revenue ratio is used as a test of the relative costs of the plant needed to provide the service with respect to REA's borrowers to see which are more in need of the lower cost capital.

In responding to our request for a definitive description of REA's electric program objectives, the Administrator,

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1/House Report No. 93-91, Mar. 27, 1973.

by letter dated October 18, 1979, stated that one program objective is to provide assistance to borrowers to enable them to provide assured service to consumers on an area coverage basis at "affordable rates." As noted previously, however, REA does not consider rates in determining the subsidized loan needed by borrowers.

According to the Administrator, rate comparability as an objective in determining the cost of capital would be very difficult to administer because of differences in geographic energy use and supply; differences in philosophy of State rate-setting agencies; the availability of preference power (that is, preference given by Federal power suppliers to cooperatives and municipal and other public utilities); currently increasing costs of new facilities; and other factors which would make the use of such a test invalid. He said that, in fact, significant rate differences may exist in the adjoining service areas of two REA borrowers.

Because of the varying policies followed by REA borrowers in setting electric rates and the reasons cited by the Administrator, the use of rate comparability as a means of correlating the subsidy provided with need may be difficult to administer. Nevertheless, we believe that some better means of correlating the subsidy provided with need should be devised which would reflect borrowers' capability to charge comparable and/or reasonable rates. In our opinion, policies and procedures which result in providing essentially the same degree of subsidy to borrowers with high rates as provided to those borrowers with low rates are neither an equitable method of distributing assistance nor an effective use of Government resources.

Since the most important factor in establishing rates is the cost incurred by the distribution systems in providing electricity to their consumers, cost comparability could serve as a substitute for rate comparability in determining the amount and type of subsidized loan needed, if any. The borrowers' costs could be compared to neighboring IOUs' or the average costs of IOUs by State or region or, as REA now does, nationwide standards could be used. We would favor a regional comparison because it would be simpler to administer than an individual or statewide comparison and would still compare REA borrowers with IOUs that are in reasonably close proximity.

The type and amount of subsidized loan needed could be determined by relating the proportion of loans REA will make at a 5- or 2-percent interest rate based on a comparison between borrowers' costs and appropriate standards. To illustrate, if a borrower's costs are 5 to 10 percent above the

standard to which they are compared, REA might make a 5-percent loan to the borrower for 30 percent of its loan requirements. At the other extreme, if a borrower's costs are 40 percent or more above the standard, REA might make a 2-percent loan to the borrower for 100 percent of its loan requirements. Borrowers that have costs which indicate a subsidized loan is not needed and that qualify for non-REA credit would be ineligible for an REA loan.

RELATIVE IMPORTANCE OF POWER COSTS TO ELECTRIC RATES CHARGED

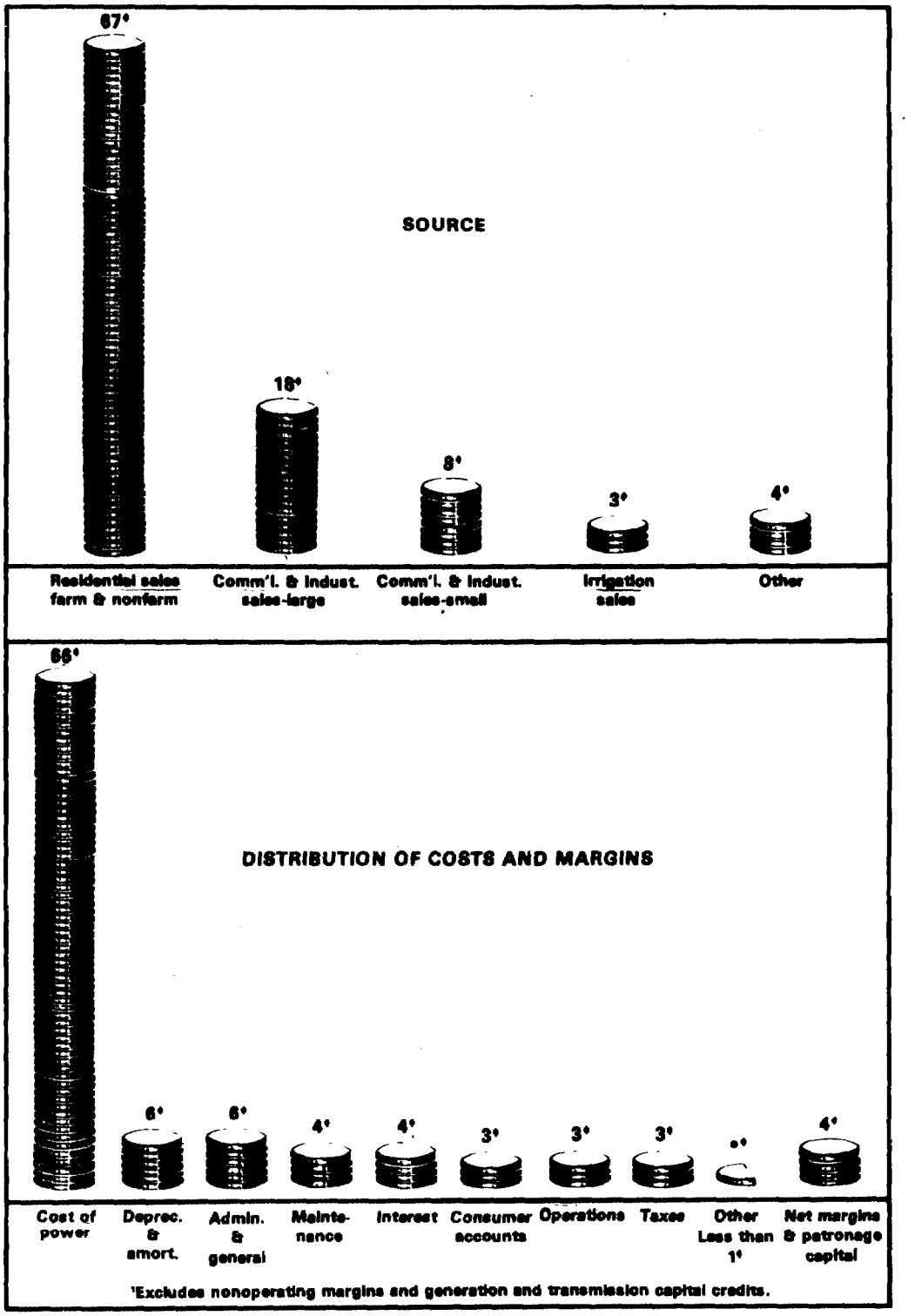
Although nearly all persons living in rural areas currently have central station electricity, a need remains for a financial assistance program for rural electric systems which, because of their particular circumstances, are unable to pay the higher costs of private financing without charging their customers unreasonable electric rates. Key questions are: How can distribution systems in need of Government assistance be distinguished from those that are not and how can the levels of assistance provided be correlated to need?

The primary justification for subsidizing rural electric systems has been the high costs associated with providing electricity to sparsely populated areas. For example, more lines and poles are needed to bring electricity to widely scattered consumers, and servicing and maintaining the lines and other equipment can be costly.

Many borrowers are disadvantaged by serving low-density areas; however, other factors, such as low power costs, often offset this disadvantage. Because of this possibility, we believe all costs should be considered in determining the need for a subsidy. However, since the program is designed primarily to offset the higher distribution costs in sparsely populated rural areas, this cost element should be given greater emphasis in determining need for assistance.

As shown in the graph on page 37, the cost of power is by far the major cost factor for borrowers nationally, constituting 66 percent of the distribution of total revenues, whereas the next largest cost factors are depreciation at 6 percent and administrative and general expenses at 6 percent. Interest expense accounts for only 4 percent of the distribution of total revenues.

SOURCE OF REVENUES, DISTRIBUTION OF COSTS AND MARGINS BY BORROWERS OPERATING DISTRIBUTION SYSTEMS[1] CALENDAR YEAR 1978



Source: 1978 Annual Statistical Report, Rural Electric Borrowers (REA Bulletin 1-1)

The cost of power appeared to be a major distinguishing feature for borrowers charging higher or lower rates than their nearby IOUs. For the 110 borrowers we reviewed, the ratio of power costs to total revenues ranged from about 18 to 77 percent, with the median being about 56 percent. Of the 55 borrowers with lower electric rates, about 71 percent (39) had a power cost to revenue ratio below the median for the group of 110 borrowers, whereas only about 27 percent (15) of the 55 borrowers with higher electric rates had a ratio at or below the median for the group.

An analysis of the borrowers' power costs 1/ showed that those with lower electric rates than their nearby IOUs generally paid less for their power than those with higher rates. This is shown in the following comparison of the borrowers' average power costs per MWH.

	Average cost of power per MWH		
Year borrowers received loan	Borrowers with lower electric rates	Borrowers with higher electric rates	Percent average power cost of borrowers with higher rates is above costs of borrowers with lower rates
1977	$13.61	$21.18	56
1978	13.31	26.27	97

The range of power costs per MWH varied greatly, with the power costs for borrowers charging lower electric rates generally being less than those for borrowers charging higher electric rates.

	Cost of power per MWH			
	Borrowers with lower electric rates		Borrowers with higher electric rates	
Year borrowers received loan	Low	High	Low	High
1977	$3.76	$19.64	$4.73	$34.63
1978	4.42	23.88	5.49	42.84

1/The power costs, distribution operating and maintenance expenses, and operating expenses analyzed in this section of the report are those incurred by the borrowers in the year before the year they received their loans.

An analysis of the expense of operating and maintaining the borrowers' distribution plant 1/ (that is, the O & M expense incurred in connection with the facilities and equipment used in distributing electricity) in relation to total revenues showed that a much greater proportion of those borrowers charging higher rates spent a lower percentage of their revenues on distribution O & M than those borrowers with lower electric rates. This indicates that distribution O & M expenses were not a major distinguishing feature for borrowers charging higher or lower rates.

For the 110 borrowers reviewed, the ratio of distribution O & M expense to total revenues ranged from about 3 to 22 percent, with the median being about 8 percent. Of the 55 borrowers with lower electric rates, about 33 percent (18) had a distribution O & M expense to revenue ratio below the median for the group of 110 borrowers, whereas about 69 percent (38) of the 55 borrowers with higher electric rates had a ratio at or below the median for the group.

To summarize, while about 71 percent of the 55 borrowers with lower electric rates had a ratio of power costs to total revenues below the median for the 110 borrowers, only 33 percent had a ratio of distribution O & M to total revenues below the median for the group. Conversely, while only 27 percent of the 55 borrowers with higher electric rates had a power cost to revenue ratio at or below the median for the group, 69 percent had a distribution O & M expense to revenue ratio below the median for the group.

As shown on the following page, borrowers with higher rates had, on the average, higher distribution O & M expense per MWH than did borrowers with lower rates; however, the percentage differences were much smaller than those for power costs. Also, on the average, distribution O & M expenses were relatively low.

1/Other costs, such as depreciation, would have a bearing on total distribution costs.

Year borrowers received loan	Average distribution O & M expense per MWH: Borrowers with lower electric rates	Borrowers with higher electric rates	Percent average distribution O & M expense of borrowers with higher rates is above expense of borrowers with lower rates
1977	$2.53	$2.83	12
1978	2.89	3.85	33

The variance in the range of distribution O & M expense per MWH for the 110 borrowers was even greater than that for power costs. As shown below, distribution O & M expense can be a relatively insignificant expense for some borrowers and a very substantial expense for others; for example, $0.86 versus $9.83 per MWH.

Year borrowers received loan	Distribution O & M expense per MWH: Borrowers with lower electric rates		Borrowers with higher electric rates	
	Low	High	Low	High
1977	$0.86	$5.82	$1.33	$5.21
1978	1.10	5.70	1.15	9.83

An analysis of the borrowers' total operating expenses to total revenues showed that a greater proportion of those borrowers with lower electric rates spent less of their revenues on operating expenses than the borrowers with higher rates. Of those borrowers with lower electric rates, 60 percent had a ratio of operating expense to revenue below the median for the group of 110 borrowers, while 42 percent of those with higher electric rates had a ratio below the median for the group. This is primarily due to the fact that the borrowers with lower rates generally had higher net income to revenue ratios than those with higher rates. The average net income to revenue ratio was 9.7 percent for those with lower rates and 6.8 percent for those with higher rates.

Borrowers with lower electric rates had lower operating costs per MWH than did those with higher rates, as shown on the following page.

Year borrower received loan	Average operating expense per MWH: Borrowers with lower electric rates	Borrowers with higher electric rates	Percent average operating expense of borrowers with higher rates is above expense of borrowers with lower rates
1977	$20.14	$28.64	42
1978	20.63	35.54	72

CONCLUSIONS

Changes are needed in the method used in making insured loans available to electric distribution systems to better achieve the Congress' declared policy that electric distribution systems be assisted and encouraged to develop their resources to achieve the financial strength needed to enable them to satisfy their credit needs from their own financial organization and other sources at reasonable rates and terms.

Borrowers with low costs and electric rates can receive as much or more of a subsidy than borrowers with high costs and rates. New loan criteria are needed to better correlate the type and amount of subsidized loan provided with the needs of individual borrowers. These criteria should also apply to those borrowers that could qualify for non-REA loans at reasonable rates and terms but are in need of assistance to help enable them to charge reasonable electric rates.

The need for a subsidy, in our opinion, should depend on whether a system's costs are so high that it cannot charge reasonable electric rates. While the act is silent on this matter, statements have been made in various committee reports and hearings and by at least one former REA Administrator indicating that an objective of the program is to provide assistance to rural borrowers so that they can charge reasonable rates or rates which are comparable to their urban counterparts.

REA's policies and procedures for subsidizing loans to electric distribution systems result in inequitable treatment of borrowers and a questionable use of Government resources. A more appropriate method is needed to better correlate the amount of subsidy to borrowers' needs. Because of the varying policies REA borrowers follow in establishing electric rates and for other reasons, using rate comparisons to determine subsidies could present problems; however, cost comparisons could be used as a substitute for rates.

The costs compared should include all costs incurred by the borrowers in providing electricity to their consumers. Cost comparisons could be made between the borrower and neighboring electric systems or the average costs of urban systems within a State or region, or nationwide standards could be developed. We tend to favor a regional comparison because it would be simpler to administer than individual or State comparisons and would still provide a comparison with urban areas in reasonably close proximity to the rural areas served by REA borrowers.

While total costs (and rates) should be given prime consideration in developing an equitable system of correlating assistance with needs, we recognize that the various cost elements making up total costs, such as the costs of distribution and power, are logical concerns for REA. To deal with this concern, a loan formula could be developed that balances program objectives so that benefits are allocated equitably among the distribution systems. Since the program's basic justification is the higher costs associated with the distribution of electricity in sparsely populated rural areas, greater weight should be assigned to the systems' distribution costs.

Borrowers currently apply for REA loans on the basis of a 2-year construction plan. Therefore, the amount and type of subsidy a borrower would receive could be determined every 2 years. In this way, changes in the borrowers' situations could be considered periodically.

The changes we are recommending are substantive, and changes to the criteria for loans made at the special 2-percent rate would require new legislation. Therefore, we believe REA should develop a specific plan for implementing these changes for consideration by the appropriate legislative committees to better achieve the Congress' objective of encouraging financial self-sufficiency and to achieve a more equitable method of providing subsidized loans to borrowers. The plan should be in the form of proposed legislation which could serve as the subject of congressional hearings in order to obtain the views of various interested parties.

RECOMMENDATION

We recommend that the Secretary of Agriculture direct the Administrator of REA to develop a legislative plan for revising the policies for making insured loans to rural electric distribution systems. As a part of this plan new criteria should be developed, based on cost comparisons with urban electric systems, for determining the subsidized loans needed, if any, by the systems to help enable them to charge

comparable electric rates. The criteria should be applied, on a 2-year cycle, to all borrowers requesting loans. Borrowers that can qualify for non-REA loans at reasonable rates and terms and are not in need of a subsidized loan to charge comparable electric rates should be ineligible for REA assistance.

AGENCY COMMENTS AND OUR EVALUATION

USDA stated that REA is making a detailed evaluation of long-range program objectives, regulations, and criteria which might be applied in determining borrowers' qualifications. USDA said that, because of the need for an expanded insured loan program to guarantee the ability to supply electric energy for rural areas, changes might be required to achieve equitable delivery of benefits of the insured loans and an internal study was initiated in mid-1979. It said that changes may also be necessary to assure that the Rural Electrification and Telephone Revolving Fund will continue to meet future loan needs while maintaining some rational relationship to the prevailing money market rates. USDA expects that recommendations for changes will be made in fiscal year 1981.

We commend USDA's action to study the program and its intention to recommend appropriate changes. We would like to emphasize that our recommendations seek to have loan subsidies determined on the basis of what each borrower needs to help them charge reasonable electric rates. We have recommended one way of accomplishing this, but there may be other equally satisfactory ways of achieving the same objective.

After receiving USDA's comments, we met with REA officials to learn more about REA's internal study. The study appears to be rather informal. Although the individual directing the study said he had a rough draft of a study outline, no official study proposal exists describing such matters as the study's scope and timetable. Also, individuals working on the study do so intermittently. According to the study director, the estimated completion date is September 1981. If the internal study is to fully and adequately consider the many matters cited by USDA and by REA officials, and do so in a timely manner, we believe it should be carried out more formally, with an approved study proposal and full-time staff.

Although some comments USDA made could imply otherwise, we are not questioning the continued need for REA's insured loan program to finance electric facilities needed in rural areas. Rather, we believe that loan policy changes along the lines we are recommending would result in a more equitable

distribution of funds and better achieve the program's objective as set forth in the Congress' policy declaration.

USDA made a number of comments concerning our methodology and on data included or not included in the report. These comments are discussed below.

1. USDA believes we were remiss in reaching conclusions about the electric program without considering the role of the power supply systems.

   We disagree. Our review looks at borrowers' relative needs as determined by their ability to provide residential consumers electricity at rates comparable to their neighboring IOUs. While the costs of wholesale power would be a prime determinant of the rates charged, the source of the power, whether it be a power supply cooperative, an IOU, or a Federal power agency, would not in our view be important.

2. According to USDA, there is no support in the report for statements regarding the availability and potential costs of non-REA financing.

   The amount of funds which non-REA lenders would have to make available under our recommendations would depend on the specific criteria developed to implement them. In developing the proposed legislative plan we are recommending, we would expect that REA would test different criteria to determine the amounts of funding levels which might be required from REA and non-REA sources. We note also the statement by CFC officials that CFC is structured to allow for increased amounts of financing.

   The potential costs of non-REA financing would depend upon the financial market at the time the loans are made, which would be difficult to predict. We did, however, determine the impact increased interest costs would have on the costs and rates of selected borrowers using the CFC interest rates as a basis for our calculations.

3. USDA stated that the report fails to consider the extent of assistance, particularly tax benefits, supplied to other segments of the electric utility industry.

While IOUs are, under Federal income tax laws, eligible for investment tax credits and other tax benefits which are a form of subsidy, nearly all REA distribution system borrowers are nonprofit, cooperative associations and fully exempt from Federal income taxes.

Municipalities and other State and local government bodies are not only exempt from income and other forms of taxes but can also subsidize electric rates through local taxes and borrow money at low-interest rates through the issuance of tax-exempt securities. These securities, which can be issued to finance the construction of electric facilities as well as streets, schools, and other public facilities, provide a significant subsidy by foregoing income taxes on the lenders' interest earnings.

The fact that publicly owned electric utilities can be heavily subsidized is the reason why we do not believe they should be compared with distribution systems in determining a loan applicant's need for an REA-subsidized loan. To do otherwise would be tantamount to determining the need for a subsidy under one program on the basis of artificial standards set under another subsidy program.

4. In discussing GAO's opinion that the criteria for making insured loans should be revised to more equitably distribute assistance, USDA stated that the statutory criteria for making 2-percent loans were revised in 1976 to correct unintended inequities.

One of the criteria for qualifying for a 2-percent loan set forth in the 1973 amendments to the Rural Electrification Act of 1936 was that an applicant must have an average gross revenue per mile of line of at least $450 less than the average of other REA borrowers. Events following the 1973 amendments raised the fuel costs of many borrowers that did not have access to low-cost hydroelectric power. As a result, many borrowers with low power costs met the revenue-per-mile test simply because other borrowers had increased their rates and hence their revenue per mile of line. The revenue-per-mile-of-line criterion was deleted to eliminate this anomaly. Our recommendation for revising the criteria for making insured loans is far broader than what was accomplished in 1976.

APPENDIX I

COMPARISON OF SELECTED RATIOS

FOR BORROWERS WITH HIGHER AND LOWER ELECTRIC

RATES THAN NEIGHBORING IOUs

Description of ratio	All borrowers reviewed (110) (Average)	Borrowers with higher electric rates (55) (Average)	Borrowers with lower electric rates (55) (Average)
Distribution plant/ net utility plant	120.8%	120.4%	121.2%
Number of consumers/ total miles energized	3.9	4.2	3.5
Distribution expense (O & M)/total expense (O & M)	12.3%	11.0%	13.6%
MWH/miles of line	59.4	55.2	63.6
Total KWH sold/number receiving service	16,701	14,684	18,718
Distribution expense (O & M)/total MWH sold	$3.03	$3.38	$2.67
Cost of purchased power/ total cost of electric service and patronage capital and operating margins	54.7%	60.4%	49.0%
Operating revenue and patronage capital/ total miles energized	$1,851	$2,093	$1,609
Average monthly KWH/ residential consumers	950	773	1,126
Operating revenue and patronage capital/ total MWH sales of electric energy	$34.07	$41.26	$26.88

APPENDIX I

Description of ratio	All borrowers reviewed (110) (Average)	Borrowers with higher electric rates (55) (Average)	Borrowers with lower electric rates (55) (Average)
Revenue (less cost of power)/MWH	$15.36	$17.31	$13.42
Cost of power/MWH	$18.71	$23.96	$13.46
Total operation and maintenance expense/ MWH	$26.40	$32.40	$20.39
Commercial and industrial KWH/total KWH	26.7%	31.2%	22.3%
Plant revenue ratio	7.12	6.93	7.32
Adjusted plant revenue ratio	6.79	6.85	6.72
Equity ratio	31.3%	25.7%	36.8%
Total margins/operating revenue	8.3%	6.8%	9.7%
Operating revenue and patronage capital/net utility plant	49.3%	53.5%	45.2%
Operating revenue and patronage capital/ operation and maintenance expense	132.0%	128.9%	135.1%
Operating revenue and patronage capital/ distribution expense (O & M)	1,237.5%	1,380.1%	1,094.9%
Operating revenue and patronage capital/ distribution expense (maintenance)	2,339.7%	2,632.4%	2,047.0%

APPENDIX I

Description of ratio	All borrowers reviewed (110) (Average)	Borrowers with higher electric rates (55) (Average)	Borrowers with lower electric rates (55) (Average)
Power and transmission cost/operating revenue and patronage capital	53.2%	57.1%	49.2%
Operating revenue and patronage capital/consumer accounts expense	3,053.5%	2,986.8%	3,120.2%
Operating revenue and patronage capital/administrative and general expense	1,169.1%	1,388.8%	949.4%
Rate of return	4.6%	4.7%	4.6%
Patronage capital retired/total patronage capital (note a)	18.1%	12.9%	22.0%
Patronage capital or margins (less construction funds)/margins	13.2%	16.4%	9.9%
Patronage capital and operating margins/operating revenue and patronage capital	5.4%	4.9%	6.0%
Operating revenue and patronage capital/power production and cost of power	208.9%	195.8%	222.0%
Internal cash flow/projected annual construction budget (note a)	48.9%	47.3%	50.1%

a/Ratio not applicable to all borrowers reviewed.

APPENDIX I

Description of ratio	All borrowers reviewed (110) (Average)	Borrowers with higher electric rates (55) (Average)	Borrowers with lower electric rates (55) (Average)
Times interest earned ratio	3.80	3.01	4.60
Average times interest earned ratio	4.24	3.00	5.48
Debt service coverage	2.18	2.03	2.33
Average debt service coverage	2.21	2.01	2.40
Modified debt service coverage	1.95	1.83	2.07
Total long-term debt/ total assets and other debits	62.8%	68.8%	56.8%
Construction work in progress/plant additions (note a)	38.2%	30.9%	45.7%
Total current and accrued assets (less electric and other material and supplies)/ total current and accrued liabilities	296.3%	344.9%	247.7%
Transmission expense/ total MWH sold (note a)	$0.08	$0.05	$0.13
Transmission expense/ total operation and maintenance expense (note a)	.5%	.2%	.8%

a/Ratio not applicable to all borrowers reviewed.

APPENDIX II

RANGE OF EQUITY RATIOS FOR BORROWERS WITH AN AVERAGE TIER OF 2.5 OR MORE PRIOR TO LOAN APPROVAL

Equity ratio	Total		5% borrowers		2% borrowers		Borrowers with higher rates than IOUs		Borrowers with lower rates than IOUs	
	No.	Cum. %	No.	Cum. %	No.	Cum. %	No.	Cum. %	No.	Cum. %
Less than 10	0	-	0	-	0	-	0	-	0	-
10 - 19.99	12	17	9	18	3	15	4	14	8	20
20 - 29.99	11	33	6	31	5	40	4	29	7	37
30 - 39.99	16	57	11	53	5	65	11	68	5	49
40 - 49.99	12	74	11	76	1	70	6	89	6	63
50 - 59.99	8	86	5	86	3	85	3	100	5	76
60 - 69.99	8	97	5	96	3	100	0	100	8	95
70 - 79.99	2	100	2	100	0	100	0	100	2	100
80 or more	0	100	0	100	0	100	0	100	0	100
Total	69	100	49	100	20	100	28	100	41	100

APPENDIX III

AVERAGE VALUES FOR THE RATIO OF INTEREST EXPENSES TO TOTAL REVENUES FOR ELECTRIC DISTRIBUTION BORROWERS BY QUARTILE CALENDAR YEARS 1976-78

Calendar year	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
	Average value	Number of borrowers	Average value	Number of borrowers	Average value	Number of borrowers	Average value	Number of borrowers
	(percent)		(percent)		(percent)		(percent)	
1976	1.50	218	3.53	217	4.87	218	7.75	217
1977	1.52	218	3.41	218	4.71	218	7.74	217
1978	1.55	218	3.41	218	4.73	217	7.78	217

Note: Based on data reported by 870 electric distribution borrowers.

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

FEB 15 1980

Mr. Henry Eschwege
Director
Community and Economic Development
Division
U. S. General Accounting Office
Washington, D. C. 20508

Dear Mr. Eschwege:

This is in response to your request of December 21, 1979, for comments from this Department and the Rural Electrification Administration on the draft report to Congress entitled, "Loan Policies for Rural Electric Distribution Systems: Changes Needed to Encourage Financial Self-Sufficiency of Borrowers and More Equitably Distribute Assistance." The general comments contained herein respond to the major thrust and content of the draft report, while the supplemental comments and other attachments relate to the detailed analyses and methodologies utilized in the report.

The digest of the report singles out one declaration of congressional policy to the effect that ". . . rural electric systems should be encouraged to achieve the financial strength needed to enable them to satisfy their credit needs from non-REA sources at reasonable rates and terms" contained in the preamble to the statute enacted on May 11, 1973, Public Law 93-32 (87 Stat. 65) which amended the Rural Electrification Act ("Act") of 1936. This reference failed to include such phrases as ". . . adequate funds should be made available . . . through direct, insured and guaranteed loans at interest rates which will allow them to achieve the objectives of the . . . Act . . . at reasonable rates and terms consistent with the loan applicant's ability to pay and achievement of the Act's objectives," which are also included within that same preamble. The preamble must be looked at in its entirety in order to fully appreciate the congressional policy contained therein.

The 1973 Act added a Section 307 to the Rural Electrification Act of 1936, which provided that the REA Administrator:

> "may request the loan applicant to apply for and accept such a loan concurrently with a loan insured at the standard rate, subject, however, to full use being made by the Administrator of the funds made available hereunder for such insured loans . . ." (Underlining added.)

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Subsequent to the 1973 amendments, Congress reaffirmed its intention that the timing and manner for requiring borrowers to secure higher cost non-REA financing is a matter for the Congress to determine. This reaffirmation took the form of authorizing adequate amounts of insured loan funds and instructions to the Department in House and Senate Appropriations Committees' reports directing REA to continue the concurrent electric loan policies now in effect. The draft report does not fully consider Section 307 or the directives in the Committees' reports.

Even without an increase in the percentages of required non-REA financing, and with only a technical change in the Act to correct unintended inequities in the criteria for 2 percent loans, the percentage of the total long-term financing needs of REA electric borrowers provided by REA direct or insured loans decreased from 100 percent in FY 1970 to 14.8 percent in FY 1979. This has resulted in the average interest rate that all electric borrowers pay for their long-term loan needs increasing from 2 percent in FY 1970 to 8.3 percent in 1979. Interest costs on loans to power supply borrowers are included in these calculations inasmuch as these interest costs are included in the cost of power purchased by the distribution borrowers which are the owners of these power supply systems. This increase in total interest costs to all borrowers is shown in the attachments.

The report covers only distribution borrowers, yet the Act covers generation and transmission borrowers as well. This point was called to the agency's attention in the 1975 Senate hearings on proposed revisions to REA Bulletin 20-6 when the Senate rebuffed what it considered to be an attempt to discriminate in lending policy against the generation and transmission borrowers. Excerpts from those hearings are attached. It is somewhat disingenuous to reach program conclusions without considering the role of the power supply systems which are wholly owned by the distribution systems they serve and responsible for providing their power supply needs.

The draft report states on page 2 that "the Act's objective of providing central station service . . . has long since been accomplished." This statement does not take into account the population and industrial growth in rural areas and the continuing need to replace and improve existing facilities. There is attached a copy of a letter of October 18, 1979, to Mr. Richard A. Hart of your office, concerning the objectives of the rural electrification program and a copy of Senate Report No. 703, dated August 13, 1959, entitled "Interpretation of Rural Electrification Act of 1936," better known as the Aiken Resolution. These documents illustrate the intent of the Congress "to provide continued service to persons who are already being served with the aid of REA funds." Furthermore,

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as recently as December 20, 1979, President Carter, in outlining his "Small Community and Rural Development Policy," indicated the benefit to the Nation of assuring that the need for ". . . dependable energy supplies . . . (is) . . . met in small communities and rural areas . . ."

There is no support in the draft report for statements regarding the availability and potential costs of non-REA financing. The report also fails to consider the extent of assistance, particularly tax benefits, supplied to other segments of the U. S. electric utility industry.

The draft report specifically recommends that REA review the current criteria in the Act "to more equitably distribute assistance." The present criteria were established in the 1973 Act and amended in the 1976 Act to correct unintended inequities which had developed since 1973. As recently as December 1978, the President announced that he had no plans for further changes in the rural electrification program, and committed the Administration to consult with borrowers prior to initiating changes.

REA is making a detailed evaluation of long-range program objectives, regulations, and criteria which might be applied in determining borrowers' qualifications for insured loans. We are sensitive to the concerns of the President to eliminate unnecessary regulations, simplify agency processes, and make loan programs responsive to real needs of rural America.

Because of the need for an expanded insured loan program to guarantee the ability to supply electric energy for rural areas, changes might be required to achieve equitable delivery of benefits of the insured loans and an internal study was initiated in mid-1979 and is ongoing at this time. We expect to make recommendations in fiscal year 1981. Definitive recommendations prior to that time will be difficult because of changes taking place in rural areas; demographic changes which bear directly upon electric power demands; changes in national energy policy which affect electric usage; and ever increasing lengthening planning and construction periods for electric generation which could create uncertainty of supply. Nevertheless, when the results of two studies being completed under contract and information being gathered directly from borrowers on current electric usage are in hand, we believe detailed recommendations can be made by the end of 1980.

Some legislative changes to the insured loan program may prove to be necessary to assure that the Rural Electric and Telephone Revolving Fund will continue to meet future loan needs, while still maintaining

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some rational relationship to the prevailing money market rates. Further study may also indicate that other legislative changes are needed in the RE Act to permit rural electric systems to undertake urgently needed participation in such areas as alternative energy technologies, conservation practices and fuel resource acquisition.

There can be no doubt, however, that the continuation of the insured and guaranteed loan programs is essential to the economic well-being of the rural electric systems and, therefore, to preserving the government's security interest in loans already made. The RE Act has been constantly interpreted by the Congress to indicate its support for a continuing financing program for rural electrification in order that systems now in place can deliver benefits equitably, now and in the foreseeable future.

We appreciate the opportunity to comment on this draft report.

Sincerely,

Bob [illegible]
Secretary

5 Attachments [See GAO note.]

GAO note: The attachments were considered in finalizing the report but are not reproduced herein.

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