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Comptroller General

RELEASED

OF THE UNITED STATES

Long-Term Cost Implications Of Rural Electrification Administration Direct And Guaranteed Loan Programs

The Rural Electrification Administration provides loans for extending and improving rural electric and telephone service. In fiscal year 1980 it expects to lend over $6 billion.

This report, requested by the Subcommittee on Agriculture, Rural Development, and Related Agencies, Senate Committee on Appropriations, estimates the future costs of increased funding in each Rural Electrification Administration loan program.

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UNITED STATES GENERAL ACCOUNTING OFFICE

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DECEMBER 31, 1979

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

B-114838

The Honorable Thomas F. Eagleton
Chairman, Subcommittee on
Agriculture, Rural Development, 317
and Related Agencies
Committee on Appropriations
United States Senate

Dear Mr. Chairman:

AGC00370

This report is the response to your February 15, 1978, request that GAO project the long-term costs of Rural Electrification Administration (REA) loan programs. As you requested, we based our estimates on the same methodology described in our recent report "Long-Term Cost Implications of Farmers Home Administration Subsidized and Guaranteed Loan Program," PAD-79-15, April 24, 1979. AGC00371

Since it was formed in 1936, REA has lent over $30 billion to improve and extend telephone and electric service through its electric, telephone, and Rural Telephone Bank programs. Over 80 percent of this amount has funded electrification programs. In the past 3 years REA loan programs have increased about 40 percent, from $2.6 billion in 1976 to $3.6 billion in 1978. In 1980, loan and guarantee commitments are expected to exceed $6.3 billion, which represents about 5 percent of all Federal credit assistance.

Of the seven current REA rural utility loan programs (four telephone and three electric) five are direct, or "insured" loan programs and two are guaranteed loan programs:

1. Telephone loans, insured at a special rate of 2 percent interest,

2. Electric loans, insured at a special rate of 2 percent interest,

3. Telephone loans, insured at a standard rate of 5 percent interest,

4. Electric loans, insured at a standard rate of 5 percent interest,

5. Rural Telephone Bank loans,

6. Telephone loans, guaranteed, and

7. Electric loans, guaranteed.

SUBSIDIES FROM DIRECT AND GUARANTEED LOANS

Direct loans are loans the Federal Government makes at interest rates below those charged by private lenders. Guaranteed loans are made by private lenders at interest rates lower than those charged in the absence of Federal credit assistance programs, plus a fee or premium the Government sometimes receives to cover its administrative and insuring activities. If the interest rate that the Government charges on its direct loans or the fee it requires on guaranteed loans is not high enough to cover its own expenses, the Government incurs losses. These losses constitute a direct subsidy to the assisted borrowers from the Nation's taxpayers.

SCOPE OF REVIEW

Our report does not evaluate program benefits or their management, nor does it attempt to compare their effectiveness. Rather, we identify and estimate the various cost elements in the loan programs, and present our framework for making such estimates.

To estimate the administrative costs of the various loan programs, we used documents given to us by REA. As you requested, we did not obtain formal comments from REA officials.

METHODOLOGY

Cost concept

The cost concept used here is that of money cost, not opportunity cost. Money cost measures the amount of money needed to acquire a good or service. The opportunity cost of acquiring a good or service measures the highest valued good or service necessarily forsaken, and for our purposes, such cost projections are not relevant.

REA's loan arrangements

We based our cost estimates on a hypothetical one-time increase of $10 million for each REA loan program and on REA's current loan arrangements as described below.

REA loans mature within 35 years, including the periods during which only interest is paid on funds advanced. REA generally advances one-third of the loan amount per year over a 3-year period. During this 3-year period, only interest on the funds advanced is required to be paid--a grace period on principal repayment. Once the loan has been fully awarded, another grace period of 3 years on the principal is allowable. Thus, repayment of principal can be amortized over 29 years, beginning 6 years after the first advance.

Direct loans

REA incurs four categories of costs with respect to direct or insured loans: interest, default, delinquency, and administration.

Interest costs

Interest costs on a direct loan are a subsidy that is roughly the difference between the interest rate REA charges its borrowers and the cost to REA for borrowing money from the Federal Financing Bank, REA's main source of loan funds. 1/ REA lending rates vary by program and currently range from 2 to 8.0 percent. 2/ We used an REA borrowing rate of 8.5 percent to calculate the direct interest subsidy. 3/ In estimating interest cost, we assumed that REA funds one-third of the loan request in each of 3 years and allows 3 additional grace years. Thus, during the first 6 years only, a borrower pays interest on the amount of the loan outstanding, and over the next 29 years pays back the principal plus interest on the loan's face amount.

1/The actual costs are found by scheduling the two payments and determining the difference in the flow of funds into and out of REA.

2/The Rural Telephone Bank interest rate in August 1979 was 8.0 percent.

3/More recently (October) rates paid by the REA on Certificates of Beneficial Ownership sold to the Federal Financing Bank have ranged from 9.2 to 10.3 percent. We have used the 8.5 percent rate in calculating the subsidy because that was the rate prevailing when we made our analysis.

Default

Defaults on REA loans have been extremely rare. In the agency's 43-year history, total default losses are under $50,000. The cost of default would be the principal on the loan that is not recovered, net of any collateral received upon foreclosure. We have not estimated the cost of default for REA's loan programs. However, if estimates were made based upon the past, the costs would be a negligible portion of total program costs.

Delinquency costs

REA defines delinquent payments as payments overdue more than 30 days. Delinquent payments can consist of interest or principal, or both. Since 1960, delinquent borrowers have numbered between 2 and 10 at the end of each fiscal year, a very small percent of REA's roughly 2,000 borrowers. With late payments, REA in effect provides short-term credit to its borrowers for the period the payment is overdue. The cost to REA is the interest it must pay for funds borrowed from the Federal Financing Bank. Thus, if a loan payment of $1,000 on a 2 percent loan is delinquent for 2 months, it costs REA approximately $11 ($1,000 times the interest subsidy of 6.5 percent per year times 1/6 year). For purposes of estimating delinquency costs, we assumed that the reported year-end delinquencies fairly approximate the payments that are in delinquent status at any given time throughout the year. Thus, delinquency costs reflect the cost of REA providing short-term credit for the corresponding amount for a period of 12 months. Estimated delinquency costs over the 35-year period ranged from $4,000 to $6,000, depending on the program.

Administrative costs

Since our cost estimates are based on a one-time increase in lending authority in each REA loan program, administrative costs may not rise. We estimate that less than 25 new loans would result. REA may be able to absorb the additional loan activity with current staff and resources. Thus, uncertainty exists about administrative cost estimates.

REA does not allocate its administrative costs in a manner that allows us to determine the cost of making an additional new loan. Unlike a commercial bank that loans to a large and changing clientele, virtually all REA loans are to repeat borrowers. Thus, to distinguish between what the banking industry calls loan origination (or pre-loan activity) and normal loan servicing activity, is not practical at REA because these two activities are similar.

Using REA data, we estimated the costs of making loans as if REA were a regular bank. Admittedly, the cost we report may not fairly represent REA's, particularly since the administrative costs could be zero.

In our estimate, administrative costs consist of loan origination costs and loan servicing costs. Origination efforts occur before the loan, and servicing is required after a loan is approved. We expect that servicing declines as a loan ages. Thus, most of the administrative costs incurred in a loan's early years reflect the origination process and the higher servicing efforts needed during that period. The administrative costs of loan origination and loan servicing do not appear to be a major cost concern at this time, since our estimate is less than one percent of the loan subsidy in all REA loan programs.

Guaranteed loans

REA guarantees loans it would have made to its borrowers but are made instead by the Federal Financing Bank or private institutions. The terms and interest rate are negotiated between lender and borrower. The Federal Financing Bank has been the borrower's primary choice for guaranteed loans because it charges an interest rate lower than that commercially available. When the Federal Financing Bank makes loans guaranteed by REA, no net interest cost to the government arises. REA guaranteed loan costs are for administrative efforts only. Administrative costs are projected in the same way as in the direct loan programs. Since the guarantee programs are not interest subsidized by REA, no delinquency costs are expected. 1/

1/Federally guaranteed loans are not costless to the economy as a whole since they tend to divert funds from other private borrowers who do not have the benefits of a government guarantee.

FINANCING REA LOANS

The Federal Financing Bank and the Rural Electrification and Telephone Revolving Fund all provide funds for REA loans. Rural Electrification and Telephone Revolving Fund loans are made at subsidized interest rates. Rural Telephone Bank (RTB) loans do not constitute a subsidy because the RTB does not incur losses on the interest rates it charges borrowers. The Federal Financing Bank has agreed to provide loan funds to rural electric and telephone systems financed with REA guarantees up to a specified total, subject to revision as required. As a guarantor of loans made by other lenders, unless the borrower defaults, REA's only costs are for loan administration. 1/

COST PROJECTIONS

We estimated the likely costs to REA during the next 35 years of a one-time increase of $10 million for each REA loan program. If funding increased more than $10 million, interest costs would increase proportionally (other costs may or may not increase as explained above). In estimating REA costs, we identified four major cost elements--interest, delinquency, administration, and default. Appendix I is a detailed cost breakout for each REA program. Though loan payments are received quarterly, we report only the first 10 years and cumulative costs for 10, 20, 30, and 35 years.

The direct interest subsidy accounts for 99 percent of total costs of the direct loan programs. Administrative costs account for about 1 percent of direct loan program costs and account for all costs in the guaranteed programs. Delinquency and defaults appear to be a minor cost consideration in all programs.

As shown in table 1, the 2 percent insured loan programs will result in total costs of about $17 million, or 170 percent of the initial loan amount over the 35-year period. Total costs of the standard 5 percent insured loan program are nearly $10 million, or 100 percent of initial loan value. Thus, the higher lending rate of 5 percent results in a reduction in expected costs of over $7 million.

1/By law, guaranteed loans are not included in Federal budget totals. They are exempt from general limitations imposed by statute on Federal expenditures and budget outlays.

The Rural Telephone Bank's costs of $93,000 reflect administrative cost only because this program does not subsidize interest rates.

The guaranteed telephone and electric programs incur administrative expenses only and their projected total costs are $43,000 and $47,000, respectively.

On a per-dollar-program basis, the guaranteed loan programs are the least costly because their costs are solely for administrative review, approval, and servicing. Total costs of the guaranteed programs, as a percentage of loan value, were about 0.45 percent.

COST SUMMARY OF INDIVIDUAL LOAN PROGRAMS
(Based on increased program funding of $10 million)

Insured telephone 2 percent loans

We estimate total interest costs of $17.1 million, or about 171 percent more than the initial loan. Administrative costs of $150,000 would be required to originate and service an estimated six new loans available from increased funding. Estimated delinquency costs are $5,000.

Insured electric 2 percent loans

Estimated interest costs amount to $17.1 million or 99 percent of total program costs of $17.2 million for the estimated six new loans. The estimated administrative and delinquency costs are $133,000 and $6,000, respectively.

Insured telephone 5 percent loans

Since recent loans have averaged about $5 million, we expect about two new loans to result from an additional $10 million of funding for this program. Estimated total subsidy costs reflecting interest, delinquency, and administration total $9.9 million. The interest costs, $9.8 million, are considerably less than for the 2 percent loan program. Estimated administrative and delinquency costs are $93,000 and $4,000, respectively.

Insured electric 5 percent loans

Total program costs are estimated at $9.9 million for our estimated 5 new loans. Interest costs, amounting to about $9.8 million, account for 99 percent of program costs, while administrative and delinquency result in estimated costs of $101,000 and $5,000, respectively.

Rural Telephone Bank loans

RTB loans carry interest rates equal to the cost of funds to the Bank, thus there is no direct interest subsidy on these loans. We estimate program costs of $93,000 for the administrative effort required for the two new loans.

Guaranteed telephone loans

Like the other REA guaranteed loan program, the total subsidy costs of about $43,000 reflect administrative costs only. With loans recently averaging $13 million, we expect that less than one new guaranteed loan would result from an additional $10 million.

Guaranteed electric loans

Our estimates are based on an incremental increase in loan volume of $10 million. In actuality, loan volume for this program has increased by $1 billion and our data on administrative costs reflect this level of activity. Therefore our estimate of administrative costs associated with a $10 million increase are the result of multiplying the expense associated with a $1 billion program by 0.01.

Table 1

Total REA 35-Year Program Costs a/
($ thousands)
per $10 Million of Lending Activity

Cost Element	Telephone Programs: Insured 2 Percent Rate	Telephone Programs: Insured 5 Percent Rate	Telephone Programs: Guaranteed	Telephone Programs: RTB	Electric Programs: Insured 2 Percent Rate	Electric Programs: Insured 5 Percent Rate	Electric Programs: Guaranteed
Interest	$ 17,053	$ 9,760	$ 0	$ 0	$17,053	$9,760	$ 0
Delinquency/ default	5	4	-	-	6	5	-
Administration	150	93	43	93	133	101	47
Total	$ 17,208	$ 9,857	$43	$93	$17,192	$9,866	$47
Estimated new loans	6	2	0.8	2	6	5	0.08

a/Based on a hypothetical one-time increase of $10 million for each REA program.

CONCLUSIONS

This report projects the long-term costs associated with the various loan programs managed by the Rural Electrification Administration. Probably more important, it provides a basic framework or methodology to arrive at these estimates.

We realize that estimates may be improved, if better data are available and if our methodology is refined periodically to take into account administrative, and to a lesser degree, delinquency and default costs. We feel that the availability of such data would facilitate the needed refinements.

Our estimates are for the additional REA out-of-pocket costs associated with an enlarged program. It is reasonable to expect that savings of a similar magnitude could be realized with a smaller program. As we have pointed out, REA costs are not the same as the cost to the Government or to the economy. In July, we published an Exposure Draft--"A Methodology for Estimating Costs and Subsidies from Federal Credit Assistance Programs," PAD-79-5, July 17, 1979. This report estimates the past cost of credit assistance programs. Copies of the Exposure Draft are provided at this time as an independent enclosure.

As arranged with your office, we are sending copies of this report to the Secretary of Agriculture. Copies are also available to other interested parties.

Sincerely yours,

Elmer B. Staats

Comptroller General
of the United States

Enclosure

APPENDIX I

REA INSURED ELECTRIFICATION LOANS: 2 PERCENT SPECIAL RATE

(FY 79 Authorization - $700 million)

Loan Data: Statutory Authorization: Section 305, Rural Electrification Act of 1936, as amended P.L. 93-32. Type of Credit Aid: Insured Loans. Loan Term: Maximum term of 35 years. Interest Rate: 2 percent. Loan recipients include rural electric cooperatives, public utility districts, and power companies.

The table below shows the expected costs for $10 million additional lending authority. Six additional loans are expected.

Year	Interest Cost a/	Delinquency Cost b/	Administrative Cost c/	Total Costs
1	$ 216,700	$ -0-	$ 63,000	$ 279,700
2	433,300	-0-	3,000	436,300
3	650,000	-0-	3,000	653,000
4	650,000	2,000	2,000	654,000
5	650,000	2,000	2,000	654,000
6	650,000	1,000	2,000	653,000
7	649,300	1,000	2,000	652,300
8	647,100	-0-	2,000	649,100
9	644,400	-0-	2,000	646,400
10	641,100	-0-	2,000	643,100
10-Year Costs	$ 5,831,900	$6,000	$ 83,000	$ 5,920,900
20-Year Costs	$11,879,200	$6,000	$103,000	$11,988,200
30-Year Costs	$16,273,000	$6,000	$123,000	$16,402,000
35-Year Costs	$17,052,700	$6,000	$133,000	$17,191,700

35-Year Cummulative Cost Summary:

Interest:	$17,052,700
Delinquency:	6,000
Administration:	133,000
Total	$17,191,700

APPENDIX I

a/Interest Costs - The interest cost on the insured 2 percent telephone loan program is the difference between the interest rate that REA lends funds--2 percent--and the rate REA pays the Federal Financing Bank (FFB) for borrowed funds. REA has recently been paying the FFB 8.5 percent. These direct loans cannot exceed 35 years maturity, including up to 6 years grace on principal repayment. Our cost estimates are based on 35 years, taking full advantage of the grace period which requires an amortized period for principal repayment of 29 years.

b/Delinquency Costs - The annual delinquency cost is derived by multiplying the average annual delinquency rate experienced since 1968--0.5 per cent--times the annual amortized loan payment payable to REA, $426,000 times 35 years, times the interest subsidy of 6.5 percent. In the past, most delinquencies occurred early in the loan period; therefore we have adjusted these costs. As the loan matures, annual delinquency rates decline, reducing annual delinquency costs until the sixth year, after which no additional delinquency costs are expected.

c/Administrative Costs - Administrative costs are loan origination costs (pre-loan activity) and servicing costs. Loan servicing consists of (1) engineering or other technical advice during the construction of telephone facilities, and (2) the normal servicing efforts of loans which are required once a system becomes operational. We base our estimates on an average construction period of 2 years. Based on REA data, we estimated origination and construction monitoring costs of $9,000 and $1,100, respectively, per loan and annual servicing costs of $1,700. Since the incidence of defaults is low, we assume that administrative costs will not be affected. First year administrative costs of $60,000 include $57,000 in origination costs and $3,000 in construction-related loan servicing efforts. Second year costs of $7,000 reflect construction-related servicing only, while third year costs of $9,000 include $5,000 for construction-related servicing and $4,000 for normal loan servicing efforts. Commencing with the fourth year after an application is made, annual administrative costs reflect normal loan servicing efforts only. As the need for servicing declines, which in this program consists primarily of trips by REA field personnel to inspect the various systems and periodic review of their financial statements, annual servicing costs decline gradually until an expected annual cost of $2,000 is reached in the seventh year. After 7 years, we assume it will remain constant during the remaining life of the loan.

APPENDIX I

REA INSURED ELECTRIFICATION LOANS: 2 PERCENT SPECIAL RATE

(FY 79 Authorization - $700 million)

Loan Data: Statutory Authorization: Section 305, Rural Electrification Act of 1936, as amended P.L. 93-32. Type of Credit Aid: Insured Loans. Loan Term: Maximum term of 35 years. Interest Rate: 2 percent. Loan recipients include rural electric cooperatives, public utility districts, and power companies.

The table below shows the expected costs for $10 million additional lending authority. Six additional loans are expected.

Year	Interest Cost a/	Delinquency Cost b/	Administrative Cost c/	Total Costs
1	$ 216,700	$ -0-	$ 63,000	$ 277,700
2	433,300	-0-	3,000	436,300
3	650,000	-0-	3,000	653,000
4	650,000	2,000	2,000	654,000
5	650,000	2,000	2,000	654,000
6	650,000	1,000	2,000	653,000
7	649,300	1,000	2,000	652,300
8	647,100	-0-	2,000	649,100
9	644,400	-0-	2,000	646,400
10	641,100	-0-	2,000	643,100
10-Year Costs	$ 5,831,900	$6,000	$ 83,000	$ 5,920,900
20-Year Costs	$11,879,200	$6,000	$103,000	$11,988,200
30-Year Costs	$16,273,000	$6,000	$123,000	$16,402,000
35-Year Costs	$17,052,700	$6,000	$133,000	$17,191,700

35-Year Cummulative Cost Summary:

Interest:	$17,052,700
Delinquency:	6,000
Administration:	133,000
Total	$17,191,700

APPENDIX I

a/Interest Costs - The interest cost is the difference between the interest rate at which REA lends funds, and the rate REA pays FFB for borrowed funds. (Recently, REA borrowing has been at 8.5 percent.) These direct loans cannot exceed 35 years maturity, including 6 years of grace on principal repayment. Since our estimate is based on 35 years, the amortized period of repayment of principal is 29 years.

b/Delinquency Costs - REA defines delinquencies as those payments overdue more than 30 days. The estimated annual delinquency cost is derived by applying the average annual delinquency rate since 1968 of 0.66 percent to the annual amortized loan payment of $426,000 over 35 years times the interest subsidy of 6.5 percent. We expect most delinquencies to occur in the earlier years of the loan. Accordingly, we have adjusted the annual delinquency rates.

c/Administrative Costs - Administrative costs consist of loan origination and loan servicing. Delinquencies are assumed to add negligibly to the administrative effort. Loan servicing consists of (1) assistance provided during the construction phase of a project, and (2) normal outstanding loan servicing. We assume an average construction period of 18 months. Data provided by REA indicated that originating a loan costs $9,800, construction servicing costs $500 per loan, and normal servicing costs are estimated at $500 per loan, which we expect to decline modestly as the loan ages or matures.

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REA INSURED TELEPHONE LOANS: 5 PERCENT STANDARD RATE

(FY 79 Program Authorization - $160 million)

Loan Data: Statutory Authorization: Section 305, Rural Electrification Act of 1936, as amended P.L. 93-32. Type of Credit Aid: Insured Loans. Loan Term: Maximum term of 35 years, including 3-year grace period. Interest Rates: 5 percent. Loan recipients are generally public bodies, persons, or cooperatives.

The table below shows the expected costs for $10 million additional lending authority. Two additional loans are expected.

Year	Interest Cost a/	Delinquency Cost b/	Administrative Cost c/	Total Costs
1	$ 116,700	$ -0-	$22,000	$ 138,700
2	233,300	-0-	2,000	235,300
3	350,000	-0-	3,000	353,000
4	350,000	1,000	3,000	354,000
5	350,000	1,000	3,000	354,000
6	350,000	1,000	2,000	353,000
7	350,300	1,000	2,000	353,300
8	351,000	-0-	2,000	353,000
9	351,400	-0-	2,000	353,400
10	351,600	-0-	2,000	353,600
10-Year Costs	$3,154,300	$4,000	$43,000	$3,201,300
20-Year Costs	$6,586,300	$4,000	$63,000	$6,653,300
30-Year Costs	$9,257,800	$4,000	$83,000	$9,344,800
35-Year Costs	$9,759,600	$4,000	$93,000	$9,856,600

35-Year Cummulative Cost Summary:

Interest:	$9,759,600
Delinquency:	4,000
Administration:	93,000
Total	$9,856,600

APPENDIX I

APPENDIX I

a/<u>Interest Costs</u> - The interest cost is the difference between the interest rate at which REA lends funds (5 percent) and the rate REA pays FFB for borrowed funds. (Recently, the REA borrowing rate has been 8.5 percent.) Our estimates are based on the maximum maturity for these loans (35 years), including a maximum 6-year grace period for principal repayment. Thus, the amortized period of repayment is 29 years.

b/<u>Delinquency Costs</u> - The estimated annual delinquency costs were calculated by applying the annual rate of delinquency since 1968, 0.5 percent, to the annual loan payment $633,000 over 35 years, times the interest subsidy of 3.5 percent. We expect most delinquencies to occur in the earlier years of the loan and have adjusted our estimates accordingly. Following year 7, no additional delinquency costs are expected.

c/<u>Administrative Costs</u> - Administrative costs consist of loan origination costs (pre-loan activity) and servicing costs. Loan servicing consists of (1) providing engineering and other technical advice during the construction of telephone facilities, and (2) the normal loan servicing required once a system becomes operational. We base our estimates on an average construction period of 2 years. Based on REA data, we estimate the administrative costs of this program to equal those of the 2 percent insured program, origination costs of $9,000 per loan and servicing cost required during the construction phase of $1,100 per loan. Normal loan servicing costs are estimated at $1,700 per loan. We assume that the processing of defaults will have a negligible effect on administrative costs. First year administrative costs of $22,000 include $21,000 in origination costs and $1,000 in construction-related loan servicing efforts. Second year costs of $2,000 reflect construction-related servicing only while the third year costs of $3,000 include $2,000 for normal loan servicing efforts and $1,000 for construction-related servicing. The fourth year after an application is made, annual administrative costs reflect normal loan servicing efforts only. As the need for servicing declines, which consists primarily of inspection trips by REA field personnel to the various systems, annual servicing costs decline gradually to an annual cost of $2,000, in the sixth year.

REA INSURED ELECTRIC LOANS: 5 PERCENT STANDARD RATE

(FY 79 Program Authorization - $700 million)

Loan Data: Statutory Authorization: Section 305, Rural Electrification Act of 1936, as amended P.L. 93-32. Type of Credit Aid: Insured Loans. Loan Term: Maximum term of 35 years, including 3-year grace period. Interest rate: 5 percent. Loan recipients include electric cooperatives, public utility districts, and power companies.

The table below shows the expected costs for $10 million additional lending authority. Five additional loans are expected.

Year	Interest Cost a/	Delinquency Cost b/	Administrative Cost c/	Total Costs
1	$ 116,700	$ -0-	$48,000	$ 164,700
2	233,300	-0-	2,000	235,300
3	350,000	1,000	2,000	353,000
4	350,000	1,000	2,000	353,000
5	350,000	1,000	2,000	353,000
6	350,000	1,000	1,500	352,500
7	350,300	1,000	1,500	352,800
8	351,000	-0-	1,500	352,500
9	351,400	-0-	1,500	352,900
10	351,600	-0-	1,500	353,100
10-Year Costs	$3,154,300	$5,000	$ 63,500	$3,222,800
20-Year Costs	$6,586,300	$5,000	$ 78,500	$6,669,800
30-Year Costs	$9,257,800	$5,000	$ 93,500	$9,356,300
35-Year Costs	$9,759,600	$5,000	$101,000	$9,865,600

35-Year Cummulative Cost Summary:

Interest:	$9,759,600
Delinquency:	5,000
Administration:	101,000
Total	$9,865,600

APPENDIX I

a/ Interest Costs - The interest cost is the difference between the interest rate at which REA lends funds (5 percent) and the rate at which REA pays FFB for borrowed funds. (Recently, the REA borrowing rate has been 8.5 percent.) Our estimates are based on the maximum maturity for these loans, 35 years, which includes a possible 6-year grace period for principal repayment. Since our estimate is based on 35 years, to take full advantage of the grace period requires amortizing loan repayments over 29 years.

b/ Delinquency Costs - The estimated annual delinquency costs were calculated by applying the average annual rate of delinquency for the last 10 years, 0.66 percent, to the annual loan payment $633,000 over 35 years, times the interest subsidy of 3.5 percent. We expect most delinquencies to occur in the earlier years of the loan and have adjusted accordingly. Following year 7, no additional delinquency costs are expected.

c/ Administrative Costs - Administrative costs consist of loan origination and loan servicing costs. Loan servicing consists of assistance provided during the construction phase of a project and the normal outstanding loan servicing required. An average construction period of 18 months is assumed. Based on REA data, we estimate an average origination cost for 5 percent electrification loans at $9,000 per loan, construction servicing at $500 per loan, and normal loan servicing costs at approximately $500 per loan. We further expect normal loan servicing cost to decline as the loan ages or matures. Consequently, the annual cost of servicing loans is reduced, upon project completion, over the next 4 years until minimum annual servicing cost of $300 per loan is attained.

APPENDIX I

RURAL TELEPHONE BANK LOANS

(FY 79 Program Authorization - $185 million)

Loan Data: Statutory Authorization: Section 408, Rural Electrification Act of 1936, as amended P.L. 92-12. Type of Credit Aid: Insured Loans. Loan Term: Maximum of 50 years. (Management has limited loans to 35 years.) Interest rates: Based on average cost of funds to the Bank. Loan recipients are usually public corporations and cooperatives.

The table below shows the expected costs for $10 million additional lending authority. Two additional loans are expected.

Year	Interest Cost a/	Delinquency Cost b/	Administrative Cost c/	Total Costs
1	$ -0-	$ -0-	$22,000	$22,000
2	-0-	-0-	2,000	2,000
3	-0-	-0-	3,000	3,000
4	-0-	-0-	3,000	3,000
5	-0-	-0-	3,000	3,000
6	-0-	-0-	2,000	2,000
7	-0-	-0-	2,000	2,000
8	-0-	-0-	2,000	2,000
9	-0-	-0-	2,000	2,000
10	-0-	-0-	2,000	2,000
10-Year Costs	-0-	-0-	$43,000	$43,000
20-Year Costs	-0-	-0-	$63,000	$63,000
30-Year Costs	-0-	-0-	$83,000	$83,000
35-Year Costs	-0-	-0-	$93,000	$93,000

35-Year Cummulative Cost Summary:

Interest:	$ -0-
Delinquency:	-0-
Administration:	93,000
Total	$93,000

a/Interest Costs - Since the interest rate charged to borrowers by the RTB is equal to the average cost of funds to the Bank, there is no interest subsidy. Thus total program costs will consist solely of administration and default. This program has been default-free since its inception and we have made no attempt to estimate the cost of potential defaults. While there is no direct interest subsidy present in the lending rates of the RTB, we note that the availability of low cost funds through the sale of Class A Stock to the Government enables the RTB to advance funds at rates and terms which otherwise might not be available to potential borrowers.

b/Delinquency Costs - If the REA borrowing rate is greater than the loans' interest rate, some delinquency costs would arise.

c/Administrative Costs - RTB is authorized to use, without cost, the facilities and the services of employees of REA or any other agency of the Department of Agriculture. REA does not maintain subsidiary accounts of the cost of providing services to the RTB, and the costs are therefore not readily determinable. However, according to data provided by REA, the administrative procedures required for approval of RTB loans are similar to those required for the other REA-insured telephone loans. Therefore, we have assumed that the administrative costs are equal to those of the insured loan programs.

APPENDIX I

REA TELEPHONE LOAN GUARANTEES

(FY 78 Program Authorization - $200 million)

Loan Data: Statutory Authorization: Section 306, Rural Electrification Act of 1936, as amended P.L. 93-32. Type: Guaranteed. Loan Term: Agreed upon between the lender and the borrower. Interest Rate: Agreed upon between the lender and the borrower.

The table below shows the expected costs for $10 million additional lending authority. Less than one loan is expected.

Year	Interest Cost a/	Delinquency Cost b/	Administrative Cost c/	Total Costs
1	$ -0-	$ -0-	$ 8,000	$ 8,000
2	-0-	-0-	1,300	1,300
3	-0-	-0-	1,300	1,300
4	-0-	-0-	1,300	1,300
5	-0-	-0-	1,300	1,300
6	-0-	-0-	1,000	1,000
7	-0-	-0-	1,000	1,000
8	-0-	-0-	1,000	1,000
9	-0-	-0-	1,000	1,000
10	-0-	-0-	1,000	1,000
10-Year Costs	-0-	-0-	$18,200	$18,200
20-Year Costs	-0-	-0-	$28,200	$28,200
30-Year Costs	-0-	-0-	$38,200	$38,200
35-Year Costs	-0-	-0-	$43,200	$43,200

35-Year Cummulative Cost Summary:

Interest:	$ -0-
Delinquency:	-0-
Administration:	43,200
Total	$43,200

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a/Interest Costs - No interest costs exist. As with other guaranteed loan programs, total program costs are solely for administration.

b/Delinquency Costs - If the REA borrowing rate is greater than the loans' interest rate, some delinquency costs would arise.

c/Administrative Costs - We have assumed that the administrative costs of this guarantee program correspond closely to those of the insured loan programs. First year administrative costs of $8,000 include $7,000 in origination costs and $1,000 in loan servicing costs. Administrative costs, reflecting servicing efforts only, total $1,300 during the next 4 years and decline to $1,000 for each of the remaining 30 years. Our use of the cost factors associated with the insured program may underestimate this program's true costs.

APPENDIX I

REA GUARANTEED ELECTRIFICATION LOANS

(FY 79 Program Authorization - $4 billion)

Loan Data: Statutory Authorization: Section 306, Rural Electrification Act of 1936, as amended P.L. 92-33. Type of Credit Aid: Guaranteed. Loan Term: Agreed upon between the lender and the borrower. Interest Rates: Agreed upon between lender and the borrower. A substantial portion of guarantees is used to finance participation in joint generating projects (power supply).

Expected Costs of $10 Million Additional Guarantee Authority a/

Year	Interest Cost b/	Delinquency Cost c/	Administrative Cost d/	Total Costs
1	$ -0-	$ -0-	$ 4,000	$ 4,000
2	-0-	-0-	4,000	4,000
3	-0-	-0-	4,000	4,000
4	-0-	-0-	4,000	4,000
5	-0-	-0-	1,000	1,000
6	-0-	-0-	1,000	1,000
7	-0-	-0-	1,000	1,000
8	-0-	-0-	1,000	1,000
9	-0-	-0-	1,000	1,000
10	-0-	-0-	1,000	1,000
10-Year Costs	-0-	-0-	$22,000	$22,000
20-Year Costs	-0-	-0-	$32,000	$32,000
30-Year Costs	-0-	-0-	$42,000	$42,000
35-Year Costs	-0-	-0-	$47,000	$47,000

35-Year Cummulative Cost Summary:

Interest:	$ -0-
Delinquency:	-0-
Administration:	47,000
Total	$47,000

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a/Our original program cost estimates are based on an incremental loan guarantee volume of $1 billion, which is approximately one-sixth of the increased guarantee volume realized in recent years. With loans averaging about $130 million each, we expect that an additional 7.5 new loans would result from this increased loan volume. While our original cost estimates are based on an increased loan volume of $1 billion, we have adjusted our projections by a factor of 0.01 in our aggregate estimates for purposes of comparability to reflect costs associated with $10 million in increased funding.

b/Interest Costs - Since REA functions as a guarantor in this loan program, there is no direct interest subsidy and consequently no direct interest cost incurred by the agency.

c/Delinquency Costs - If the REA borrowing rate is greater than the loans' interest rate, some delinquency costs will arise.

d/Administrative Costs - Administrative costs consist of loan origination and loan servicing costs. We base our origination estimates on data obtained from REA indicating a 4-year loan approval period for the large generation and transmission projects. We estimate an origination expense of $202,000 will be incurred with each loan guarantee approval. Since the approval process requires 4 years, we have allocated one-fourth of the total origination cost to each of the first 4 years resulting in costs of approximately $50,00 incurred annually during the approval period. Upon approval and prior to commercial operation, normal loan servicing requirements amount to $10,000 per loan. Once operational, we expect efforts to decline modestly by 25 percent to $7,200. We do not expect servicing costs to decline substantially as they do in other loan programs. After adjusting our estimates by a factor of 0.01, origination costs of $4,000 are projected during each of the first 4 years, and annual loan servicing costs of $1,000 are projected for the remaining 31 years.

APPENDIX I

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