



FEDERAL AND STATE AGENCIES
FOR THE DEVELOPMENT OF THE
DEVELOPMENT BANK COMMITTEE

POWER - SILVER STATE ELECTRIC POWER



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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

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AID-DLC/P-449
June 29, 1966

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Bolivia - Santa Cruz Electric Power

Attached are revised pages to be inserted in the subject Capital Assistance Paper.

The recommendations for authorization of a loan in an amount not to exceed \$1,750,000 to Empresa Nacional de Electricidad (ENDE) ("Borrower") an autonomous public corporation, organized under the laws of the Republic of Bolivia, to assist in financing the dollar costs, including engineering costs and technical assistance for the construction of facilities for the generation, transmission and distribution of electricity in the Department of Santa Cruz, Bolivia, were discussed at the meeting of the Development Loan Staff Committee on Monday, June 27, 1966.

Rachel C. Rogers
Assistant Secretary
Development Loan Committee

Attachments: (Revised June 29, 1966)
Summary and Recommendations, pp. 1 and 2
Project Analysis, p. 5

Previously Distributed: June 17, 1966
Summary and Recommendations
Project Analysis
Annexes A-1

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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

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AID-DLC/P-449
June 17, 1966

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Bolivia - Santa Cruz Electric Power

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed \$4,750,000 to Empresa Nacional de Electricidad (ENDE) ("Borrower") an autonomous public corporation, organized under the laws of the Republic of Bolivia, to assist in financing the dollar costs, including engineering costs and technical assistance for the construction of facilities for the generation, transmission and distribution of electricity in the Department of Santa Cruz, Bolivia.

This loan proposal is scheduled for consideration by the Development Loan Staff Committee at a meeting in the near future.

Rachel C. Rogers
Assistant Secretary
Development Loan Committee

Attachments:
Summary and Recommendations
Project Analysis
Annexes A-P

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June 17, 1966

BOLIVIA - SANTA CRUZ ELECTRIC POWER

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BOLIVIA - SANTA CRUZ POWER

SUMMARY AND RECOMENDATIONS

1. BORROWER: The Empresa Nacional de Electricidad (ENDE), is an autonomous public corporation organized under the laws of Bolivia. Under its articles of incorporation it is authorized to coordinate the generation and transmission of electrical power throughout the country.

ENDE was incorporated on February 4, 1965, with an authorized capital of 40 million dollars. Prior to that date it was a branch of the Corporacion Boliviana de Fomento (CBF). A capital contribution of \$10,000,000 has been made through CBF with funds borrowed by the Government of Bolivia (GOB) from the International Development Association (IDA). In addition, ENDE received a loan of \$3,500,000 from the Inter-American Development Bank (IDB) to assist with the financing of the Corani Hydroelectric Project (see Financial Analysis for discussion of capitalization). ENDE is expressly authorized to borrow money from A.I.D. for the financing of electric power projects in Santa Cruz, Potosi, Sucre, and Tarija as specified in Supreme Resolution No. 130040 (See Annex F).

2. AMOUNT OF LOAN: Not to exceed:
 \$4,750,000 in dollars.

3. TOTAL COST OF PROJECT:

Local contribution:*		
Working Capital	\$ 550,000	
Value of pipeline	600,000	\$1,150,000
		<hr/>
A.I.D. contribution:		
Dollar loan	4,721,220	
Bolivian peso loan (PL 480-104g)	1,566,780	6,288,000
		<hr/>
TOTAL COST.		\$7,438,000

*In addition, the original electrical installations in Santa Cruz which will be part of this system are valued at \$240,000. A.I.D. funds will not be used to finance the construction of the pipeline.

4. PURPOSE: To provide facilities for the generation, transmission, and distribution of electricity to the Santa Cruz area, including the rebuilding of the existing distribution installation in the city of Santa Cruz.
5. BACKGROUND: In 1963, discussions were held between officials of the GOB, IDB, IDA, and A.I.D. with respect to financing the development of electrical power in Bolivia. Based on differences in administrative procedures and the requirements of A.I.D. legislation, it was agreed to split the Bolivian electric power program into different projects to be handled separately by the international lending institutions. A.I.D. agreed to center its activities in the Santa Cruz, Sucre, Potosi, and Tarija areas.
6. PROJECT DESCRIPTION: The A.I.D. financed part of the proposed project will consist of 1) expansion of the present generating capacity in Santa Cruz to 13,000 KW by the construction of a thermoelectric plant with a capacity of 10,000 KW, 2) construction of 65 Km of 66KV line between Santa Cruz and Montero, with step-down sub-stations at Montero and Warnes, 3) total rebuilding of existing urban distribution installations, changing the present 6 KV primary distribution tension and 220 V secondary tension to 10 KV and 380/220 V respectively, and 4) construction of rural distribution lines. Financing and construction of a pipeline from gas source to generation plant will be the responsibility of the Government of Bolivia
7. ALTERNATE FINANCING: Other sources of financing for this project are not available upon reasonable terms. By virtue of prior understanding, the IDA and IDB are sharing in the development of electric power in areas other than Santa Cruz. This consortium is discussed further in Section I, Project Description and Background.
8. EX-IM BANK CLEARANCE: The Ex-Im Bank is not prepared to consider public project loans in Bolivia (see Annex H).
9. VIEWS OF COUNTRY TEAM: The Country Team recommends authorization of this loan. The project is essential to the economic development of the Santa Cruz Department.
10. STATUTORY CRITERIA: The statutory criteria related to this loan have been met (see Annex E).
11. ISSUES: A.I.D. policy stipulates that loan terms for revenue-producing projects should be a minimum of $5\frac{1}{2}\%$ per annum for a period of 25 years or less. Softer terms of 30 years at $2\frac{1}{2}\%$

with 5 year grace period at 1% are recommended for the present loan for the following reasons:

- a. This is the first rural electrification project in Bolivia. It is designed as the backbone for future expansion in a rapidly growing agricultural area. Experience in the U.S. has demonstrated that rural cooperatives such as the Cooperative Rural de Electrificacion (CRE) have been effective in the administration and promotion of rural electrification. Favorable loan terms at this stage of its development will facilitate the internal capitalization of CRE and should enable the new system to expand beyond the net proposed in the present loan. Similar or more favorable loan terms have already been extended by A.I.D. to rural electric cooperatives in five Latin American countries. Such cooperatives because of consumer participation and decentralization of operations have proved very effective in areas comparable to Santa Cruz.

Terms for other rural electrification loans have been:

Costa Rica	40 years at 2 $\frac{1}{2}$ % with 10 year grace period at 1%
Colombia	35 years at 2% with 10 year grace period
Chile	40 years at 2% with 10 year grace period at 3/4%
Ecuador	40 years at 2% with 10 year grace period at 3/4%
Nicaragua	35 years at 2% with 5 year grace period at 3/4%

- b. Although this project in its first years will primarily serve the urban Santa Cruz area, it will also establish the essential firm basis for the growth of a rural electrification system and to the extent that urban rates equal rural rates, it will subsidize the rural system where costs of distribution are higher.
- c. The terms of the loan should be such as to encourage economic development in the Santa Cruz area based on reasonable rates for dependable electric power. Development of this area is considered of the highest priority by the Country Team.
- d. CRE is a new organization created and managed in the area to be serviced by the loan. It will purchase electrical power generated by ENDE for distribution and will need support during this initial stage. As part of the loan extended by ENDE to CRE for the purchase of the distribution system under the same loan terms that ENDE receives from

A.I.D., an allocation of \$250,000 has been made for technical assistance in the management of electrical distribution systems. Such additional assistance to CRE is essential at this time.

12. RECOMMENDATIONS:

a. Interest and terms of repayment:

- 1) The loan will be repayable in dollars in thirty (30) years, including a grace period of five (5) years with one (1) percent interest. Interest shall be payable at a rate of two and one half ($2\frac{1}{2}\%$) percent per annum, for the remaining twenty-five (25) years.
- 2) If the GOB so elects, ENDE shall fulfill its dollar obligations under the loan by paying to the GOB the equivalent in Bolivian pesos of the dollar amount payable to A.I.D. under the terms of (a-1) above. In such an event the GOB will repay A.I.D. in dollars in forty (40) years including a grace period of ten (10) years with interest of one (1) percent. Interest shall be payable at a rate of two and one half ($2\frac{1}{2}\%$) percent per annum for the remaining thirty (30) years.

b. Other terms and conditions:

- 1) ENDE shall provide a schedule of priorities setting forth the relative positions of A.I.D. and IDB as creditors. This schedule is to be subject to A.I.D.'s approval and acknowledged by IDB. It is recommended that the above listed lending institutions stand "pari passu" as creditors.
- 2) ENDE shall enter into a loan agreement, satisfactory to A.I.D., under the terms of which the Cooperativa Rural de Electrificación (CRE) will receive a portion of this loan for the purpose of carrying out the distribution functions of this project. CRE will in turn be obligated to repay ENDE under the identical terms that ENDE receives from A.I.D.
- 3) It is recommended that as a condition precedent to first disbursement, arrangements satisfactory to A.I.D. will be made by the GOB with appropriate entities, governmental or private, which assure availability of natural gas at

the generating plant site by July 1, 1968, at a cost of not more than twenty-five (25) cents per 1,000 cubic feet. The GOB through the Ministry of Economy and the Ministry of Mines and Petroleum has assured USAID/B that natural gas will be available at a reasonable price at the generation site (see Annex K).

- 4) The GOB shall guarantee repayment of the principal and interest on the loan. (See Annex L)
- 5) ENDE and CRE will adopt rate schedules to be effective when the new system becomes operative for wholesale and retail rates respectively designed to yield revenues to produce an average net return of nine (9) percent in accordance with the regulations of the GOB National Regulatory Authority (DINE) and will adjust such schedules as required annually to maintain this return. In view of the favorable loan terms, established rate schedules shall be the same for urban and rural consumers unless otherwise agreed to by A.I.D.
- 6) Prior to any disbursements under this loan, arrangements satisfactory to A.I.D. shall be made by ENDE for consulting engineering services for the design and supervision of construction of the power plant and the transmission and distribution systems.
- 7) Prior to disbursement of funds for technical assistance to CRE, except for a management consultant, a plan satisfactory to A.I.D. shall be developed by ENDE and CRE setting forth the types of advisory and training services required and the proposed arrangements for providing such services.

Project Committee:

Loan Officers: C.L. Crowder, W.C. Brister, E. Garcia
Engineers : W. Hodgin, C. Shirley
Economist : T. Wilford
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June 17, 1966

SECTION I - PROJECT DESCRIPTION AND BACKGROUND

A. The Project

Background - The completion of the 500 Km asphalt road between Santa Cruz and Cruz and Cochabamba in 1954 provided a catalyst for the rapid development of the Santa Cruz area. In the ensuing 12 years, the population almost doubled without appreciable assistance from public planning departments.

Municipal public services did not keep pace with this rapid growth. Recognizing that the rate of development in the Santa Cruz area was dependent in part upon the growth of the public electricity supply, various reports and studies were instigated by the GOB and by the citizens of Santa Cruz.

In response to the growing demand for electricity in the Santa Cruz area, USAID/Bolivia grant funded three 500 KW generating units in 1962, using the Corporación Boliviana de Fomento as the implementing agency.

The Scarcity of electricity was shared by other urban areas in Bolivia and was met in part in 1963 by the emergency loan of \$1,800,000 made by the IDB for Cochabamba, Tarija, Sucre, and Santa Cruz. Allocation of funds to these cities was based upon the International Engineering Company, Inc. report of January 1962.

It was recognized that this loan only tapped the surface of Bolivia's power needs. Consequently, in 1963, preliminary discussions were held between A.I.D. and the IBRD to determine the interest of A.I.D. in participating along with IDA and IDB in financing an overall power development program under consideration for Bolivia. These discussions continued into 1964 for the purpose of determining the probable amount each lending institution would be able to commit to the program. A.I.D. representatives included the USAID Mission Director as well as members of the Washington staff.

The major part of the proposed program was the Corani Hydroelectric project and transmission line from the Corani plant to Cochabamba and Catavi. However, some funds were included for development in Santa Cruz, Sucre, Potosi, and Tarija. Because of differences in administrative procedures and the requirements of A.I.D. legislation, it was agreed that it would be better to separate some portion of the program which could be administered independently by A.I.D. The resulting separation was also based on the isolated nature of the systems of the four cities Tarija, Sucre, Potosi, and Santa Cruz, which are not related in any way to the Corani Project. At that time estimates indicated the requirements of the four areas would total less than \$4 million.

A review of the available information showed that plans and cost estimates adequate to support an A.I.D. loan did not exist. It was therefore agreed that IDA and IDB would go ahead with their portions of the program, namely, the Corani and Bolivian Power projects, and that A.I.D. would consider a loan for the initial requirements in the four cities mentioned above, when adequate feasibility studies were available.

This intention was conveyed to the President of CBF and the General Manager of ENDE when they were in Washington in April 1964. A.I.D. also provided ENDE with suggested terms of reference for directing the work of engineering consultants' studies.

In 1963, A.I.D. also became interested in the possibility of developing rural electric cooperatives in Bolivia. A rural electrification specialist was sent to Bolivia through the A.I.D.-NRECA contract to prepare a feasibility study. The area chosen was Santa Cruz. The project was suspended when it became apparent that there were conflicts between the electric cooperative (CRE) which was already organized and the Bolivian Government with respect to the nature of the power development program in the area. In view of A.I.D.'s interest in the success of both ENDE and the electric cooperative, another NRECA specialist came to Bolivia in April 1965 to assist the two organizations in arriving at a mutually satisfactory agreement. The point at issue had been the desire of the cooperative to generate as well as distribute power in the area, whereas ENDE had been equally strong in its position that it would generate power and the cooperative should be the distribution agency.

The difference has been finally resolved by obtaining concurrence of the parties to a decree (see Annex F Decree No. 130040) which provides that ENDE be responsible for generation and transmission. Shortly thereafter, a contract was entered into between ENDE and CRE citing the respective grounds of agreement, which will result in the transfer of the distribution system to CRE upon termination of construction. (see Annex J)

Earlier, Ingenieria Global, an agency of the GOB, was asked through the Minister of Economy to prepare a feasibility report on the electrical supply of the town of Santa Cruz and surrounding rural areas. This report, compiled by Deutsche Projekt Union (DPU), a German Engineering Firm, under contract with Ingenieria Global, was prepared with USAID/B occupying a consultative position in anticipation of proposed future financing. Consequently, information regarding U.S. prices and materials is contained in the report. The basis of the proposed project is the study as amended in part by ENDE.

The IRR was considered at a CAEC meeting on November 1, 1965. The minutes of this meeting indicated the need for discussion of the actual rate policy to be used and its method of determination. In addition, a breakdown of foreign and local costs and consideration of a two-step loan was requested. These, are all covered in Section IV FINANCIAL ANALYSIS. Additional general points involving overall Mission policies and the minutes of the November CAEC meeting are included in Annex O.

B. The Borrower

- 1) Origin and Legislation - The Empresa Nacional de Electricidad (ENDE) was created as a part of Corporacion Boliviana de Fomento (CBF) February 9, 1962, by Supreme Decree No. 05999. Pursuant to the suggestions of IDA and IDB, ENDE became a self-governing branch of CBF on May 1st, 1963. On June 11, 1964, ENDE adopted a charter and by-laws prepared with the assistance of IDB and IDA. It was formally recognized as a legal entity by Ministerial Resolution No. 127462, dated February 4, 1965.

The function of ENDE, as specified in the above mentioned legislation, is to develop and control the primary systems of generation and transmission of electric power throughout Bolivia, except where private industry is successfully operating, i.e., the District of La Paz.

- 2) Organization - ENDE is a corporation governed by a board of directors. (See Financial Analysis for discussion of capitalization). The powers of the directors are set forth in the by-laws. The organization includes general management division (See Organization Chart) and a "Special projects" division which utilizes personnel specially skilled for individual projects, such as the generation facility under construction at Corani.

The main office and center of operations is in Cochabamba, with most personnel working out of this office. ENDE presently has 27 engineers distributed as follows: 10 in Cochabamba, 12 in Corani, 1 in Tarija, 3 in Santa Cruz, and 1 in La Paz.

In addition there are 46 technicians, secretaries, and laborers.

ENDE has agreed with the Cooperativa Rural de Electricidad (CRE), a local cooperative organized in anticipation of this loan, to transfer the distribution system upon its completion.

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The value of the distribution system will be treated as a loan between EHE and CRG in accordance with the terms of an agreement, dated February 12, 1965. (See Annex J).

CRG currently has a subscribed membership of 5,566. The financial structure is discussed in Section IV, FINANCIAL ANALYSIS.

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SECTION II - SANTA CRUZ ELECTRIC POWER - ENGINEERING ANALYSIS

A. Project Description

This Project includes a 10,000 KW generating plant, 65 Km of 66 KV transmission line, a new and expanded distribution system in Santa Cruz and a rural distribution system. Annex A contains a detailed description.

There will also be a pipeline constructed from a gas field within 60 Km of Santa Cruz to the power plant site. Financing and construction of this item will be the responsibility of public and private entities in Bolivia. A.I.D. funds will not be used for the pipeline.

The generating plant to be located near Santa Cruz will provide capacity to supply both the city of Santa Cruz and the smaller towns and areas included in the initial rural distribution system (See Map). The plant will include three gas-diesel electric generating units capable of using natural gas which the GOB has agreed will be available at the plant site, or diesel oil. Two 10 KV circuits from the plant will connect to the Santa Cruz distribution system.

The Santa Cruz urban distribution system is designed for 10 KV primary and 22-/380 V secondary. Aerial construction will be used except in the center of the city where existing primary circuits are underground. This project includes 23 Km of overhead and underground primary line, 6,200 KVA of distribution transformers, and associated secondary services and meters.

Rebuilding the urban system also involves converting the existing primary from 6 KV to 10 KV and the secondary system from 220 V three wire, to 220/380 V four wire with neutral.

A single circuit 66 KV transmission line will extend from the power plant step-up substation north of Warnes and Montero. Substations are proposed at both of the towns, 2 MVA at Warnes and 10 MVA at Montero.

The proposed rural distribution system will provide service initially to the towns of Warnes, Montero, Portachuelo, General Saavedra, and adjacent areas and settlements. About 90 Km of primary distribution lines and associated distribution transformers, secondary wiring and meters will be installed to serve 2,900 consumers.

B. Technical Evaluation

The project is based on studies performed by Deutsche Projekt Union for the Ministry of Economy. DPU prepared four preliminary reports on the project area in 1963 and 1964 and in addition to its own investigations had available reports from other sources prepared

during 1961-1963 which dealt with the power developments in the Santa Cruz area. The specific feasibility report outlines a medium-range program for a 10-year period through 1975. This project includes the first four years of that program. The DPU recommendations and subsequent modifications with respect to the initial capacity of the power plant, and the transmission line voltage, have been approved by A.I.D.

Market projections estimate the demand at 8,000 KW when the new plant is scheduled to begin operation late in 1969 and increasing to 19,000 KW in 1976. ENDE presently has on order two 500 KW diesel electric units to be installed in 1966 in the existing plant, which will bring the total installed dependable capacity to about 3,000 KW.

When the new plant is completed there will be dependable installed capacity of 13,000 KW. Although the proposed initial installation of 10,000 KW is larger than recommended in the feasibility study, it now appears that this is the minimum added capacity needed as illustrated in Section III, ECONOMIC ANALYSIS.

The preliminary plans are based on natural gas for fuel. Abundant reserves are known to exist in the area but no gas has been marketed to date. Gulf anticipates petroleum production July 1, 1966, with concomitant natural gas production. Operating statements have been projected on the basis that arrangements will be made for the purchase of gas at the plant site at no more than 25¢ per thousand cubic feet. USAID/B received assurances from GOB that natural gas will be available (see Annex K). Satisfactory arrangements assuring availability of gas at the plant site will be a condition precedent to the disbursement of this loan. The transmission voltage recommended in the feasibility study is 115 KV on the basis of standardization even though lower voltage was shown to be more economical. ENDE has proposed 66 KV which is adequate for the assumed loading and is more economical than 115 KV. The cost estimate is based on 66 KV. The cost estimates were derived on the basis of U.S. and Bolivian costs. The proposed loan includes all the foreign exchange costs of the power plant, transmission and distribution system. See Annex B for a breakdown and schedule of disbursements. Preliminary quotations were solicited from U.S. suppliers for the major items to be imported. Construction costs were developed from unit prices of materials and labor prevailing in Bolivia. The budget includes about 9.5% of the direct construction costs for contingencies. Sufficient planning and preliminary engineering has been completed to develop reasonable cost estimates and satisfy F.A.A. Sec. 611.

C. Management and Operations

The existing system in Santa Cruz was acquired by CBF from the Santa Cruz Public Works Committee in October 1964. Technically, it was acquired by CBF before ENDE was separated from CBF and the generating plant has since been transferred to ENDE. The distribution system will be transferred to CRE. In 1965, personnel on the Santa Cruz system payroll were reduced from 120 to 40. Some emergency improvements including the addition to the existing power plant and rebuilding a portion of the distribution system are in progress. The work is being financed by an IDB credit to CBF. Operation of the proposed system has been projected to reflect the agreement that ENDE will be responsible for generation and transmission, and CRE for distribution. ENDE has competent management and a country-wide staff of 27 engineers. Additional operating personnel for the Santa Cruz system must be recruited and trained. ENDE has engaged Harza Engineering Company to provide assistance in its operations on a country-wide basis.

D. Technical Assistance for CRE

Existing or proposed arrangements financed through the IDA credit are providing technical assistance support for ENDE. Much assistance will be required, however, by the Cooperative, which must start from nothing and develop an organization and staff capable of operating an electric distribution system with an investment of \$2.9 million and serving 9,000 connections initially. To assist in developing the management and administrative capability of the Cooperative, funds are included for a management specialist and an operations and maintenance specialist for two years each. Since CRE will not have responsibility for operations immediately, the requirement for operations and maintenance assistance should be reviewed when the number and capabilities of operating personnel, which may be transferred to CRE, may be better determined. The management specialist should be available as soon as possible after the loan becomes effective.

E. Rates

Existing retail rates in Santa Cruz discourage the use of electric power because they progressively increase with use. The following consumer rates are currently in effect:

KWH	
30	3.3 ¢/KWH
31-50	5.4 ¢/KWH
51-100	6.3 ¢/KWH
101-200	7 ¢/KWH
Over 200	8 ¢/KWH

Industrial rates which were formerly progressive are now established on flat rate basis of 5.4 ¢ per KWH.

A new rate schedule based on higher rates in rural areas than in urban areas was developed by DPU. ENDE has accepted the level of rates proposed but has rejected the specific schedule as being too complicated to administer, and will follow a simpler schedule to be developed in accordance with regulations of the Direccion Nacional de Electricidad. See Financial Analysis for Tariff discussions.

F. Engineering Plan for Execution of Project

Final design and supervision of construction of the system will be performed by a U.S. firm of consulting engineers. Design concepts adopted in the feasibility study will be reviewed to assure that the final design is the best solution for the area and takes full advantage of U.S. practices and equipment capabilities.

Construction of the power plant and part of the transmission system and distribution systems will be performed by contract. Qualified Bolivian and U.S. contractors will be eligible and contracts will be awarded on the basis of competitive bidding. ENDE plans to perform part of the transmission and distribution construction with its own forces. For example, it would continue the urban rebuilding which is presently in progress.

Equipment and materials will be procured by competitive bidding from the U.S. except for locally available construction materials which will be purchased with the PL-480 (104G) local currency loan.

Major power plant equipment contracts will include installation services by the supplier.

A proposed construction schedule is shown in Table 7 of the Section VI - IMPLEMENTATION PLAN. The total period required from the time final design begins until the plant is in operation is scheduled for three years.

SECTION III - ECONOMIC ANALYSIS

A. The Place of this Project in Bolivian Development Strategy

Development of fertile semi-tropical agricultural land, exploitation of oil and gas reserves, and stimulation of light industry are all important objectives in Bolivia's plans for economic development. Improvement in each of these areas would undergird a basic USAID objective of economic diversification, and should ultimately improve Bolivia's foreign exchange position as well as the level-of-living of its people. The Santa Cruz area provides perhaps the best natural resource base in Bolivia for increasing and diversifying agricultural production and for stimulating industrial activity derived from agriculture. USAID/Bolivia recognizes that adequate infrastructure is necessary if the economic development of the Santa Cruz area as outlined above is to continue. Adequate electrical facilities in the Santa Cruz region are a vital part of such infrastructure.

In another perspective, the USAID interest in financing the electricity program for Santa Cruz has been stimulated by four basic factors, including: 1) the linking of trade between Santa Cruz, Cochabamba, and La Paz due to the completion of the Cochabamba-Santa Cruz road in 1954; 2) the emergence of Santa Cruz, during the past ten years, as an important agricultural and, to a lesser extent, industrial center; 3) the spontaneous and planned agricultural colonization that has developed in the rural area that would be serviced by this loan; 4) the potential growth of the area as a supplier of agricultural and wood products, oil and natural gas, and light industry for both domestic consumption and for export. The area provides, perhaps, Bolivia's best opportunity to become self-sufficient in basic agricultural products, and further offers potential sources for increasing and diversifying her exports. Agricultural production and productivity in the area have risen markedly during the past ten years. This, coupled with the discovery of substantial oil and gas reserves, makes the area highly important in Bolivia's plans for economic development.

Since the completion of the highway to Cochabamba in 1954 the area within a 62 mile radius of Santa Cruz has enjoyed relatively rapid economic development. For example, 1) the population of the area has nearly doubled in 12 years, far exceeding the average population growth of the country; 2) cotton production has increased from 116 metric tons in 1950 to 1,310 in 1965; 3) sugar production increased from 1,155 metric tons in 1950 to 83,158 in 1965; 4) rice production rose from 12,500 to 35,000 metric tons between 1950 and

1966; and 5) the value of petroleum exports from the Santa Cruz oil fields rose from \$49,000 in 1950 to 1,908,000 in 1961, and possibilities now exist for a \$15 to \$20 million export market. Gas reserves from the Gulf oil fields near Santa Cruz are estimated at three trillion cubic feet, and Gulf will begin exporting between 20,000 and 25,000 barrels of oil per day through Arica, Chilean port, this summer. However, this growth in the area and in the city was not accompanied by appropriate public planning and social investment. The result is that infrastructure, particularly water supply, sewerage facilities, street improvements and electricity supply are completely inadequate. Relatively high prices for electricity have allowed only the financially stronger entrepreneurs to install power plants and thus, water supply systems which in the Santa Cruz area are powered by electricity. Investment in infrastructure, particularly as concerns roads, sewerage, telephone, and water systems, is currently being intensified in the Santa Cruz area. Installation of appropriate electrical facilities, combined with other infrastructure will eliminate what is rapidly becoming a severe bottleneck to further growth in the area. Four major reports have been made in the last three years on the electricity needs of the Santa Cruz area. 1/

B. General Economic and Geographic Factors

1) Geography and Climate

The Department of Santa Cruz, one of Bolivia's nine departments, is located in the southeast section of the country and covers about one-third of the area of Bolivia (143,918 square miles). The Department is bordered on the east by the bush covered plains of Brazil, and on the south by the "Gran Chaco" of Paraguay. The city of Santa Cruz is the agricultural center for the area. The altitude of the

1/ Viverette, Cecil E., "Engineering Feasibility Study and Loan Application for the Cooperative, Santa Cruz, Bolivia." mimeographed manuscript, October 1963. Richter, Paul, "Electric Energy for the City and Rural Area of Santa Cruz, Feasibility Study," unpublished report, May 26, 1965.

Deutsche Projekt Union, "Feasibility of a Thermal Power Station for the Supply of Electrical Energy to the Town of Santa Cruz and its Rural Surroundings," March 1963.

Empresa Nacional de Electricidad, "Request for Financing the Santa Cruz Electricity Project," mimeographed manuscript, 1965.

city of Santa Cruz is 1,450 feet and the climate is semi-tropical. Average annual temperature is 64°, annual rainfall is from 55 to 66 inches, and annual average humidity is 71 percent. Land in general is level, and soil is basically alluvial. Thirty-eight percent of the area is bottom land, well drained and fertile, with scattered trees. Ten percent is sandy soil covered with pasture grasses, and 52 percent has light sandy soil with medium texture.

2) Population

It is difficult to precisely estimate the population of the area under analysis because the last official census was in 1950. The following is a compilation from various sources:

<u>YEAR</u>	<u>BOLIVIA</u>	<u>DEPARTMENT OF SANTA CRUZ</u> (in thousands)	<u>CITY OF SANTA CRUZ</u>
1950 ^{a/}	3,013	283	42
1965	4,136 ^{b/}	464 ^{c/}	75 ^{d/}
1975	5,277 ^{c/}	591.6 ^{c/}	100

a/ Census of 1950

b/ Latin American Center of Demography for the Economic Commission for Latin America.

c/ Bulletin Statistical Supplement V, revised by CEPAL, Simposis de Datos, Estimaciones y Proyecciones Demograficas. Bolivia, Mayo 1962. Estimates for 1965 Department population range between 400,000 and 500,000.

d/ Estimate of the Deutsche Projekt Union feasibility study, May 1965. This figure varies from 69 to 110 depending on source.

The area within a radius of 62 miles from the city is well populated. Various types of settlements are found in the rural area, including long established communities and the newer agricultural colonies. Among the latter groups are a) colonies established by inducing non-Bolivians into the area, and b) spontaneous colonization that has developed as the road system expanded. As new land is made available by road construction, and as the agricultural potential is exploited

in the next decade, population will continue to grow.

There is little doubt that the Santa Cruz area, during the past fifteen years, has had the largest population growth rate of any major area in Bolivia. Between 1950 and 1965 the total estimated Bolivian population rose by 37.3 percent, for an average annual growth rate of 2.5 percent. At the same time the entire Department of Santa Cruz experienced a population increase of 64 percent, for an average annual rate of 4.3 percent largely due to growth in the Santa Cruz area. Using a conservative figure of 75,000 as the estimated 1965 population, the 1950-1965 growth rate for the city of Santa Cruz was 78.5 percent, or an average annual rate of 5.2 percent, more than double the rate of the country as a whole. In 1950 the Department of Santa Cruz accounted for 9.4 percent of total Bolivian population, while by 1965 the figure had risen to 11.2 percent. The Malaria Control Center estimates that, in 1962, there were 36,339 families in the area to be serviced by the loan. This included 15,450 families in Santa Cruz proper, and 20,889 in the rural area. Roughly estimating the family size to average $4\frac{1}{2}$, this would mean a population of 164,000 in the relevant area including 72,000 in the city, for the year 1962.

Much of the Department's population growth has been in the rural colonized areas. In the town of Montero, for example, population has grown from an estimated 2,000 in 1955 to currently around 13,000.

3) Agriculture

Intensive efforts have been under way for the past ten years to expand agricultural output in the fertile area north of the city of Santa Cruz. The results of this major effort have been successful as it has become, in a relatively short period, the major producing area in Bolivia for rice, cotton, and sugar. Efforts are now being made to develop a cattle industry for export. The Foreign Operations Administration Report of Santa Cruz Area Development Mission (September 1954), in its analysis of soil fertility in the region, state:

Soil Group 1:

Deep, well-drained, medium textured, fertile alluvial soils in heavy jungle. Well adapted to the production of sugar cane, rice, corn yuca, cotton, bananas, and

platains, citrus, improved pasture for cattle, coffee, cacao, vegetables, and kinaf.

Soil Group 2:

Predominantly light textured alluvial soils with some heavy textured soils under a rather wide range of drainage conditions occurring in the semi-pampa and low jungle.

The better soil types of this kind of land are suitable for the production of rice, corn, cotton, citrus, bananas, peanuts, and improved pasture for livestock.

The following table lists, for selected years, total Bolivian production for the major crops produced in the Santa Cruz area:

<u>Crops</u>	<u>1950</u>	<u>1962</u>	<u>1963</u>	<u>1965</u>
Cotton (metric tons)	116	770	910	1,310
Sugar (metric tons)	1,155	48,815	60,000	83,158
Rice (metric tons)	10,000	24,000	36,000	22,600*

*Estimated production for 1966 is 35,000

Source: Ministry of Agriculture

Adequate electrical facilities could provide the catalyst for increased agricultural productivity (through greater specialization and use of irrigation facilities) and for the emergence of food processing plants for domestic and export consumption.

4) Infrastructure

Adequate electrical facilities would provide an important addition to the growing infrastructure. Water systems already exist in the towns of Santa Cruz, Buena Vista, Montero, and Portachuelo, and a system is planned for General Saavedra for 1966. Plans are underway for paving the streets of Santa Cruz, and a sewerage system is being installed. Although the major road connecting Cochabamba and Santa Cruz has been completed, construction is continuing in the rural areas, including a) improvement of colony roads, and b) construction financed by a USAID loan of roads 3 and 7 from Montero to

Puerto Grether and to the Rio Grande and from Guabira to Rio Chane.

An efficient telephone cooperative, internally financed by share purchases of the consumers, is in operation in the city of Santa Cruz. There are 2,000 telephones installed, shareholders having paid \$340 per installation. The cooperative is planning to expand its facilities by 2,500 lines in March 1967, and later to extend the service north to Warnes and Montero.

5) Gross Regional Product

Quantitative data on Gross Regional Product are so crudely estimated as to be unreliable. However, it is evident that the Santa Cruz area currently has the highest rate of increase in output of any heavily populated area in Bolivia. Certainly the per capita income of the market-oriented population is considerably higher than the national average of about \$134.7, and expected increases in agriculture, oil and gas, and wood products should contribute to a higher per capita growth rate for this area than the average for the country during the foreseeable future.

C. Present Facilities and Users

1) Electricity Generation and Distribution System

Existing electric power service in the area is inadequate and unreliable. The public system in the city of Santa Cruz has a dependable installed capacity of 2,050 Kw. An additional 1,000 Kw will be installed by the end of 1966. Other towns in the area to be served have only small diesel-electric units of less than 100 Kw capable of only minimum lighting loads for a few hours a day.

Present consumption in the city of Santa Cruz is indicated in Table 1 which gives generating and sales data for the Santa Cruz plant for 1965.

TABLE 1
Monthly Energy Generation and Sales in Santa Cruz *

<u>Date</u>	<u>Energy Generated KWH</u>	<u>Energy Sold KWH</u>	<u>Energy Loss (%)</u>
December, 1964	625,200	309,000	50
March, 1965	625,600	411,500	34
May, 1965	708,700	380,100	47
July, 1965	713,400	217,200	42
September, 1965	703,000	386,600	45
December, 1965	729,300	443,100	39

*Source: Empresa Nacional de Electricidad, Santa Cruz Office, January, 1966, unpublished data.

The table indicates the average energy loss at the present time to be around 45 percent, due largely to the antiquated and inadequate distribution facilities. Normal losses range from 15 to 20 percent in an efficient system. The existence of a) inadequate generating capacity, and b) an antiquated distribution system has retarded the economic development of the Santa Cruz area.

2) Present Consumers

Table 2 gives the major power users in Santa Cruz at the present time and their estimated current power demand. Most of these users have begun operation within the past ten years. The table indicates that existing industry users are predominately local services, forestry operations, food processing, and oil. The major industrial users in the rural area (not included in this list) are the three sugar mills at San Aurelio, La Belgica, and Guabira (generating equipment of these plants now fueled by wood) and the Yacimientos Petroliferos Fiscales Bolivianos refinery. Additional industrial users in the future could come from: a) small shops and factories serving the local populace, b) growth engendered by exploitation of oil and wood resources, and c) agricultural-related business such as food processing plants, vegetable oil mills, slaughter houses and saw mills.

TABLE 2
Schedule of Large Power Users - Santa Cruz *

NAME	Actual Use KW
1. Oil Refinery (YPFB)	750
2. Saw Mill (Indusa)	100
3. Saw Mill (Tavolara)	100
4. Saw Mill (Schuan)	75
5. Saw Mill (Marabol Ltda.)	75
6. Water Plant	250
7. Air Port	150
8. Brewery	150
9. Railroad (Corumba-Santa Cruz)	150
10. Railroad (Yacuiba-Santa Cruz)	150
11. Telephone Co-op (Cotas Ltda)	75
12. Sugar Mill	150
13. Machine Shop (Ferrero & Bertero)	75
14. Machine Shop (Ricardo Bowles)	55
15. Tile Plant	75
16. Tile Plant	100
17. 7-Up Bottling Plant	60
18. Rice Mill (Bolivar)	60
19. Saw Mill (Echazu Hnos.)	100
20. Saw Mill (Gentilli)	50
21. Saw Mill (Barbery)	75
22. Saw Mill (Imbol)	100
23. Saw Mill (Pablo Riez)	50
24. Carpenter's Cooperative	40
25. Machine Shop (Antonio Rodriguez)	100
26. Machine Shop (Bartos & Company)	90
27. Machine Shop (Juan Anglarill)	50
28. Machine Shop (Equipetrol)	90
29. Machine Shop (Faremafufu)	50
30. Starch Mill	50
31. Bread Factory (Sauto)	50
32. Carpenter Shop (Leon Berda)	50
33. Rice Mill (G. Villarroel)	50
34. Ice Plant (Pablo Fernandez)	150
35. Ice Plant (Hielo Camba)	100
36. Spaghetti Plant (J. Gianella)	50
37. Clothing Factory (Estrella Americana)	50
38. Technical School (Don Bosco)	50
39. New Yater Plant	1,600 (not in operation)
	<u>5,595 KW</u>

*Source: Richter, Paul; op cit., June 18, 1965, p.30.

Most of the businesses listed in Table 2 use their own diesel-powered generating units and would convert to public power were it available.

Table 3 gives data on the number of users in 1965 for each major consuming category.

TABLE 3
Number of Electricity Connections in Santa Cruz by Category *

<u>Date</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Official</u>	<u>Total</u>
December, 1964	5,544	555	101	34	6,234
March, 1965	5,351	659	107	27	6,144
May, 1965	5,314	668	112	36	6,130
July, 1965	5,329	723	121	38	6,211
September, 1965	5,314	760	125	37	6,236
December, 1965	5,338	862	131	38	6,369

*Source: Empresa Nacional de Electricidad, Santa Cruz Office, January 1966, unpublished data.

As the table indicates, from December, 1964, through December, 1965, the number of residential connections declined slightly, the number of commercial connections increased 54 percent and industrial users increased 30 percent. Intensive use of electricity is discouraged by a progressive tariff schedule, i.e., cost per kilowatt hour increases as additional electricity is consumed.

D. Economic Aspects and Benefits

1) The Potential Power Market

The results of the Deutsche Projekt Union census are presented in Tables 4 and 4A. The tables indicate that, in 1964, 5,389 electricity connections existed in the city of Santa Cruz while demand existed for 9,000 connections. Although there were 54,000 potential consumers of all types (a conservative estimate as the city population is between 75,000 and 90,000), only 32,000 had some electrical service, and this service was highly inadequate. Thus, quantitatively about 22,000 potential consumers in the city were without electrical facilities in 1964, and there was no public

TABLE 4

<u>EVALUATION OF CENSUS</u>	U R B A N A R E A								
	1 9 6 4			1 9 6 7			1 9 7 4		
	ACTUAL	DEMAND	UNSATIS- FIED	PROJECT- ED	DEMAND	UNSATIS- FIED	PROJECT- ED	DEMAND	UNSATIS- FIED
No. of Consumer Centres (towns, villages)	1	1	—	1	1	—	1	1	—
Population	72.500	—	—	80.500	—	—	102.000	—	—
Consumers Connected	5.389	9.000	3.611	7.050	10.000	2.950	13.100	13.100	—
Persons Connected	32.000	54.000	22.000	42.300	60.000	27.700	78.500	78.500	—
Persons Per Consumer	6	—	—	6	—	—	6	—	—

TABLE 4-A

<u>EVALUATION OF CENSUS</u>	RURAL AREA								
	1964			1967			1974		
	ACTUAL	DEMAND	UNSATIS- FIED	PROJECT- ED	DEMAND	UNSATIS- FIED	PROJECT- ED	DEMAND	UNSATIS- FIED
No of Consumer Centres (towns, Villages)	—	16	16	—	16	16	20	20	—
Population	94,530	—	—	106,500	—	—	141,000	—	—
Consumers Connected	—	5.120	5.120	1.670	5.850	5.850	11.100	11.100	—
Persons Connected	—	35.065	35.065	11.428	40.000	40.000	76.035	76.035	—
Persons Per Consumer	6.85	—	—	6.85	—	—	6.85	—	—

electrical service for the 35,065 potential consumers in the rural area. Qualitatively, those persons connected to electricity in 1964 received very poor service.

Three forecasts have been made of the electricity demand in the Santa Cruz area for the years 1966 through 1976, including the ENDE, the DPU, and Cecil Viverette. All estimate maximum demand of 8,000 Kw or more by 1970. The ENDE forecast, shown in Table 5 is slightly higher than the DPU forecast and lower than the Viverette forecast.

TABLE 5
Estimate of Generating Capacity and Maximum Demand
for Santa Cruz System, 1966/76

Year	Generating Capacity, KW		Maximum Demand, KW
	Installed	Firm	
1966	3,050	2,500	3,000*
1967	3,050	2,500	3,000*
1968	3,050	2,500	3,000*
1969	13,000	9,700	8,000
1970	13,000	9,700	9,000
1971	17,000	13,000	10,000
1972	17,000	13,000	13,000
1973	17,000	13,000	14,000
1974	22,000	17,000	15,000
1975	22,000	17,000	17,000
1976	27,000	22,000	19,000

*Demand limited by generating capacity

2) Potential Impact on the Santa Cruz Area

Installation of adequate electricity facilities would have a pronounced effect on the rate of economic development of the Santa Cruz area, increasing both its gross regional product and its per capita income. The availability of a cheaper and more dependable electricity supply should result in four major benefits, namely:

- a. Satisfy household needs, including electricity demands for adequate lighting and household appliance needs;
- b. Make more efficient use of existing industrial capital in the area, much of which is utilized at less than capacity due to power outages and low voltages;

- c. Induce agricultural-related and other industrial activity into the area which hitherto has not been forthcoming due to inadequate and costly power supply; and
 - d. Increase agricultural activity by a) providing power for irrigation facilities and thus increasing productivity of existing land, b) inducing additional farmers into the area and increasing total land utilization, and c) providing electricity for refrigeration and processing of agricultural produce.
- 3) Rate of return on Investment

Section D above indicates qualitatively the potential social benefits that could result from the electrification program. Although it is impossible to quantify these benefits, they appear to be substantial.

The internal rates of return on the generation and transmission and distribution systems are estimated in the Income Statements (Tables 9 and 10). The USAID/Bolivia has reviewed the projected income statement, including the projected data on generation and retail sales, average tariffs, and cost of operations, and finds these data to be reasonable estimates of the potential financial condition of both ENDE and CRE over the next ten year period. The rate of return on the project, defined as net income on operations divided by the rate base (See Section IV - D), is presented in Table 6. These data indicate an internal rate of return averaging between 8 and 9 percent when the new system becomes operative in 1970 which should be sufficient for both ENDE and CRE to meet their debt service obligations and to build up sufficient reserves to carry out expansion programs planned for the 1970s.

TABLE 6
Projected Annual Rate of Return on Santa Cruz Electricity Project

<u>Year</u>	<u>Generation and Transmission System</u>	<u>Distribution System</u>
1966	-	-
1967	-	-
1968	-	-
1969	4.4	5.1
1970	9.2	8.3
1971	8.5	9.5
1972	8.7	7.6
1973	10.3	10.3
1974	8.6	9.3
1975	7.6	8.9

See Tables 9 and 10

Considering the expected 9 percent internal rate of return, and the additional unmeasured but implicit rate of return of the social benefits indicated in Section D above, it seems clear that the project has a sufficiently high return to be considered a major priority in Bolivia's developmental plans.

SECTION IV - FINANCIAL ANALYSIS

A. Total Financing Required

Supreme Resolution No. 130040 of the GOB authorized ENDE to negotiate and subscribe a credit with USAID for the Santa Cruz Electric Power System. The Cost estimates shown in the DPU feasibility reports have been adjusted by ENDE to include system modification and expansion. The total estimated project cost is \$7,438,000 of which \$4,721,220 represents the dollar cost while the remaining \$2,716,780 will be in local currency. The total amount requested from A.I.D. for the Santa Cruz system is as follows (see Annex B for local currency and dollar costs):

	U.S. \$		Local Currency (PL 480, 104g)
Power Plant	\$2,100,000	\$1,825,500	\$ 274,500
Step-up substation	460,000	410,000	50,000
Transmission line 65 Km.	455,000	365,800	89,200
Warnes step-down substation	78,000	69,200	8,800
Montero step-down substation	240,000	214,000	26,000
Urban distribution	1,293,000	874,690	418,310
Primary rural distribution	182,000	320,030	239,970
Secondary rural distribution	378,000		
Engineering	352,000	212,000	140,000
Contingencies	500,000	250,000	250,000
CRE technical assistance	250,000	180,000	70,000
<u>Total AID Contribution</u>	<u>\$6,288,000</u>	<u>\$4,721,220</u>	<u>\$1,566,780</u>
Working Capital	\$550,000		
Value of Pipeline	600,000		
Local Contributions*	\$1,150,000		
TOTAL Cost of Project..	\$7,438,000		

*In addition to original installations valued at \$240,000

B. A.I.D. Loan Terms

It is recommended that the loan term to ENDE be 30 years including a grace period of five (5) years. The rate of interest during the grace period will be one (1) percent per annum and two and one half (2½) percent for the remaining twenty-five (25) years. A two step procedure is also recommended which would permit the GOB to assume ENDE's dollar obligation on terms of repayment of forty (40) years with ten (10) year grace. The GOB would pay two and one-half (2½) percent interest per annum except during the grace period when the interest rate would be one (1) percent. The reasons for these proposed loan terms are as follows:

- a) The need for subsidizing rural electrification systems in the early stages is generally recognized. This project embraces a new rural system in addition to a financially weak urban system;
- b) ENDE anticipates the need for additional borrowing to pay for the second phase of this project in the years 1968 through 1971. This phase involves expansion of both generation and distribution facilities in the amount of approximately \$3,000,000 to meet the increasing demands for electricity in this area. Favorable credit terms covering the present loan will place ENDE in a more credit worthy position to finance the second phase.
- c) A basic objective of this loan is to provide sufficient electricity at reasonable rates to promote the development of both the agricultural and the industrial potential of the area. The above loan terms will help to provide a sufficiently low tariff schedule to meet this objective.

Other loan terms for electrical projects in Bolivia are as follows:

	Source	Amount	Years	Grace Period	Rate
1. Corani Project:	IDB	\$3,500,000	25	5	1%
	IDA	10,000,000	50	10	3/4%
2. La Paz Project:	IDA	5,000,000	50	10	3/4%

The IDA Loan for the La Paz Project was two-step. The GOB re-lent to the Bolivian Power Company \$5,000,000 for 22 years at 5½%. The repayment proceeds from the Bolivian Power Company are being deposited with ENDE to increase ENDE's capitalization. The IDA loan for the Corani Project was also indirect, the GOB having purchased \$10,000,000 in shares in ENDE through CBF. Thus, the IDA loan of \$10,000,000 helped capitalize ENDE at interest free terms. Both of the IDA loans indicate that in IDA judgment current electrical development programs in Bolivia should be carried out with the softest loan terms possible.

The IDB loan terms for the Corani project are the most favorable possible under the special operating funds of that bank reserved for economic revenue-producing projects. Corani will produce electric power for Cochabamba, the second largest city of Bolivia, for the city of Oruro to be distributed by the Bolivian Power Company and for the Catavi mining complex. No new institutional development beyond that financed by IDA is involved.

C. Financial Analysis of Borrower

ENDE was established by CBF on February 9, 1962. On February 4, 1965 it was incorporated with an authorized capital of \$40 million, divided into 40,000 shares of \$1,000 each. Two categories were established: "A" and "B"; "A" shares have the right to vote, "B" shares are nonvoting. (See Annex I for capital structure). The suscribed capital is 15,000 shares of class "A" distributed as follows: CBF 14,998 shares, YPFB 1 share, and COMIBOL 1 share.

CRE (Cooperativa Rural de Electricidad) obtained legal status on February 12, 1965. In June 1965, the membership was 5,566, distributed as follows:

\$10.00 membership fee paid in full	163
0.42 (first installment)	5,003
Signed but not paid	400
Total membership.....	<u>5,566</u> ^{1/}

1/ Richter, Paul "Electric Energy for the City and Rural Area of Santa Cruz, Feasibility Study unpublished report, May 26, 1965

CRE estimates that it will have by December 1967 10,000 members with paid-up membership fees of \$10 each, making its total capital at that time \$100,000.

The total amount requested from A.I.D. for the Santa Cruz system, shown separately for ENDE and CRE is as follows:

ENDE:	Power Plant	U.S.\$2,100,000
	Step-up substations	460,000
	Transmission Line	455,000
	Warnes step-down substation	78,000
	Montero step-down substation	240,000
	Engineering	230,000
	Contingencies	300,000
		<hr/>
	TOTAL ENDE.....	\$3,863,000
CRE:	Urban distribution	U.S.\$1,239,000
	Rural distribution	560,000
	Engineering	122,000
	Contingencies	200,000
	CRE technical assistance	250,000
		<hr/>
	TOTAL CRE.....	\$2,425,000
		<hr/>
	Total Santa Cruz System	U.S.\$6,288,000
		=====

ENDE will be the borrower and will in turn transfer to CRE an amount equal to the value of the distribution system. This will be treated as a loan on the same terms and conditions as the A.I.D. credit to ENDE. The value of the distribution system will be determined by records covering construction costs maintained seperately from those for the entire project. At the time of the transfer these statements will be audited by an independent public accountant approved by A.I.D.

D. Tariff Determination, Revision, and Adjustment

ENDE's financial projections are based on rates yielding an average of 2.9¢ per KWH wholesale, and 5.2¢ per KWH retail in the initial years of operation.

All rates must be approved by the Direccion Nacional de Electricidad (DINE) which is the GOB electric power regulatory body. DINE is being assisted by Motor-Colombus Consulting Engineers from Baden, Seitzerland, and will use the following method to fix tariffs:

1. The power companies' tariffs are designed to yield sufficient revenue to cover the following:
 - Cost of operation, maintenance and administration
 - Taxes and assessments
 - Annual depreciation
 - Returns
2. The rate of return of the entities shall be 9% of the rate base, after the payment of taxes as required by Bolivian law. Interest payments shall be made from this return of 9%.
3. The rate base shall be defined as the investment in assets needed to provide efficient service, less fixed assets withdrawn from service and the depreciation reserve. The investments shall comprise all those necessary for the service, including:
 - a) The gross cost of fixed assets in the form of civil engineering works, equipment, installations, and other tangible assets including plants, substations, transmission lines, distribution networks, workshops, office, real property and all investments made for the general purpose of providing electrical service. This would include studies, materials, staff costs, transportation and storage costs, general expenses, interest during construction and all other expenses necessary for the proper execution of this project;
 - b) The cost of miscellaneous studies not attributable to completed works, concessions, exemptions, rights, cost of organization and establishment of the enterprise and other intangible assets;
 - c) Operating capital, including:
 - i- Capital for materials and fuel, not exceeding 3% of the gross fixed assets in operation; and
 - ii- Sufficient cash to meet the needs of the enterprise not exceeding one-eighth of the gross annual revenue.

DINE will review annually the tariff structure to determine any need for adjustment. If the profit earned falls within 8.5% to 9.5%, based on the projected profit of 9%, they shall not be adjusted for the following year. However, at the end of three years the tariffs shall be reviewed obligatorily and adjusted as needed.

E. Debt Service Capacity

Financial projection for a ten-year period demonstrate sufficient funds for meeting the costs of operation, repayment of the loan with interest, and a substantial reserve fund. The calculation of revenues is based on a price of 2.9¢/KWH wholesale (Table 9) from 1966 to 1972, and 2.5¢/KWH from 1973 to 1975. With respect to distribution (Table 10) the calculations of revenues are based on a price of 5.2¢/KWH for the period of 1966 to 1972 and 4.7¢/KWH from 1973 to 1975. The costs of operation shown include all items necessary for operation, maintenance and repairs.

ENDE's capacity to meet the debt service after year 1972, when amortization begins as reflected in the ratio of net income on operations to total debt service (interest plus amortization) is as follows:

1972	-	2.58
1973	-	3.24
1974	-	2.58
1975	-	2.41

CRE's debt service capacity is as follows:

1972	-	2.47
1973	-	3.61
1974	-	3.41
1975	-	2.18

F. Relationship of Santa Cruz Project to other Projects in National Electrification System

All funds generated by this project, including reserves for depreciation and expansion, shall be retained within this project and will not be diverted to other electrical programs outside the Santa Cruz area as agreed to by ENDE (See Annex J).

EMPRESA NACIONAL DE ELECTRICIDAD S.A.

SANTA CRUZ SYSTEM

GENERATION AND TRANSMISSION

FORECAST OF SOURCES AND APPLICATIONS OF FUNDS
(in thousands US\$)

UNCLASSIFIED
TABLE 7
Page 30

<u>Years Ending December 31</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
<u>SOURCES OF FUNDS</u>										
<u>Internal Cash Generated</u>										
Net income on operations	139	151	177	200	516	538	555	696	683	636
Depreciation	3	10	22	85	138	169	196	202	217	259
Total internal generated cash	142	161	199	285	654	707	751	898	900	895
Borrowers own funds		11	78	51	16					
<u>Borrowings</u>										
Proposed AID loans		397	2015	1451						
Proposed future loans				250	600	150				
Total borrowings		397	2015	1701	600	150				
TOTAL SOURCE OF FUNDS	142	569	2292	2037	1270	857	751	898	900	895
<u>APPLICATION OF FUNDS</u>										
Construction Expenditures (Excluding interest during construction)		412	2101	1756	1031	900	200	500	1400	600
<u>DEBT SERVICE</u>										
Interest		2	14	33	44	48	102	99	116	112
Amortization							113	116	148	152
Total Debt Service		2	14	33	44	48	215	215	264	264
Increase in Working Capital	50	50	50	50	50	70	70	70	70	70
TOTAL APPLICATION OF FUNDS	50	464	2165	1839	1125	1018	485	785	1734	934
Increase (or Decrease) in funds	92	105	127	198	145	(151)	266	113	(834)	(39)
Balance at Beginning of year	0	92	197	324	522	667	516	782	895	61
Balance at end of year	92	197	324	522	667	516	782	895	61	22

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SANTA CRUZ SYSTEM

DISTRIBUTION

FORECAST OF SOURCES AND APPLICATIONS OF FUNDS
(in thousands US\$)

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TABLE 8
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<u>Years Ending December 31</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
<u>SOURCES OF FUNDS</u>										
<u>Internal Generated Cash</u>										
Net income on operations	57	73	92	147	267	338	361	549	518	521
Depreciation	4	10	32	55	86	96	108	145	160	172
Total internal generated cash	61	83	124	202	353	434	469	694	678	693
Borrowers Own Funds	200	23	28	33						
<u>Borrowings</u>										
Proposed AID loans		713	722	990						
Proposed future loans					351	400	1223			
Total borrowings		713	722	990	351	400	1223			
TOTAL SOURCES OF FUNDS	261	819	874	1225	704	834	1692	694	678	693
<u>APPLICATION OF FUNDS</u>										
Construction Expenditures (Excluding interest during construction)	200	735	749	1025	351	400	1223	514	550	600
<u>DEBT SERVICE</u>										
Interest		4	11	19	26	30	75	79	78	105
Amortization							71	73	74	134
Total Debt Service		4	11	19	26	30	146	152	152	239
Increase in working capital	50	50	100	200	200	100	100	100	100	100
TOTAL APPLICATION OF FUNDS	250	789	860	1244	577	530	1469	766	802	939
Increase or (Decrease) in funds	11	30	14	(19)	127	304	223	(72)	(124)	(246)
Balance at beginning of year	0	11	41	55	36	163	467	690	618	494
Balance at end of year	11	41	55	36	163	467	690	618	494	248

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SANTA CRUZ SYSTEM

GENERATIONS AND TRANSMISSION

ESTIMATED INCOME STATEMENT

(in thousands US\$)

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	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
Maximum demand at plant, Kw	3,000	3,000	3,000	3,000	9,000	10,000	13,000	14,000	15,000	17,000
Energy Generated, Kwh x 10 ⁶	9.0	10.0	12.0	16.0	31.0	35.0	38.0	51.0	53.0	55.0
Energy Sold, Kwh x 10 ⁶	8.0	9.0	11.0	15.0	29.0	33.0	35.0	48.0	50.0	51.0
Average revenue Kwh (US Cents)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.5	2.5	2.5
Gross revenue from sales	232	261	319	435	841	957	1,015	1,200	1,250	1,275
Cost of Operations:										
Operating expenses	90	100	120	150	187	250	264	302	350	380
Depreciation @ 3%	3	10	22	85	138	169	196	202	217	259
Total Cost of Operations	93	110	142	235	325	419	460	504	567	639
Net income on operations	139	151	177	200	516	538	555	696	683	636
Less interest expense		2	14	33	44	48	102	99	116	112
Net income	139	149	163	167	472	490	453	597	567	524
Rate Base <u>1/</u>	345	756	2,856	4,605	5,601	6,378	6,406	6,733	7,937	8,324
Rate of Return, % <u>2/</u>					9.2	8.5	8.7	10.3	8.6	7.6

1/ Rate Base per DINE Regulations =
Net Fixed Assets in Operation +
1/8 gross income + 3% gross assets
in operation

2/ Rate of Return =
Net Income on Operations
Rate Base

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SANTA CRUZ SYSTEM

DISTRIBUTION

ESTIMATED INCOME STATEMENT
(in thousands US\$)

	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
Total units purchased, Kwh x 10 ⁶	8.0	9.0	11.0	15.0	29.0	33.0	35.0	48.0	50.0	51.0
Total units sold, Kwh x 10 ⁶	6.0	7.0	9.0	13.0	24.0	28.0	30.0	40.0	43.0	44.0
Average revenue/Kwh (US¢)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.7	4.7
Gross revenue from sales	312	364	468	676	1,248	1,456	1,560	1,880	2,021	2,068
Cost of Operations:										
Operating expenses	19	20	25	39	54	65	76	86	93	100
Purchased energy cost	232	261	319	435	841	957	1,015	1,200	1,250	1,275
Depreciation @3%	4	10	32	55	86	96	108	145	160	172
Total Cost of Operations	255	291	376	529	981	1,118	1,199	1,331	1,503	1,547
Net income on operations	57	73	92	147	267	338	361	549	518	521
Less Interest expense		4	11	19	26	30	75	79	78	105
Net Income	57	69	81	138	241	308	286	470	440	41
Rate Base	368	1,105	1,858	2,876	3,239	3,576	4,717	5,168	5,585	5,866
Rate of Return, %					8.3	9.5	7.6	10.3	9.3	8.9

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SECTION V - IMPACT ON U.S. ECONOMY: DEVELOPMENT THROUGH PRIVATE ENTERPRISE

A. Impact on U.S. Economy

All expenditures under this loan will be made directly in the U.S. through normal A.I.D. procedures. With the expansion of the use of electricity, under U.S. specifications, the project should provide a market for U.S. electrical appliances and equipment, in addition to future parts replacement. Accordingly the project will have a favorable impact on the U.S. economy.

B. Economic Development through Private Enterprise

- 1) The total amount of money loaned will be used by the GOB to finance project work (including procurement) done under contract by private enterprise. 1/
- 2) The contemplated impact of the proposed loan on development of private enterprise in the host country is significant. As discussed in Section III, ECONOMIC ANALYSIS, the present lack of electrical energy in the Santa Cruz Department acts as a substantial barrier to the development of private enterprise. A reliable source of electricity at reduced rates, which will be provided by this loan, is a pre-condition to this development.

1/ The Borrower is an autonomous corporation with the voting shares held by an agency of the GOB. The sub-Borrower, CRE, is a privately owned and operated cooperative.

SECTION VI - IMPLEMENTATION PLAN

A. Project Execution

The planning and execution of the project will be governed by ENDE. As indicated on the organization chart of ENDE, Annex D, separate divisions will be responsible for the engineering, construction, and procurement aspects within their respective areas.

ENDE will engage a consulting engineering firm for final design and supervisory services for construction, including the pre-qualification of contractors, and approval of bid documents and contracts. Arrangements for these services should be made within three months after the loan is signed.

Bidding documents, construction contracts for any A.I.D.-financed construction and procurement lists for materials and equipment will be subject to A.I.D. approval. Supervision and inspection services will be provided by the engineering consultant who will certify for payment purposes on any services of construction contractors, installation services by suppliers and force account construction.

B. CRE Technical Assistance

A plan for management and operations assistance and training for CRE should be developed within six months after the loan becomes effective. The initial step will be the selection of a management specialist who can help prepare the training plan and determine the level and timing of operations assistance required.

C. Procurement

Procurement will be through competitive bids from reputable manufacturers and suppliers in the U.S. Standard ENDE procedure will be modified to include notification to U.S. business for U.S. procurement. Other A.I.D. requirements concerning source/origin in the U.S., shipping and marking will be incorporated in requests for bids and purchase orders.

D. Disbursement of Funds, Reporting, and A.I.D. Implementation Responsibility

Materials and equipment procured in the U.S. and dollar costs of engineering and construction contracts will be paid through the letter of commitment procedure. Requests for letters of commitment

TABLE 11

CONSTRUCTION SCHEDULE
SANTA CRUZ SYSTEM

PROJECT CONSTRUCTION YEAR	1966					1967					1968					1969												
	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N
1-FINANCING	_____																											
2-FINAL PROJECT DESIGN	_____					_____																						
3-URBAN DISTRIBUTION																												
4-POWER PLANT																												
5-STEP-UP SUBSTATION																												
6-STEP-DOWN SUBSTATION																												
7-TRANSMISSION LINE																												
8-RURAL DISTRIBUTION																												

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will contain the certification of the engineering consultant that the **items** listed are required for the project and are eligible for financing under the loan.

Audited annual financial statements covering ENDE and CRE will be submitted to A.I.D. yearly. Monthly program reports will be required from the engineering consultant. Quarterly shipping and financial reports will be required from ENDE.

Monitoring will be exercised by USAID through review and approval of procurement lists and selected specifications, construction plans and specifications, contracts, reports and periodic site inspections.

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June 17, 1966

DETAILED PROJECT DESCRIPTION

The project involves a complete rebuilding of the existing electrical system in Santa Cruz and initial service to several towns and settlements north of the city. The existing system in Santa Cruz is completely inadequate in both power supply and distribution facilities. Public service is almost nonexistent in the other areas.

Generating Plant

The new plant will probably be located on a site about 3 Km. west of the city. The terrain is generally flat and no unusual construction conditions are expected. A specific site has not yet been obtained. The electro-mechanical equipment to be installed will be three identical dual fuel heavy duty diesel units. Each will be rated at approximately 3,300 KW. Engines capable of burning either all gas or a combination of gas and oil will be purchased. Water for cooling purposes of suitable quality is available from nearby wells. Preliminary design is based on generation at 10 KV, 50 cycles, with two circuits connecting the 10 KV plant bus with the city distribution system.

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ANNEX A - Page 2 of 4

A step-up sub-station at the plant with one 10 MVA, 3-phase, 10 KV/66 KV transformer will feed the single circuit transmission line.

Transmission

The transmission line proposed is a 66 KV single circuit line on steel structures which must be imported. Conductor would be 266.8 MCM ACSR. There will be two step-down substations, one at Warnes and one at Montero with capacities of 2 and 10 MVA, respectively. A single 3-phase transformer is proposed for each substation. Structures will be steel. A main and transfer bus is proposed at the step-up substation with a single bus at the step-down stations. Outdoor metal clad switchgear will be provided for the 24.9 KV distribution circuits. Circuit breakers with 250 MVA interrupting capacity and of low oil content have been recommended. Normal relay protection is provided for the transformers and transmission line.

Distribution

Two distribution systems have been proposed. The system in Santa Cruz is 10 KV primary and 220/380 V secondary. For

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ANNEX A - Page 3 of 4

the rural area, 24.9 KV primary and 220/380 V secondary is proposed. The existing Santa Cruz primary voltage is 6 KV but it will be raised to 10 KV in the expansion program. The selected primary and secondary voltages are used elsewhere in Bolivia in systems served by ENDE and thus they do represent some standardization. However, the voltage levels should be carefully reviewed by the consulting engineer during final design. Both systems are designed for 3-phase primary and 3-phase distribution transformers are proposed throughout the systems. The economy of single phase primary distribution, particularly in the rural areas should be considered during final design. The rural system in this project provides only minimum coverage of the rural area. The system is essentially one serving the town and settlements near the main road north of Santa Cruz. The initial system is, however, the backbone of the system proposed by C.E. Viverette of NRECA and future developments can expand the system to full area coverage as proposed in the Viverette study.

Both the urban and rural systems will be aerial using steel poles in the city and ACSR conductor. A few tabular steel poles from

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ANNEX A - Page 4 of 4

the existing urban system will be reused. Secondary conductors in both systems will be aluminum.

Standards

No standardization of construction of electrical installations exists throughout Bolivia. The existing system is based mostly on European standards. Proposed distribution voltages of 10 KV primary and 220/380 V secondary as well as the 50 cycle frequency are not U.S. standards. However, they are recognized standards elsewhere in the world. U.S. manufactures supply equipment and materials meeting these standards although there may be slight price penalty on some items. Bolivia has adopted 50 cycle frequency as standard and the selected primary and secondary voltages are used in the ENDE affiliated operations. The selected transmission voltage has not been used by ENDE, but it is used elsewhere in the country by Bolivian Power Company and COMIBOL. The 24.9 KV and 66 KV lines will be constructed to REA mechanical design standards.

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SCHEDULE OF DISBURSEMENT

ANNEX B

SANTA CRUZ SYSTEM

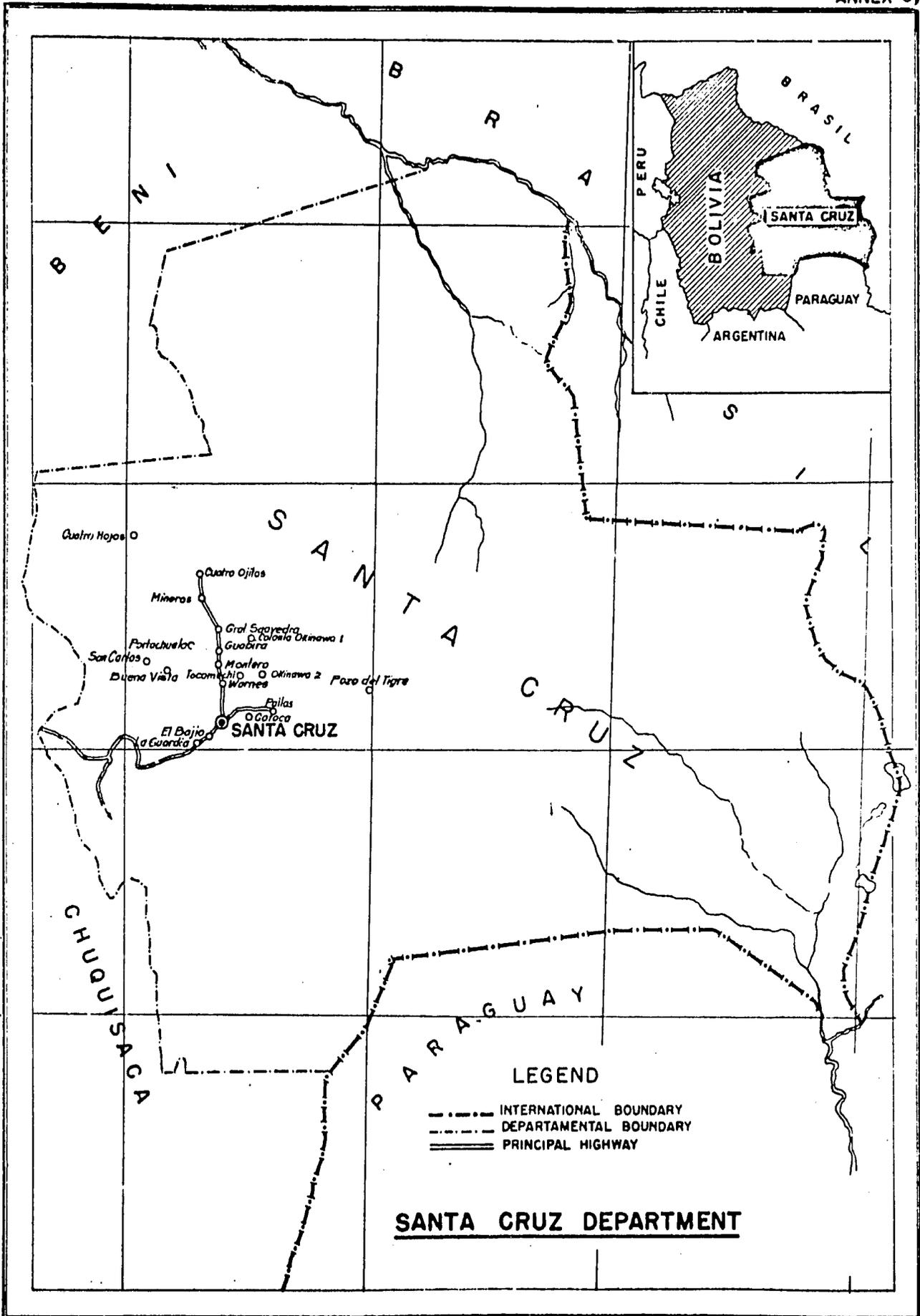
IN THOUSANDS

	1967			1968			1969			TOTAL FIRST STAGE		
	\$b.	US\$.	Total US\$.	\$b.	US\$.	Total US\$.	\$b.	US\$.	Total US\$.	\$b.	US\$.	Total US\$.
Urban distribution	1621.92	273.84	409.00	1417.44	247.88	366.00	1980.36	352.97	518.00	5019.72	874.69	1293.00
Power plant	336.00	182.00	210.00	1638.00	913.50	1050.00	1320.00	730.00	840.00	3294.00	1825.50	2100.00
Step-up substation	60.00	41.00	46.00	300.00	205.00	230.00	240.00	164.00	184.00	600.00	410.00	460.00
Montero Step-down substation	31.20	21.40	24.00	156.00	107.00	120.00	124.80	85.60	96.00	312.00	214.00	240.00
Warnes Step-down substation	9.20	6.20	7.80	48.00	35.00	39.00	38.40	28.00	31.20	105.60	69.20	78.00
Transmission line	108.00	36.50	45.50	655.20	226.20	280.80	307.20	103.10	128.70	1070.40	365.80	455.00
Rural distribution	579.36	60.60	108.88	859.92	98.33	169.99	1440.36	161.10	281.13	2879.64	320.03	560.00
Engineering	432.00	54.00	90.00	720.00	90.00	150.00	528.00	68.00	112.00	1680.00	212.00	352.00
Administration during the construction *	444.00		37.00	1366.00		113.00	1080.00		90.00	2880.00		240.00
Contingency	444.00	37.00	74.00	1416.00	118.00	236.00	1140.00	95.00	190.00	3000.00	250.00	500.00
CRE Technical assistance	300.00	70.00	95.00	300.00	70.00	95.00	240.00	40.00	60.00	840.00	180.00	250.00
Total	4375.68	782.54	1147.18	8866.56	2110.91	2849.79	8439.12	1827.77	2531.03	21681.36	4721.22	6528.00

* TO BE PAID BY ENDE

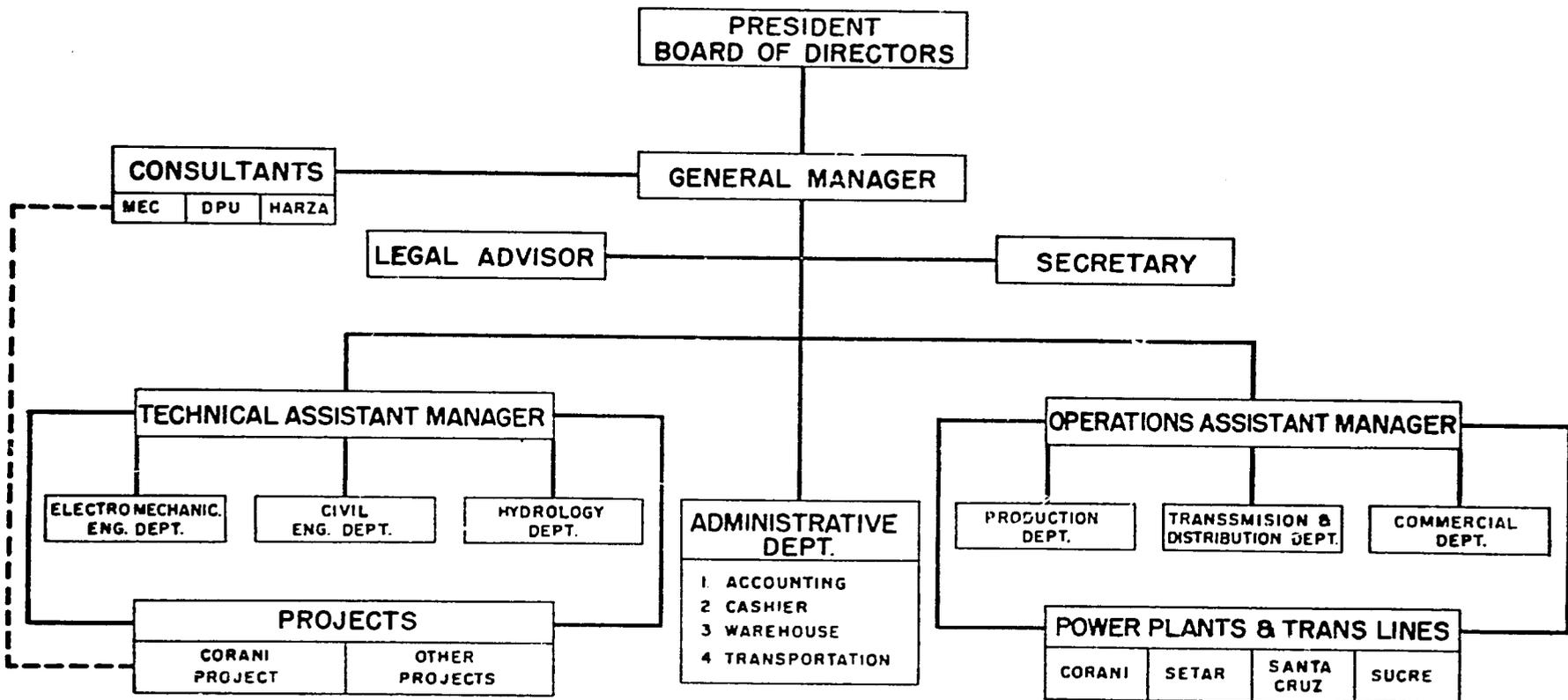
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ORGANIZATION CHART



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ANNEX D, 1 OF 1

CHECK LIST OF STATUTORY CRITERIA (ALLIANCE FOR PROGRESS)

(FAA - Foreign Assistance Act of 1961, as amended
by the Foreign Assistance Act of 1965.)
(App.- Foreign Assistance and Related Agencies
Appropriations Act, 1966.)

1. FAA Section 102. Precautions that have been or are being taken to assure that loan proceeds are not diverted to short-term emergency purposes (such as budgetary, balance of payments, or military purposes) or any other purpose not essential to the country's long-range economic development.

The proceeds of this loan will be used to finance electrical generation equipment, distribution facilities and related technical assistance, all of which will contribute to the long-range economic development of Bolivia.

2. FAA Section 102. Information on measures taken to utilize United States Government excess personal property in lieu of the procurement of new items.

Periodic excess property lists have been reviewed and no equipment appears to be available which could be utilized in this project. The final design of the project will include additional review of use of excess property.

3. FAA Section 102. Information whether the country permits, or fails to take adequate measures to prevent, the damage or destruction by mob action of United States property.

The Government of Bolivia takes adequate measures to prevent the damage or destruction by mob action of United States property.

4. FAA Section 201(d). Information and conclusion on legality (under laws of country and United States) and reasonableness of lending and relending terms of the loan.

The loan terms are reasonable and consistent with the laws of the United States and Bolivia.

5. FAA Section 251(a). Manner in which loan will promote country's economic development and contribute to the welfare of its people.

Increasing the electric power potential of the Santa Cruz area is essential to the increased productivity of this region and concomitantly will have a favorable affect on its people.

6. FAA Section 251(b)(1). Extent to which country is adhering to the principles of the Act of Bogota and Charter of Punta del Este and is showing a responsiveness to the vital economic, political, and social concerns of its people, and extent to which country has demonstrated a clear determination to take effective self-help measures.

Bolivia is adhering to the principles of the Act of Bogota and the Charter of Punta del Este.

7. FAA Section 251(b)(2). Information and conclusion on activity's economic and technical soundness.

See Sections II and III.

8. FAA Section 251(b)(3). Information and conclusion on activity's relationship to and consistency with other development activities, and its contribution to realizable long-range objectives.

This activity is consistent with and is related to other development activities being undertaken or planned and will contribute to realizable long-range objectives.

9. FAA Section 251(b)(4). Information and conclusion on possible effects on U. S. economy, with special reference to areas of substantial labor surplus.

The loan will have no foreseeable unfavorable effect on the U.S. economy.

10. FAA Section 251(b). Information and conclusion on availability of financing from other Free World sources, including private sources within the United States.

Other free world sources are not available upon reasonable terms.

11. FAA Section 251(b). Information and conclusion on capacity of the country to repay the loan.

See Section - External Debt and Repayment Capacity.

12. FAA Section 251(b). Information and conclusion on country's efforts to repatriate capital invested in other countries by its own citizens.

Bolivia is making reasonable efforts to encourage repatriation of capital invested in other countries by its own citizens.

13. FAA Section 251(b). Information and conclusion on reasonable prospects of repayment.

It is believed that there are reasonable prospects of repayment of this loan.

14. FAA Section 251(e). Information and conclusion on availability of an application together with sufficient information and assurances to indicate reasonably that funds will be used in an economically and technically sound manner.

The funds will be used economically and in a technically sound manner as discussed in Sections II and IV.

15. FAA Section 251(g). Information and conclusion on use of loan to assist in promoting the cooperative movement in Latin America.

A portion of this loan will be used to support an electric cooperative.

16. FAA Section 252(a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources.

Funds under this loan will be used to procure goods from private sources, in addition a private enterprise will directly receive a portion of the loan. See Section V - Impact on U.S. Economy.

17. FAA Section 601(a). Information and conclusions whether loan will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions.

Loan funds will be used to improve the industrial sector of Bolivia by the addition of increased electrical capacity and will contribute to the above stated conditions.

18. FAA Section 601(b). Information and conclusion on how the loan will encourage U. S. private trade and investment abroad and how it will encourage private U. S. participation in foreign assistance programs (including U. S. private trade channels and the services of U. S. private enterprise).

Procurement of goods will be from private sources. See Section V.

19. FAA Section 601(d). Conclusion and supporting information on compliance with the Congressional policy that engineering and professional services of U. S. firms and their affiliates are to be used in connection with capital projects to the maximum extent consistent with the national interest.

There will be a U.S. engineering firm employed with funds under this loan.

20. FAA Section 602. Information and conclusions whether loan will permit American small business to participate equitably in the furnishing of goods and services financed by it.

The loan will encourage private trade, and American small business will have the opportunity to furnish goods. See Section VI

21. FAA Section 604(a), App. Section 108. Compliance with restriction of commodity procurement to United States except as otherwise determined by the President and subject to statutory reporting requirements.

Will be complied with, all equipment material and services financed for the project under the loan shall be procured from the United States.

22. FAA Section 604(o). Compliance with bulk commodity procurement restriction to prices no higher than the market price prevailing in the United States at time of purchase.

Will be complied with, any commodities purchased in bulk under this loan will be purchased at prices no higher than prevailing U.S. prices.

23. FAA Section 604(d). Compliance with requirement that marine insurance be purchased on commodities if the host country discriminates, and that such insurance be placed in the United States.

Will be complied with.

24. FAA Section 611(a)(1). Information and conclusion on availability of engineering, financial, and other plans necessary to carry out the assistance and of a reasonably firm estimate of the cost of the assistance to the United States.

Technical and financial planning for the project has been completed. See Sections II and IV.

25. FAA Section 611(a)(2). Necessary legislative action required within recipient country and basis for reasonable anticipation such action will be completed in time to permit orderly accomplishment of purposes of loan.

No further legislative action in Bolivia is required for implementation of the project.

26. FAA Section 611(b), App. Section 101. If water or water-related land resource construction project or program, information and conclusion on benefit-cost computation.

Not applicable.

27. FAA Section 611(c). Compliance with requirement that contracts for construction be let on competitive basis to maximum extent practicable.

Construction contracts will be let on competitive basis.

28. FAA Sections 612(b) and 636(h). Appropriate steps that have been taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services and foreign currencies owned by the United States are utilized to meet the cost of contractual and other services.

Not applicable.

29. FAA Section 619. Compliance with requirement that assistance to newly independent countries be furnished through multi-lateral organizations or plans to maximum extent appropriate.

Not applicable.

30. FAA Section 620(a), App. Section 107(a). Compliance with prohibitions against assistance to Cuba and any country (a) which furnishes assistance to Cuba or failed to take appropriate steps by February 14, 1964, to prevent ships or aircraft under its registry from carrying equipment, materials, or supplies from or to Cuba; or (b) which sells, furnishes or permits any ships under its registry from carrying items of primary strategic significance, or items of economic assistance to Cuba.

Bolivia provides no assistance to Cuba, and no assistance will be furnished under this loan.

31. FAA Section 620(b). If assistance to the government of a country, existence of determination it is not controlled by the international Communist movement.

Bolivia is not controlled by the International communist movement.

32. FAA Section 620(c). If assistance to the government of a country, existence of indebtedness to a U. S. citizen for goods or services furnished or ordered where such citizen has exhausted available legal remedies or where the debt is not denied or contested by such government or the indebtedness arises under an unconditional guaranty given by such government.

Not applicable.

33. FAA Section 620(d). If assistance for any productive enterprise which will compete in the United States with U. S. enterprise, existence of agreement by the recipient country to prevent export to the United States of more than 20% of the enterprise's annual production during the life of the loan.

Not applicable.

34. FAA Section 620(e)(1). If assistance to the government of a country, extent to which it (including government agencies or sub-divisions) has, after January 1, 1962, taken steps to repudiate or nullify contracts or taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U. S. citizens or entities beneficially owned by them without taking appropriate steps to discharge its obligations.

Bolivia has not taken such action.

35. FAA Section 620(f); App. Section 109. Compliance with prohibitions against assistance to any Communist country.

Bolivia is not a Communist country.

36. FAA Section 620(g). Compliance with prohibition against use of assistance to compensate owners for expropriated or nationalized property.

Not applicable.

37. FAA Section 620(h). Compliance with regulations and procedures adopted to insure against use of assistance in a manner which, contrary to the best interest of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries.

This loan will not promote or assist activities of the Communist-bloc countries.

38. FAA Section 620(i). Existence of determination that the country is engaging in or preparing for aggressive military efforts.
Bolivia is not engaging in such efforts.

39. FAA Section 620(k). If construction of productive enterprise where aggregate value of assistance to be furnished by United States will exceed \$100 million, identification of statutory authority.
Not applicable.

40. FAA Section 620(l). Compliance with prohibition against assistance after December 31, 1966, for the government of a country which fails to institute investment guaranty program.
Will be complied with.

41. FAA Section 620(n); App. 107(b). Compliance with prohibition against assistance to countries which traffic or permit trafficking with North Vietnam.

Bolivia is not giving assistance to countries which traffic or permit trafficking with North Vietnam.

42. FAA Section 620(o). If country has seized, or imposed any penalty or sanction against, any U. S. fishing vessel on account of its fishing activities in international waters, information on the consideration which has been given to excluding the country from assistance.

Not applicable.

43. FAA Section 621. Information and conclusion on how the loan in providing technical assistance will utilize to the fullest extent practicable goods and professional and other services from private enterprise on a contract basis. If the facilities of other Federal agencies will be utilized, information and conclusion on whether they are particularly suitable, are not competitive with private enterprise, and can be made available without undue interference with domestic programs.

See Implementation Plan.

44. App. (Section Unnumbered). Use of funds to carry out FAA Section 205, which pertains to IDA.

Not applicable.

45. App. Section 102. Compliance with requirement that payments in excess of \$25,000 for architectural and engineering services on any one project be reported to Congress.

Will be reported to the committees on appropriations of the Senate and the House.

46. App. Section 104. Compliance with bar against funds to pay pensions, etc., for military personnel.

Funds will not be used for such purposes.

47. App. Section 106. If country attempts to create distinctions because of their race or religion among Americans in granting personal or commercial access or other rights otherwise available to U. S. citizens generally, application which will be made in negotiations of contrary principles as expressed by Congress.

Application will be made conforming to principles as expressed by Congress, if such discrimination occurs.

48. App. Section 111. Compliance with existing requirements for security clearance of personnel.

Will be complied with, and all personnel shall have security clearances required by A.I.D. regulations.

49. App. Section 112. Compliance with requirement for approval of contractors and contract terms for capital projects.

Will be complied with, and all firms which provide engineering and procurement services financed by the loan for the project and the terms of their contracts, shall be approved by A.I.D.

50. App. Section 114. Compliance with bar against use of funds to pay assessments, etc., of U.N. member.

Loan funds will not be used to make any payments to the UN.

51. App. Section 115. Compliance with regulations on employment of U.S. and local personnel for funds obligated after April 30, 1964, (Regulation 7).

Will be complied with.

52. App. Section 401. Compliance with bar against use of funds for publicity or propaganda purposes within United States not heretofore authorized by Congress.

Loan funds will not be used for publicity or propaganda purposes within the United States.

DECREES

EXCERPTS FROM PERTINENT DECREES

1. Supreme Decree No. 05997 - La Paz, February 9, 1962
Establishment of DINE
2. Supreme Decree No. 06792 - La Paz, June 9, 1964
Authorization to Ministry of Economy to borrow from
International Lending Agencies to Finance ENDE.
3. Supreme Resolution No. 127.462 - La Paz, February 4,
1965 Recognition of Legal Status and approval of
Statutes of ENDE.
4. Supreme Resolution No. 130040 - La Paz, October 13,
1965 Relationship of ENDE and CRE
5. Supreme Decree No. 07591 - La Paz, April 20, 1966

-oOo-

SUPREME DECREE No. 05997

In Council of Ministers,

DECREES:

Article 1 . Reorganize the General Direction of Hydraulic and Electricity of the Ministry of Public Works which hereafter will be called National Direction of Electricity, so that it will comply with the functions that this Decree assigns to it.

Article 2. The National Direction of Electricity will assume the following functions until the proclamation of the General Electricity Laws :

- a) To procure compliance with the laws and regulations in force or that in the future will be prescribed for electric installations and services;
- b) To inform on the granting of concession and cases of expiration and right of way related to these services;
- c) To grant and decide in the matter of concessions, licenses, and transfers of electrical services;
- d) To program and exercise control of the distribution, sale, and rationalization of electrical consumption;
- e) To edit and establish standards and rules on the technical characteristics for the construction and operation of electrical systems;

- f) To require annual reports on the type of operation of all the electric services in the country;
- g) To undertake technical, economical, and financial studies of the operations of these services to establish appropriate and compatible tariffs, both for sound financial operation of the enterprises, as well as for the consumers' benefit;
- h) To realize permanent studies for the periodic approval or modification of electricity tariffs;
- i) To approve the investment programs and budgets of public and private electrical enterprises;
- j) To compile, keep and publish statistics related to electric power;
- k) To maintain a center of information of standards, rules, and regulations on electric services;
- l) To attend to the necessities of electric power of the capitals, provinces, and minor towns as requested of the Ministry of Public Works and Communications, coordinating the installations with the Prefectures, Municipalities, CBF, and other public and private entities, in accordance with the objectives of the National Development Plan and the National Planning Board;

Article 3. The technical personnel of the General Director of Hydraulics and Electricity, will be transferred to the Bolivian Administration of Sanitary Works and the National

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Direction of Electricity, according to their specialities and with all rights of long service.

Article 4. All dispositions in contrary to this Decree are hereby annulled. The Ministers of State in Finance and Statistics, Public Works and Communications, and National Economy, are charged with the execution and fulfillment of the present Decree.

Given in the Government's Palace of the city of La Paz, on the ninth of February 1962.

(Signed) Victor Paz Estenssoro - A. Cuadros Sánchez -
R. Ayala Requena - A. Genucio Reyes - J. Fellman Velarde -
J. Antonio Arze - R. Perez Alcalá - G. Jauregui - M. Guzmán
Galarza - R. Jordán Pando - Simón Cuentas C.

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SUPREME DECREE No. 06792

The Ministers' Council, with the authorization of the Honorable
Legislative Commission and with law enforcement,

DECREES:

Article 1. The Minister of National Economy is hereby au-
thorized to subscribe credit contracts and all
pertinent documents required for this purpose with the Inter-
national Development Association and the Interamerican
Development Bank, for the Government, personally or through
a delegate.

Article 2. The Corporación Boliviana de Fomento is hereby
designated to act as Government agent in all matters
related to the investment of capital in the National Electrical
Power Enterprise, in accordance with the policy established
by this Decree by law enforcement and in the Supreme Decree
No. 5999, dated February 9, 1962.

Article 3. The National Electrical Power Enterprise an agency
of the Corporación Boliviana de Fomento is hereby
designated as the executor of the projects for the public sector,
including the National Electrical Power Program. The named
National Electrical Power Enterprise will be constituted as a

corporation no later than January 1st, 1965, and its shares will be compulsorily entrusted to Government entities, with major participation of the Corporación Boliviana de Fomento.

Article 4. The "Project Contract" and all other documents pertinent to this project will be signed by the President of the Corporación Boliviana de Fomento and the Director of the National Electrical Power Enterprise, as well as by representatives from the International Development Association and Interamerican Development Bank.

Article 5. The credit from the International Development Association to carry out the projects of the National Electrical Power Enterprise, will constitute the capital contribution of the "Corporación Boliviana de Fomento" to the National Electrical Power Enterprise, at the time each disbursement is effected.

Article 6: The Government contribution to the Program of the National Electrical Power Enterprise will be covered by the Treasury of the Nation in the following manner:

1964	\$us. 200, 000
1965	400, 000
1966	400, 000
1967	400, 000

These economic contributions from the Corporación Boliviana de Fomento to the National Electrical Power Enterprise will be effected on the following dates:

When contract is signed	\$us.100, 000
Before December 31, 1964	100, 000
Before March 31, 1965	200, 000
Before September 30, 1965	200, 000
Before June 30, 1966	200, 000
Before December 31, 1966	200, 000
Before June 30, 1967	200, 000
Before December 31, 1967	200, 000

The remaining amount of \$us.600, 000 up to \$us.2, 000, 000 will be covered by the Corporación Boliviana de Fomento within the same period of four years, using for this purpose the special economic resources fixed by Decree No. 06793 with law enforcement, dated June 9, 1964, in accordance with the needs of the Program. The total of \$us.1, 400, 000 from the Treasury of the Nation will also constitute a capital contribution of the Corporación Boliviana de Fomento to the National Electrical Power Enterprise. This year's contributions will be covered by a **credit** from the Banco Central de Bolivia to the Treasury of the Nation; on the other hand, the contributions obligated for the years 1965, 1966, and 1967 will be registered in the General budgets of the respective fiscal year.

Article 7. The credits obtained from the Interamerican Development Bank will be utilized by the National Electrical Enterprise to complete the financing of its projects, and will be reimbursed by the said Enterprise on the dates and conditions established in the respective contract.

Article 8. The contribution of the Agency for International Development to the Program will be used entirely by the National Electrical Power Enterprise to carry out the specific projects outlined in the respective contract. The payments will be effected by the same Enterprise.

Article 9. The Government authorizes the Corporación Boliviana de Fomento to transfer its assets of the electrical sector, when necessary, to its account for the purpose of building up the basic capital for the corporation. The loans obtained for the financing of said assets will be taken care of by the Corporación Boliviana de Fomento with credits granted for this purpose by the Banco Central de Bolivia (Central Bank of Bolivia)

Article 10. The National Electrical Power Enterprise will be free from customs and consular duties, municipal and customs taxes on sales, excepting the cost of service for importation of materials, equipment and vehicles used in the works of the financed Program as well as in the fulfillment of

the specific objectives. The acts of its constitution and contracts will be free from any expenses on seals for legal papers.

The liberations accorded to the National Electrical Power Enterprise by the present provision in regard to importations, will be extended to the enterprises with which contract will be made for the construction of plants, and installations. These enterprises will re-export their imported goods, when their contracts expire, with the mentioned liberations or will proceed to their nationalization prior payment of taxes unpaid because of liberation.

The liberation of duties also includes any departmental, municipal and university taxation already established or to be established; but does not include the internal taxes on expenditure of commodities or use of services in the country.

The profits of the National Electrical Power Enterprise will be reinvested on the expansion of its systems and will be exempt from payment of taxes to the Department of Revenue.

Article 11. All the operations carried out by the Corporación Boliviana de Fomento in the name of the National Electrical Power Enterprise will be exempt from the payment

of the taxes mentioned in the above Article until this Enterprise is constituted as an autonomous organization.

Article 12. The Corporación Boliviana de Fomento and the National Electrical Power Enterprise will establish a procurement system and a contractual procedure for services needed for the fulfillment of the Program, subject to the legal conditions in force and after consultation with the participating financial organizations on their requirements.

Article 13. The Government will be responsible for the payment of amortizations to the credit amount of \$us.15, 000, 000 from the International Development Association, including the service commission of 3/4%, within the period of fifty years with a grace period of ten years.

The State Ministers of National Economy, Finance and Public Works and Communications are in charge of the execution and fulfillment of this Decree.

Subscribed at the Government Palace of the city of La Paz, on the ninth day of June of the year one thousand and sixty four.

(Signed) Victor Paz Estenssoro - F. Iturralde Chinel - J. Fellman Velarde - E. Arauco Paz - Arturo Fortún S. - J. Escobar Q. - R. Leytón M. - Ciro Humboldt B. - B. Arvizu V. - A. Aguilar Peñarrieta - R. Zavaleta M. - G. Jáuregui G. - Jaime Otero C.

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La Paz, Bolivia, February 4, 1965

SUPREME RESOLUTION No. 127.462

.....Consequently, in accordance with the verdict of the Government Attorney, it has been decided to: Recognize the legal status of the National Electric Power Enterprise "ENDE" with its main domicile in the city of La Paz, but with the possibility of fixing other domiciles within the territory of the Republic of Bolivia, with indefinite duration for making projects, establishing, administering, managing, and operating electric power enterprises of its dependency or others, carrying out industrial and commercial development in any field and characteristics of its speciality in production, transmission, distribution, and buying and selling electric power in its different forms of application. The authorized capital to achieve this, will be \$us. 40, 000, 000 (FORTY MILLION DOLLARS) divided into shares of one thousand dollars each; and a subscribed capital of \$us. 15, 000, 000 (FIFTEEN MILLION DOLLARS) to be paid later, plus the economic resources to be financed by A. I. D.

In the same manner, the Statutes of the Corporación with eleven Chapters, forty three main Articles and four transitory Articles are hereby approved. These should be submitted to the Prefecture of the Department of La Paz in order to be registered at the Office of the Notary of the Ministry of Finance of its dependency after the formalities of the law have been complied with.

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Register, communicate, and remit.

(Signed) General of the Air Force, René Barrientos Ortuño -
President of the Junta Militar - Lt. Col. Julio Sanjinés Goitia -
Minister of National Economy

In conformity: Hector Ormachea Peñaranda, Under-Secretary
of National Economy

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SUPREME RESOLUTION No. 130040

DECREES:

1. The National Electricity Enterprise (ENDE) is authorized to negotiate and sign with the Agency for International Development (USAID) the corresponding financing contracts for the development of the electric systems of Santa Cruz, Sucre, Potosí and Tarija.
2. The National Electricity Enterprise is also authorized to negotiate and sign with CRE of Santa Cruz, a contract by which with the latter entity it shall be responsible for the distribution of electric power in the city of Santa Cruz and in the rural areas of its influence.
3. The Contract between the National Electricity Enterprise, (ENDE) and the Rural Cooperative of Electrification of Santa Cruz, (CRE) must be signed in 30 days from the date of the present Resolution, in which a clause will be included by which the Rural Cooperative of Electrification of Santa Cruz, will be authorized to generate electric power for its own account in the event that the National Electricity Enterprise should not be able to take care of the growing demand.

Register, transmit, and file.

(Signed) Gral. Alfredo Ovando Candia - Col. Jaime Berdecio
Zilveti - Marcelo Galindo de Ugarte

Agreed.

Jorge Arteaga Castro
Under-Secretary of National Economy

SUPREME DECREE No. 07591

Considering:

That Article I of the Supreme Decree No. 06792 dated June 9, 1964 authorizes the Ministry of National Economy to subscribe - on behalf of the State - a contract with IDA and BID for the creation of ENDE as a Stock Company in charge of the National Electrical Power Program.

That in accordance with the credit contracts subscribed between the Government of Bolivia and the International Development Association (Section 4.05, paragraph 1) of the Development Agreement No. 61/Bo dated July 24, 1964) and the Inter-American Development Bank (Section 5.61 of the Loan Agreement No. 41-SF/BO dated July 24, 1964), it has been agreed that ENDE be constituted as a Stock Company.

That ENDE's legal status as a Stock Company has been acknowledged by Supreme Resolution No. 127402 dated February 4, 1965.

That it is necessary to rectify an error in the numbering of the Supreme Decrees which authorize the subscription of the contracts between the State, IDA and BID.

In Ministerial Council, it is hereby decreed:

Article I - The "Empresa Nacional de Electricidad" S.A.", will conform its acts and proceedings as a Stock Company to the laws now in force.

Article II - The budget of the Empresa Nacional de Electricidad S. A. for each annual period will be approved by its Board of Directors in accordance with their by-laws and the Ministry of Finance will be notified of such approval for the purpose of consolidation in the National Budget.

Article III - The acquisition and the contracting of services by the Empresa Nacional de Electricidad S. A. will strictly conform with the Regulations approved by its Board of Directors that will duly register the stipulations of said credit contracts subscribed by the State with the International Financing Entities.

Article IV - ENDE's control, supervision and management will be exercised through its management organization and its auditing is to be carried out by independent auditors in accordance with the respective international contracts and through the ordinary procedure of Stock Companies and electric power enterprises. For this purpose, a copy of its balances will be sent to the Office of the Controller General of the Republic of Bolivia.

Article V - It is hereby acknowledged that the correct numbering of the Supreme Decrees dated June 9, 1964 which authorize the subscription of credit agreements with IDA and BID for the hydro-electrical projects of Empresa Nacional de Electricidad S. A. and the Bolivian Power Company, is 06792 and 06793 instead of 06892 and 06893 as erroneously shown in the original copies sent to financing entities. It is understood that this error will be clarified in the official Gazette, pages 4740 and 4942, referring to numbers 06792 and 06793 respectively.

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Article VI - In particular and without limitation to the provision of the preceding Article, it is hereby declared that the reference to the Supreme Decrees No. 06892 and 06893, Section 5.02 (e) of the Development Credit Agreement between the Republic of Bolivia and IDA, dated July 24, 1964, will be considered as referring to the Supreme Decrees No. 06792 and 06793 mentioned above.

The Ministers of National Economy and Finance and Statistics are entrusted with the execution and fulfillment of the present Decree.

Given in the City of La Paz on this 20th day of April of 1966.

(Signed by the members of the Cabinet)

General Alfredo Ovando Candia

Col. Joaquín Zenteno A.

Lt. Col. Oscar Quiroga T.

Lt. Col. Hugo Banzer S.

Lt. Col. Carlos Alcoreza

Colonel Juan José Torres

Colonel Jaime Berdecio Zilveti

Lt. Col. René Bernal Z.

Col. Sigfredo Montero

Col. Rogelio Miranda

Col. Carlos Ardiles I.

Col. José Carrasco R.

Col. Juan Lechin S.

Fernando D. de Medina

REPORT OF THE COMMISSIONER OF THE GENERAL LAND OFFICE
 FOR THE YEAR 1900
 (Continued)

	1900		1899		1900		1899	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
SECTION 100 (cont.)								
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
SECTION 101 (cont.)								
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
SECTION 102 (cont.)								
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
SECTION 103 (cont.)								
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
SECTION 104 (cont.)								
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
LANDS BELONGING TO THE GOVERNMENT (1); and (2)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

REPORT OF THE COMMISSIONER OF THE GENERAL LAND OFFICE
 FOR THE YEAR 1900

REPORT OF THE COMMISSIONER OF THE GENERAL LAND OFFICE
 FOR THE YEAR 1900

	Jan. 1967 (Actual)		Jan. 1967		Feb. 1967		2/2, 1967	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
OTHER ACCOUNTS (Type 10)								
Starting Balance Unassigned (A); Sub (B)	556	556	556	556	00	00	55	55
Plus Special Payments	00	00	00	00	00	00	00	00
Less Committed (A); Withdrawals (B)	556	556	556	556	00	00	55	55
Ending Balance Unassigned (A); Sub (B)	00	00	00	00	00	00	00	00
IRRF - DISBURSED (AMOUNT) STATE								
Starting Sub Balance		25,212		25,212		00		25,212
Less Withdrawals		2,750		2,750		00		2,750
Ending Sub Balance		22,462		22,462		00		22,462
STABILITY - I								
Starting Balance Unassigned (A); Sub (B)	100,750	201,500	100,750	201,500	25,777	178,723	100,750	201,500
Plus Special Payments	00,712	00,712	71,778	71,778	25,027	46,751	107,805	107,805
Less Committed (A); Withdrawals (B)	25,075	25,075	25,075	25,075	25,075	25,075	25,075	25,075
Ending Balance Unassigned (A); Sub (B)	75,387	150,777	50,777	101,153	25,724	149,399	75,400	150,780
Net Disburse I	25,363	50,722	49,973	99,447	25,053	25,376	25,350	50,700
STABILITY - II								
Starting Balance Unassigned (A); Sub (B)	100,750	201,500	100,750	201,500	25,777	178,723	100,750	201,500
Plus Special Payments	00,712	00,712	71,778	71,778	25,027	46,751	107,805	107,805
Less Committed (A); Withdrawals (B)	25,075	25,075	25,075	25,075	25,075	25,075	25,075	25,075
Ending Balance Unassigned (A); Sub (B)	75,387	150,777	50,777	101,153	25,724	149,399	75,400	150,780
Net Disburse II	25,363	50,722	49,973	99,447	25,053	25,376	25,350	50,700

- * Includes 1) Agencywide Commodity Account, and 2) Stabilization Account

** Less Interest Factor = 3% of Special Payments and Withdrawals. Not applicable to Jan. 1967 column since this was a cash figure.

*** Of these amounts, \$1.0 million was 1967/68

• Net Billing

For Figures See 1/ to 1/2, see inside pages.

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MODIFIED LOAN ACCOUNT
REVENUE OPERATIONS, COMMITMENTS & WITHDRAWALS (BY TYPE)
 (In thousands \$)

	Jan. - March (Actual)		Jan. - August		Sept. - Dec. 31st	
	(A)	(B)	(C)	(D)	(E)	(F)
Starting Balance Uncommitted (A): Cash (B)	29,118	25,702	29,118	25,702	(21,710)	17,020
Plus: Expected Operations						
ITFE Consolidated & AsGen SA's	1,836	1,836	1,836	1,836	3,200	3,200
Budgetary Support C.I.C.	262	262	1,746	1,746	672	672
ENEFCC	11	11	42	42		
Artesonias Bolivianas			25	25	40	40
Nal. Glass Factory	132	132	280	280	216	216
COMINEL Consolidated	5,318	5,318	9,070	9,070	3,972	3,972
Mineral Survey	8	8	8	8	4	4
Ferros	27	27	22	22	10	10
La Princesa-Interest (\$4 million)	27	27	42	42	16	16
C.I.S.	711	711	2,400	2,400	1,210	1,210
CONCEPLA			717	717		
Monsieito Colony			2	2		
Ferrous			22	22		
Nal. Fed. of Credit Unions	48	48	48	48		
El Alto Airport			26	26		
Sollima S.A.			690	690	42	42
COMINEL Working Capital			90	90	10,712	10,712
Blanca Flor Refinancing	29	29	213	213		
Blanca Flor Oil Seed Development			52	52		
CONCEPST Working Capital			116	116		
CONCEPST Machinery & Equipment			28	28		
Loan #1 El Alto Airport			1,297	1,297		
Loan #2 La Princesa	26	26	22	22	42	42
Loan #3 Rd. Maint. Sta. Cruz	9	9	276	276	41	41
Loan #5 Elect. Sta. Cruz			232	232	30	30
Loan #6 Lay-off Program CEF			621	621		
Loan #7 Centro Boliviano Americano			1	1	17	17
Loan #8 COMINEL Rehabilitation	147	147			20	20
Consolidated FTCC-LAS			1,025	1,025	0	0
CEF Secondary Rd. Maintenance	21	21				
Other Projects	19	19				
Total Operations	5,522	5,522	20,010	20,010	20,010	20,010
Total: Uncommitted (A): Cash (B)	24,120	20,280	49,128	45,712	1,700	37,030

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	<u>Jan. - March (Actual)</u>		<u>July - August</u>		<u>Sept. - Dec. 1966</u>	
	(A)	(B)	(1)	(2)	(3)	(4)
Less: Committed (A); Withdrawals (B):						
Customs Posts FY 66			2,000	2,000		
Customs Posts FY 67					370	370
Mine Roads FY 66			1,000	1,000		300
Mine Roads FY 67					(1,000)	(1,000)
Colony Roads Sta. Cruz			5,000	5,000		2,000
School Repair/Construction		1,000	1,000	1,000		500
Central Bank Bldg.--USAID off.	2,000		2,000	2,000	150	1,150
50-50 Feasibility Studies			700	700		100
Pay FL 450 T. 1 to U.S.G.	450	1,500	2,500	2,500		100
Colonization Program			1,000	1,000		1,000
Missouri Land Tenure Program			50	50		100
Loan to pay Mining Bldg.			1,000	1,000		1,000
Special Capital Projects - a/ Trust Fund			25,000	25,000	25,000	25,000
LAR Lay-off Program			11,000	11,000		1,000
Feasibility Study-Sugar Mktg. D.P.U.	70	70	70	70		
Rural Normal School			1,000	1,000		1,000
Loan to GOB for E. Hernandez Settlement			100	100	100	1,000
Totals: Committed (A); Withdrawals (B)	3,521	4,501	51,800	51,800	10,310	10,700
Ending Balance: Uncommitted (A); Cash (B)	13,800	24,300	(14,700)	21,400	(10,000)	11,000

a/ Includes Census Project and COMIBOL Social Project.

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FL 489 Title I Section 104 (c)
 EXPECTED GENERATIONS, COMMITMENTS AND WITHDRAWALS (C.Y. 1966)
 (In thousands of \$.)

	Jan.-Mar. (Actual)		Jan.-June		Sept.-Dec.	
	(A)	(B)	(A)	(B)	(A)	(B)
Starting Balance: Uncommitted (A): Cash (B)	111,333	111,333	111,333	111,333	15,648	27,721
Plus: Expected Generations:	11,578	11,578	34,374	34,374	13,142	13,142
Total: Uncommitted (A): Cash (B)	122,911	122,911	145,707	145,707	28,790	40,863
Less: Committed (A): Withdrawals (B)						
Mine Roads FY '69			6,300	3,600		2,700
Mine Roads FY '67					4,500	1,800
Chia-Santa Cruz Road Repair			24,000	1,200		300
El Alto Airport			2,160	1,200		300
Inland Waterways Development FY '67					1,200	300
Mining Bank						300
COMIBOL	16,800		16,800	7,200		3,600
Agricultural Bank			12,000	5,333		2,667
COMBOPLA - FY '66	24,000		24,000	15,000		7,500
COMBOPLA - FY '67		410		410		410
CONCOFRUT and Other Agr. Marketing			6,000	2,000		1,000
Industrial Bank		350	1,333	500		233
Artesanías Bolivianas			6,000	3,000		1,500
Natl. Fed. of Credit Unions		350		550		100
La Primera				1,600		800
Santa Cruz Electric Power		1,165		4,200		1,100
Total: Committed (A): Withdrawals (B)	40,800	2,305	116,900	47,793	5,700	57,333
Ending Balance: Uncommitted (A): Cash (B)	81,111	120,606	28,807	97,914	23,090	15,530

b/ Will be generated from the sales agreement to be signed in April, 1966.

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PL 480 Title I SECTION 104(e) (COOLEY)
 EXPECTED GENERATIONS COMMITMENTS AND WITHDRAWALS (C. Y. 1966)
 (In thousands of \$)

	Jan. - Mar. (Actual)		Jan. - August		Sept. - December	
	(A)	(B)	(A)	(B)	(C)	(E)
Starting Balance: Uncommitted (A); Cash (B)	33,253	34,534	33,253	34,534	11,237	12,638
Plus: Expected Generations:	2,172	2,172	2,562	2,552	9-7 ₂	24-7 ₂
Total: Uncommitted (A); Cash (B)	35,425	36,706	35,815	37,086	12,16-	21,365
Less: Committed (A); Withdrawals (B)						
Grace Cement Plant		399		1,260		
World Homes	12,601		12,600	3,670		5,511
Reserved for new Projects					6,111	
Transfer to 20FT68 ^a	12,578	12,578	12,578	12,578		
Total: Committed (A); Withdrawals (B)	24,578	12,977	24,578	17,458	6,111	5,511
Ending Balance: Uncommitted (A); Cash (B)	10,847	23,729	11,237 ^{b/}	19,638	6,16 ^{c/}	15,855

^{b/} Will be generated from the Sales Agreement to be signed in April, 1966

^{c/} Of these amounts, \$1,754,738 are unused and expired funds available for transfer to Treasury for other U. S. uses.

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SPECIAL ACCOUNT COUNTERPART "A"
 EXPECTED GENERATIONS, COMMITMENTS & WITHDRAWALS (CY 1966)
 (in thousands of \$)

	Jan.- Mar. (Actual)		Jan.- August		Sept.- December	
	(A)	(B)	(A)	(B)	(A)	(B)
Starting Balance: Uncommitted (A); Cash (B)	23,257	24,558	23,257	24,558	23,257	21,653
Plus: Expected Generations:						
YFPB Aviation Gas	460	460	1,311	1,311		
Soligno			744	744	372	372
Forno	87	87	261	261	174	174
Licoma Caramina Rd.	474	474				
Cooperative Agr. Mkts.	300	300	2,316	2,316		
Public Works (debt)	139	139	270	270		
Total Generations:	1,460	1,460	4,902	4,902	546	546
Total: Uncommitted (A); Cash (B)	24,717	26,018	28,159	29,460	23,803	22,199
Less: Committed (A); Withdrawals (B)						
Public Works		8	32	32	136	136
Trust Fund	3,275	4,275	7,870	7,775	545	545
Licoma Caramina Rd.	474	474				
Other Projects		160				
Total: Committed (A); Withdrawals (B)	3,749	4,917	7,902	7,807	681	781
Ending Balance: Uncommitted (A); Cash (B)	20,968	21,101	20,257	21,653	23,122	21,418

d/ Of these amounts, \$619,987 are FROZEN

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SPECIAL ACCOUNT COUNTERPART "B" ^{c/}
 EXPECTED GENERATIONS, COMMITMENTS AND WITHDRAWALS (C. Y. 1966)
 (in thousands of \$)

	Jan. - Mar. (Actual)		Jan. - August		Sept. - December	
	(A)	(B)	(A)	(B)	(A)	(B)
Starting Balance: Uncommitted (A); Cash (B)	3,014	3,014	3,014	3,014	3,014	3,014
Plus: Expected Generations:	-	-	-	-	-	-
Total Uncommitted (A); Cash (B)	3,014	3,014	3,014	3,014	3,014	3,014
Less: Committed (A); Withdrawals (B)	-	-	-	-	-	-
Ending Balance: Uncommitted (A); Cash (B)	3,014	3,014	3,014	3,014	3,014	3,014

^{c/} Over long periods of time, this account does not show any movement because it is estimated that the money which is deposited through conversion of dollars will be drawn out during the same period. The balance of 3,014 corresponds to the following:

Residual of the CY 1964 XGRS	2,466
Undisbursed balance of RR. Rehabilitation	50
Difference in the exchange rates - 11.885 vs. 12.147	498

11 JUNE 1966
 11 JUNE 1966

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SECTION 402 ACCOUNT
 EXPECTED GENERATIONS, COMMITMENTS AND WITHDRAWALS (CY 1966)
 (In thousands of \$)

	Jan.-March (ACTUAL)		Jan.-August		Sept.-December	
	(A)	(B)	(A)	(B)	(A)	(B)
Starting Balance: Uncommitted (A): Cash (B)	20,350	20,350	20,350	20,350	20,230	20,230
Plus: Expected Generations	--	--	--	--	--	--
Total: Uncommitted (A): Cash (B)	20,350	20,350	20,350	20,350	20,230	20,230
Less: Committed (A): Withdrawals (B): Productivity Center			120	120	2-0	2-0
Total: Committed (A): Withdrawals (B)	--	--	120	120	2-0	2-0
Ending Balance: Uncommitted (A): Cash (B)	20,350	20,350	20,230	20,230	19,930	19,990

f/ Of these amounts 19,873 are FROZEN.

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 AUTHORITY: 5 U.S.C. 552

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AGRICULTURE COMMODITY ACCOUNT
 EXPECTED GENERATIONS, COMMITMENTS AND WITHDRAWALS (CY 1966)
 (In thousands of \$b)

	<u>Jan.-March (Actual)</u>		<u>Jan.-August</u>		<u>Sept-December</u>	
	(A)	(B)	(A)	(B)	(A)	(B)
Starting Balance: Uncommitted (A); Cash (B)	9	9	9	9		
Plus: Expected Generations	--	--	--	--		
Less: Committed (A); Withdrawals (B):						
Trust Fund	9	9	9	9		
Total: Committed (A); Withdrawals (B)						
Ending Balance: Uncommitted (A); Cash (B)	--	--	--	--		

STABILIZATION ACCOUNT
 EXPECTED GENERATIONS, COMMITMENTS AND WITHDRAWALS (CY 1966)
 (In thousands of \$b)

Starting Balance: Uncommitted (A); Cash (B)	216	216	216	216
Plus: Expected Generations	--	--	--	--
Less: Committed (A); Withdrawals (B):				
Trust Fund	216	216	216	216
Total Committed (A); Withdrawals (B)	216	216	216	216
Ending Balance: Uncommitted (A); Cash (B)	--	--	--	--

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BREAKDOWN OF THE "CONTRAPARTIDA" ACCOUNT
 REPORTED TO THE I.M.F. BY THE CENTRAL BANK (19 DAY REPORT)

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 ANNEZ G - Page 11 of 11

(In thousands of \$b)

	1965							1966		
	June	July	August	September	October	November	December	January	February	March
Minecon-Agric. Comm. Acct. '51	9.4	9.4	9.4	9.4	9.4	9.4	9.4	--	--	--
I Minecon-Spec. Acct. Counterpart	11,338.0	10,992.9	14,354.9	6,559.5	21,250.0	12,825.6	7,555.6	3,774.5	-293.3	-190.2
I Minecon-Stabilization Acct.	211.7	213.7	213.7	215.7	215.7	215.7	215.7	--	--	--
I Spec. Projects Office Acct. #1	33,339.6	30,638.8	28,892.6	31,128.9	39,986.5	31,501.9	24,926.9	25,569.1	21,756.2	33,012.6
I Spec. Projects Office Acct. 2/64	296.7	201.4	192.1	170.8	197.3	138.8	197.0	106.4	102.0	112.0
I Spec. Projects Office Acct. #2/65-66	116.1	167.1	123.4	244.1	155.9	260.1	184.1	109.2	52.0	121.2
Ia 72FT720 - Section 402 Acct.	465.8	465.8	465.8	465.8	477.8	477.3	477.3	477.3	-65.5	-55.5
Ia 72FT740 - 104(g) Account	101,194.4	104,236.3	103,577.1	101,215.3	104,196.5	108,968.1	111,233.1	120,781.4	126,144.5	129,906.1
Ia 72FT760 - 104(e) Account (Cooley)	32,379.4	32,813.9	32,813.9	32,813.9	33,499.8	34,231.2	34,534.0	35,487.2	23,319.9	23,728.7
Ia 72FT600 - Trust Fund	1,567.7	2,342.1	1,840.5	2,542.4	1,990.1	1,265.5	1,369.2	4,196.7	3,608.6	2,723.3
Ia F.S.A. Acct. - S.L.C. Loans	2,325.9	313.2	313.2	313.2	122.9	122.9	306.9	296.2	307.2	0.7
I SASP - Local Currency	--	--	--	--	--	--	--	--	--	--
I Minecon-MOE/USAID Loan Acct.	28,405.2	31,297.9	31,030.9	32,013.3	24,055.1	23,745.7	23,702.2	23,421.8	24,247.5	21,802.4
Sub Total - I	211,649.9	213,691.6	213,847.7	207,683.3	256,029.0	253,622.2	244,511.4	254,086.8	244,067.9	258,802.7
Section 402 Acct. (Frozen)					19,873.0	19,873.0	19,873.0	19,873.0	19,873.0	19,873.0
Spec. Acct. Cpt. "A" (Frozen)					19,987.0	19,987.0	19,987.0	19,987.0	19,987.0	19,987.0
TOTAL - I	211,649.9	213,691.6	213,847.7	207,683.3	256,029.0	253,622.2	244,511.4	254,086.8	244,067.9	258,802.7
II Ministry of Economy	36.7	20.8	14.2	16.1	10.8	18.0	1.6	11.9	35.7	30.4
II Minecon - Amer. Agr. Acct. 402	105.8	105.8	105.8	105.8	105.9	105.9	105.9	105.9	105.9	105.9
II Supervised Industrial Credit	723.5	406.6	553.4	695.7	482.5	494.0	521.0	419.1	249.0	256.5
II USDO - N. Allende Acct. #1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
II USDO - R. Whalen Acct. #1	475.4	475.4	473.0	473.0	473.0	473.0	473.0	473.0	473.0	473.0
IIa 20FT680-Dean. (Undistrib. PL 480)	6,536.7	13,591.1	20,590.3	30,311.9	28,710.4	38,069.1	38,137.0	27,388.7	26,775.8	26,920.7
IIa 20FT400-Treas. (U.S. Uses)	1,250.3	587.7	--	--	134.9	1,484.9	2,994.2	7,342.4	21,605.3	17,005.6
IIa 20FT100-Treas. (U.S. Uses)	1,063.4	1,063.4	--	--	--	--	--	--	--	--
IIa 19FT510-State	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6
IIa F.S.A. Acct. USDO Expenses	(526.2)	1,576.3	(1,982.1)	246.3	7,249.3	2,389.5	10,380.1	10,000.1	58.9	(3,756.9)
II Cooperative Service	10,100.0	7,300.0	19,600.0	9,498.0	9,704.0	9,496.0	10,704.0	9,254.0	7,776.0	8,771.0
TOTAL II	19,797.5	25,159.0	39,386.5	41,378.7	46,962.7	52,562.3	63,433.3	58,054.0	50,900.5	49,234.1
GRAND TOTAL (I + II)	231,447.4	238,850.6	253,234.2	249,062.0	302,991.7	306,184.5	307,944.7	309,140.8	301,974.4	308,036.8

NOTES: Accounts preceded by I are controlled by USAID.

Accounts preceded by II are not controlled by USAID.

Accounts preceded by Ia and IIa correspond to the breakdown of USDO-M.G. McKinney Acct. #1. The sum of Ia plus IIa for each month is as follows:
 197,281.0 157,921.4 157,670.3 167,940.4 196,198.3 204,913.1 219,337.0 225,993.0 222,794.3 217,559.8

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March 30, 1966

Dear Mr. Minister:

I should like to refer to the discussions at our working luncheon of March 24, about the plans of your Government for negotiating with the Export-Import Bank to resume servicing of your debt with the Bank. As was mentioned at the luncheon your current default on this obligation could have a serious impact on the development program which our Governments are jointly planning, as was evidenced by the delay caused during the deliberations within my Government in connection with the approval of the loan to COMIBOL for the Third Phase of the Triangular Plan.

We were indeed pleased to learn at the luncheon of your desire to regularize your relations with the Bank and of your determination to enter into serious negotiations with the Bank in the near future. As was discussed at the luncheon, it would be most useful for us to know in more detail your plans for these pending negotiations. We are also very appreciative of your kind offer to make available to us the terms and conditions agreed upon in your successful debt renegotiations with the French and British Governments.

Yours very truly

Irving G. Tragen
Director

His Excellency
Lt. Col. Carlos Alcoveza Melgarejo
Minister of Finance
La Paz

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ANNEX H - Page 2 of 5

La Paz, April 12, 1966

His Excellency
Col. Joaquin Zenteno Anaya
Minister of Foreign Relations
La Paz, Bolivia

Dear Mr. Minister:

I have the pleasure to refer to the note sent to the Foreign Office by the Bolivian Ambassador in Washington on January 13 of this year, a copy of which was sent by him to this office; until the present I have not received a notification of your receipt of it nor of your instructions, which refer to the initial and unofficial negotiations directed towards resuming the service on debts to the Export-Import Bank of Washington.

In this connection, I am pleased to inform you that in the working luncheon in my office with representatives of USAID/B, including the Director, Mr. Irving G. Tragen, certain points of interest relating to this important subject were discussed; it was stated that the Government viewed with very good will the necessity for regularizing its debts to the Ex-Im Bank, which are the only ones outstanding, with a view towards re-establishing completely the country's credit standing and regaining its complete solvency.

For your information, I am transcribing below the following note from Mr. Irving G. Tragen:

" Dear Mr. Minister: I refer to our conversation during the
" working luncheon of March 24, regarding your Government's
" plans to negotiate with the Ex-Im Bank the resumption of
" servicing of the debt pending to the Bank. As was mentioned
" during the luncheon, your default on this obligation could produce
" serious consequences for the development program which our
" Governments are jointly planning as was demonstrated by the
" delays which occurred in my Government's consideration of
" the loan to COMIBOL for the third phase of Operation Triangular.
" We were pleased to learn during the luncheon of your desire
" to regularize your relations with the Bank and of your intention
" to undertake serious negotiations with the Bank in the near
" future. As was mentioned in the luncheon, it would be very
" useful for us to know in greater detail your plans for the forthcoming
" negotiations. In addition, we greatly appreciate your

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"kind offer to inform us of the terms and conditions under which . . .
"successful arrangements were completed with regard to the
"British and French government debts. --Sincerely yours,
"Irving G. Tragen, Director."

According to the statement submitted by the Ex-Im Bank in its letter of December 30, 1965, these debts, four in number total US\$33,918,739.67 in capital obligations and US\$8,983,300 for interest accrued and calculated as of December 30, 1965.

The total amount of the amortization service of the four debts as of December 30, 1965, comes to US\$16,990,700, a sum which in the present circumstances it is impossible to pay since the full payment of this obligation would mean a substantial reduction in our monetary reserves which constitute the backing for monetary stability and the maintenance of a stable exchange rate. It should also be noted that loans No. 314, 315, and 645, which total US\$26,447,639.67 and which report 86.82% of the total of the debt, were made for the construction of the Cochabamba-Santa Cruz road which has at the present time, an important strategic value for the entire continent and an important military purpose. These points were clearly understood when the loans in question were made.

The four debts in reference must be paid with resources of the National Treasury since they were transferred to the Supreme Government; however, this year's national budget has not set aside the resources to meet the amortization service on this important debt. Other obligations constituting the external public debt, being paid out of the national budget, come to 8.37% of the total budget. Therefore, we would propose that the payment of the Export-Import Bank obligations would be met beginning next year according to the schedule which is herein attached as an annex; this schedule fits the country's economic and financial possibilities and would constitute formal commitment of the Supreme Government.

With regard to the interest in default as of December 30, 1965, which totals US\$8,989,300.00 in accordance with the Ex-Im Bank's billing at differing interest rates of 3.5%, 4%, and 4.75% the total cancellation of this is proposed in view of the consideration set forth above. In addition, there should be taken into account the open and generous contribution of Bolivia during the Second World War which contributed its strategic products, especially tin and rubber, at prices well below the existing world market price. This fact which had an unfavorable effect on the country's

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Proposal of Bolivia for the payment of Obligations due to
EXIMBANK/Washington

Year	Annual Quantity to be Paid in two Semesters	
1967	US\$	500,000
1968	"	500,000
1969	"	500,000
1970	"	500,000
1971	"	500,000
1972	"	600,000
1973	"	600,000
1974	"	700,000
1975	"	700,000
1976	"	800,000
1977	"	800,000
1978	"	900,000
1979	"	900,000
1980	"	1,000,000
1981	"	1,000,000
1982	"	1,000,000
1983	"	1,500,000
1984	"	1,500,000
1985	"	1,500,000
1986	Henceforth	2,000,000

B O L I V I A
EMPRESA NACIONAL DE ELECTRICIDAD
ESTIMATED INCOME STATEMENT
(In thousand U.S. \$)

Years Ending December 31	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
Total units generated - million kwh	160	169	192	298	309	376	408	422	446	488
Total units sold - million kwh	146	157	186	288	297	359	388	401	420	460
Average revenue per kwh (U.S. Cents)	1.50	1.50	1.50	1.40	1.40	1.40	1.35	1.35	1.35	1.30
Gross revenue from sales	2,190	2,355	2,790	4,032	4,158	5,026	5,238	5,413	5,670	5,980
Cost of operations:										
Operating expenses	500	600	600	650	680	700	900	1,000	1,000	1,200
Depreciation	456	456	594	924	924	1,195	1,270	1,300	1,361	1,390
Total cost of operations	956	1,056	1,194	1,574	1,604	1,895	2,170	2,300	2,361	2,590
Net income on operations	1,234	1,299	1,596	2,458	2,554	3,131	3,068	3,113	3,309	3,390
Less interest expense	136	136	227	518	499	479	460	441	422	403
Net income to surplus	1,098	1,163	1,369	1,940	2,055	2,652	2,608	2,672	2,887	2,987

BOLIVIA
EMPRESA NACIONAL DE ELECTRICIDAD
FORECAST OF SOURCES AND APPLICATIONS OF FUNDS
(In Thousand US\$)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	Totals
Sources:												
Profit (Before Interest)		1,234	1,299	1,506	2,458	2,554	3,131	3,068	3,113	3,309	3,390	25,152
Depreciation		456	456	504	624	624	1,195	1,270	1,300	1,361	1,390	9,570
ENH Equity Investments												
Subscriptions Receivable	6,440	2,942	400	200								10,022
Interest Capitalized	183											183
Loans												
IDB Loan	2,247	240										2,487
AID & Proposed Future Loans	760	3,795	5,705	3,900	700							14,860
Total Sources	9,670	8,667	7,860	6,290	4,082	3,478	4,326	4,338	4,413	4,670	4,780	52,571
Application:												
Fixed Assets & Investments	8,759	4,795	5,955	4,000	2,850	6,050	2,950	1,850	2,900	3,800	5,450	50,259
Payment on Interest Capitalized			10	10	10	10	10	10	10	10	10	89
Interest on IDB Loan		136	136	130	124	117	111	105	99	93	87	1,135
Interest on AID & Proposed Future Loans				97	34	382	362	355	342	329	316	2,553
Payments:												
IDB Loan			155	155	155	155	155	155	155	155	155	1,395
AID & Proposed Future Loans				147	480	480	480	480	480	480	480	3,507
Increase in Working Capital	150	150	150	150	150	150	150	160	160	170	170	1,710
Total Application	8,909	5,081	6,405	5,540	4,163	7,344	4,224	3,115	4,146	5,037	6,677	60,691
Increase or (decrease) in Cash	761	3,586	1,455	701	(81)	(3,866)	102	1,223	267	(367)	(1,897)	(1,361)
Beginning Balance	334	1,095	4,681	6,130	6,237	6,340	7,000	2,002	4,215	4,482	5,115	3,221
Ending Balance	1,095	4,681	6,130	6,237	6,756	2,474	2,002	4,215	4,482	4,115	2,218	2,218

CAPITAL STRUCTURE

<u>I. Subscribed Capital</u>		U.S. \$
CBF	14,998 shares at \$1,000	14,998,000.00
YPFB	1 share at \$1,000	1,000.00
COMIBOL	1 share at \$1,000	1,000.00
TOTAL		15,000,000.00
<u>II. Composition of CBF Contribution</u>		
a)	Own Funds and Funds from IDB and A.I.D.	2,000,000.00
b)	Funds Committed by the GOB in IDA and BID Agreements	2,000,000.00
c)	IDA Loan Originating Funds through Bolivian Power Co. repayments	10,998,000.00
TOTAL		14,998,000.00
<u>III. Paid in Capital (December 31, 1965)</u>		
a)	Own Funds	2,001,356.88
b)	Funds Committed by the GOB in IDA and IDB Credit Agreements	402,105.26
c)	Funds from IDA Loan	
	Corani	2,546,041.89
	Bolivian Power	<u>26,787.94</u>
d)	YPFB	2,572,829.83
		1,000.00
e)	COMIBOL	1,000.00
TOTAL.....		4,978,291.97

BOLIVIA
EMPRESA NACIONAL DE ELECTRICIDAD S.A.
FORECAST BALANCE SHEET
(In Thousand US\$)

(11.38 Bolivianos = 1 U.S. Dollar)

ANNEX I - page 4 of 6

	(Actual) 1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
ASSETS												
Current Assets												
Cash	334	1,095	4,681	6,136	6,837	6,756	2,890	2,992	4,215	4,422	4,115	2,215
Receivables	132	232	332	432	532	632	732	832	932	1,032	1,132	1,232
Materials	34	84	134	184	234	284	334	384	434	504	574	653
Subscriptions Receivables	10,022	3,542	600	200								
Total Current Assets	10,522	4,953	5,747	6,952	7,603	7,672	3,956	4,208	5,591	6,018	5,821	4,103
Fixed Assets & Investments												
Investments	1											
Work in Progress	4,066											
Fixed Assets in Service	735											
Gross Fixed Assets & Invsts.	5,702	14,461	19,256	25,211	30,111	32,061	39,011	41,061	43,811	46,711	50,011	55,261
Less Depreciation	44	44	500	256	1,550	2,474	3,324	4,523	5,863	7,163	8,524	9,324
Net Fixed Assets & Invsts.	5,658	14,417	18,756	24,955	28,561	30,487	35,687	37,368	37,948	39,548	41,987	45,937
Total Assets	\$ 16,180	19,370	24,503	31,907	36,164	38,159	39,563	41,576	43,539	45,566	47,808	50,150
LIABILITIES												
Current Liabilities												
Interest Payable	16	199	199	199	199	170	160	150	140	130	120	110
Guaranties (Retained)	228	228	228	228	228	228	228	228	228	228	228	228
Accounts Payable	16	16	16	16	16	16	16	16	16	16	16	16
Total Current Liabilities	260	443	443	443	424	414	404	394	384	374	364	354
Long-Term Debt												
Loans	905	3,912	7,047	13,497	17,095	17,160	16,525	15,890	15,255	14,620	13,985	13,350
Provisions for Social Benefits	15	15	15	15	15	15	15	15	15	15	15	15
Total Long-Term Debt	920	3,927	7,062	13,512	17,110	17,175	16,540	15,905	15,270	14,635	14,000	13,365
Total Liabilities	1,180	4,370	8,505	13,955	17,534	17,589	16,944	16,299	15,654	15,009	14,364	13,719
CAPITAL												
GEF Contribution	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
YPER	1	1	1	1	1	1	1	1	1	1	1	1
CONIPOL	1	1	1	1	1	1	1	1	1	1	1	1
Surplus	-	-	1,000	2,200	3,630	5,510	7,625	10,277	12,385	15,557	18,411	21,431
Total Net Worth	15,000	15,000	16,000	17,200	18,630	20,510	22,625	25,277	27,385	30,557	33,411	36,431
Total Liabilities & Net Worth	16,180	19,370	24,503	31,907	36,164	38,159	39,563	41,576	43,539	45,566	47,808	50,150

BALANCE SHEET AS OF DECEMBER 31, 1965

A S S E T S

L I A B I L I T I E S

Current Assets

124,937,243.49

Current liabilities

3,095,610.81

Available

Banks and Petty Cash 3,960,817.73

Demandable (short term)

Interest payable 131,461.34

Demandable (short term)

Accounts receivable 1,570,483.32

Retained guaranties 2,710,634.19

Accounts payable 193,515.28

Circulating

Warehouse-materials in transit 398,159.55
Accounts receivable for shares 119,007,782.89 119,405,942.44

Long Term Liabilities

Loans 10,751,065.10 10,928,600.12

Reserve for Social Benefits 177,535.02

Fixed Assets

67,211,967.44

Investments:telephone shares 9,200.00
Works being constructed 58,982,449.17
Fixed assets in service 8,737,504.37
Less: Reserve for depreciation 517,168.10 8,220,318.27

Capital & Reserves

178,125,000.00

CBF Contribution 178,101,250.-
YFPE " 11,875.-
COMIBOL " 11,875.-

\$b.192,149,210.93

\$b.192,149,210.93

Cochabamba, December 1965

EMPRESA NACIONAL DE ELECTRICIDAD S.A.

Jorge Soruco
General Accountant

Ing. Roberto Capriles
General Manager

DECLARACION
AL FISCAL - pag. 3 de 3

BALANCE SHEET AS OF DECEMBER 31, 1965

(Operations from October 1, 1964 through Dec. 31, 1965)

A S S E T S

L I A B I L I T I E S

<u>Current</u>			<u>Current</u>		
Banks	294,160.38		Bills payable	17,114.35	
Petty Cash	<u>660.31</u>	294,820.67	Retained taxes	259,364.48	
			Deposits in guaranty	29,660.00	
<u>Demandable</u>			Obligations payable	48,303.99	
Various Debtors-Private Service	593,182.14		Accounts current ENDE	<u>206,677.22</u>	561,120.04
Various Debtors-Public Service	338,465.86				
Accounts Current	<u>31,224.34</u>	962,872.34	<u>Long Term</u>		
<u>Fixed Assets</u>			Documents payable	2,884,080.00	
Land, structures and bldgs.	42,641.67		Reserve for Social		
Furniture and fixtures	75,394.71		Benefits	<u>91,554.41</u>	2,975,634.41
Generating plants	1,191,500.00				
Small equipment and tools	28,657.46		<u>Capital and Reserv</u>		701,888.22
Distribution net and substations	<u>1,730,788.27</u>	3,068,982.11			
Less: Reserve for Depreciation		<u>372,943.41</u>			
		2,696,038.70			
<u>Investments</u>					
Telephone shares		854.00			
<u>Circulating Assets</u>					
Inventory in warehouse		<u>284,056.96</u>			
TOTAL ASSETS.....	\$b. 4,238,642.67		TOTAL LIABILITIES.....	\$b. 4,238,642.67	

Santa Cruz, December 1965

PRINCIPAL CONTRACT BETWEEN ENDE AND CRE

Between Empresa Nacional de Electricidad to be henceforth referred to as ENDE and Cooperativa Rural de Electrificación to be henceforth referred to as CRE the following contract is hereby agreed to:

1st. Since October, 1964, ENDE has been operating the electric system in Santa Cruz, owed by Corporación Boliviana de Fomento which was transferred by the Committee of Public Works to CBF as provided by the Agreements dated September 23, 1963 and October 6, 1964.

At present, whereas ENDE has obtained its legal capacity to act as a Stock Company, as provided by Supreme Resolution No. 127462 dated February 4, 1965 and since ENDE's specific function is the generation and transmission of electric energy, ENDE will hereby take charge of the generation and transmission of electric energy in the Department of Santa Cruz in order to sell it in block to CRE, who will distribute it in the area. It is understood that transmission tensions are to be superior to 33 volts.

This division of functions is accepted and acknowledged both by ENDE and CRE under the terms established by the Supreme Resolution No. 130040 dated October 13 of the present year.

With this purpose, CBF has transferred to ENDE its electric generation facilities and has agreed to transfer to CRE its system of distribution at the same time that the new system financed by AID is delivered by ENDE,

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as stipulated by the present Agreement. While such transference is carried out, ENDE will continue operating the distribution system in Santa Cruz for the account of CRE.

2nd. It is hereby pointed out that ENDE has submitted to USAID on July, 1965 an application for the financing of a Program for the electric system in Santa Cruz, and, furthermore, that ENDE commit themselves to negotiate such a credit with AID, including the generation, transmission and distribution phases and to make the respective installations in accordance with the standards and stipulations of the Credit Contract to be subscribed by AID as lender. Once the installations have been concluded to the satisfaction of AID, ENDE will deliver the new distribution system to CRE, who will take on the proprietorship of said distribution system and will undertake its operation binding themselves to pay the part of the credit corresponding to said distribution system with the same terms and interest established by the AID credit without any overcharge. At the time of the transference a contract will be subscribed establishing, principally, the amount of CRE's debt, the mortgage security granted in favor of ENDE, the amortization installments and interest rate. The administration expenses incurred during the construction will be included in the cost of the system.

3rd. ENDE and CRE hereby declare that the purpose of this contract is to supply an efficient service of electric energy to the consumers at an adequate price. For that purpose, they commit themselves to coordinate their activities so that neither of them should suffer any damages, as a result of their actions.

4th. ENDE will keep CRE informed of the progress of the negotiations with the consulting firm selected for the preparation of a definite system for Santa Cruz. Before contracting for the project with said consulting firm, ENDE will fully inform CRE of the reasons that justify its decision to enter into a contract with said firm. Similar procedures will be followed with regard to the orders for equipment and materials for the distribution system, as well as for the contracts to be subscribed with contracting firms for this work.

5th. ENDE will sell electrical energy and CRE will buy at the delivery placer determined in the project and in those that CRE may determine with the approval of ENDE. ENDE will sell all the electric energy that CRE may require for the distribution system in its area of influence covering the provinces of Andrés Babiñez, Warne, Santisteban, Sara and Ichito. ENDE shall not sell electric energy directly to any consumer, whoever he may be, established within this area, unless otherwise agreed upon.

The classification of consumers for the purpose of establishing tariffs, will be in charge of CRE.

6th. The price for which ENDE will sell electric energy to CRE shall be fixed by mutual agreement of the contracting parties before the new system enters into operation. It is agreed that CRE's tariffs shall generate sufficient funds to cover its obligations with ENDE. Both tariffs, to be valid, will require DINE's approval. ENDE's as well as CRE's tariffs shall be established in such a way that, after covering all operation, maintenance and depreciation expenses (except the interest to be dealt with farther on) there will be an annual surplus not exceeding 9% of the

depreciated value of the capital assets. With such surplus the principal or the pending loans shall be amortized with respective interest. Any remainder will be assigned to the reserve fund for future expansion. Reserves, including those derived from depreciation, will be employed by ENDE and CRE as either one of them may deem convenient for the benefit of the system.

7th. ENDE's system in Santa Cruz will carry on a separate bookkeeping in which the indirect expenses of its Central Office will be charged on a pro-rata basis, excluding ENDE's expenses incurred in for other purposes, projects and systems. A similar procedure of separate bookkeeping of expenses will be followed by CRE.

8th. None of the funds that ENDE may obtain, including depreciation, enlargement and other reserves, that the Santa Cruz system may require shall be utilized in covering expenses or making investments other than those required by the local system.

9th. The definite study of the Santa Cruz system referred to in this contract must include a detailed program of expansion to meet near term demand, and an estimate of the need for long-term expansion. ENDE and CRE will determine by mutual agreement, at least yearly, the extent of the demand and will confirm the proposed enlargements or agree on the necessary modifications. In case that the contracting parties should not come to an agreement, they will resort to the decision of an expert arbitrator, preferably a consulting firm, appointed by mutual agreement without appeal. In case that the parties should not reach an agreement, DINE will appoint a consulting firm who will act as final

arbitrator. The expert's fees and expenses shall be paid fifty-fifty by ENDE and CRE. The expansion program agreed to by ENDE and CRE or, failing same, that made up by the expert, shall determine the dates in which the orders will be placed in order to meet, timely and adequately, the growth of the demand. Such expansion program shall also determine the measures to be taken in case that one of the contracting parties should not comply with any of the program terms including the conditional generation established by Article 3 of the Supreme Resolution No. 130040 dated October 13, 1965.

10th. ENDE will carry on, during its administration, the execution of the partial rehabilitation plan of the distribution service established by the DPU Report No.28 drawn up on July, 1964 investing for this purpose up to \$ 200,000 from the funds that are being supplied by CBF proceeding from BID's credit. These installations will be transferred to CRE at the time of delivery of the new system, as per inventory, the value of which will be paid by CRE to ENDE within a minimum term of 15 years and a maximum of 20 years with an interest of 4% per annum as recommended by the definite study.

11th. We, Tcnl. Enrique Vargas Guzman and Roberto Capriles, ENDE's President and General Manager, respectively, on one part, and Luis Rubén Terrazas, Mario Quintera Vaca Díez and Raul Hevia Gutierrez, President, Secretary and Treasurer, respectively, of the Cooperativa Rural de Electricidad with legal capacity acknowledged by the Supreme Resolution No. 00354 dated February 12, 1965, on the other hand, hereby accept all of

the preceding stipulations and in testimony thereof sign the present document in five copies on this 23rd day of December of 1965.

(Signed)

Tcnl. Enrique Vargas Guzman
President, ENDE

(Signed)

Eng. Roberto Capriles
General Manager, ENDE

(Signed)

Dr. Luis Ruben Terrazas
President, CRE

(Signed)

Mario Quintera Vaca Diez
Secretary, CRE

(Signed)

Raul Hevia Gutierrez
Treasurer, CRE

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AED-332/P-449

ANNEX E - Page 1 of 3

March 21, 1966

Dear Mr. Minister:

The loan application for the Santa Cruz power project is ready to submit to A. I. D. authorities in Washington for review and authorization. However, the A. I. D. Loan Committee has requested that the following documentation included in the final presentation:

- a. A statement from the Government of Bolivia that it is willing to guarantee the loan through the Central Bank of Bolivia.
- b. A letter from the Government of Bolivia indicating that it will take the necessary steps to assure that the natural gas in Santa Cruz will be available for the generation of electricity within two years at a price of approximately 25 ¢ per thousand cubic feet which was the cost projected in the loan paper to assure of the economic soundness of the project.
- c. A statement from the Government of Bolivia of the effect that additional funds will be made available either from 1) an arrangement with the city of Santa Cruz to use its oil "reserves", or 2) from other Bolivian sources, to finance the pipeline required to bring natural gas from the nearest economically producing well to the proposed power plant. This distance has been estimated at 20 Km.

Mr. William C. Bruster, Chief of the Capital Development Division of the Mission, plans to leave for Washington on April 8, where he will formally present the Santa Cruz electric power project to the Capital Assistance Executive Committee provided the above documents have been received by that time.

Sincerely yours,

Irving C. Trajen
Director

His Excellency
Col. Jaime Barrioscho Zúñiga
Minister of National Economy
La Paz

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ANNEX K - Page 2 of 3

La Paz, April 18, 1968

Mr. Irving G. Tragen
Director, USAID/Bolivia
La Paz

Mr. Director:

Ref: Santa Cruz Electrification

In reply to your letter of March 21, I have the pleasure to inform you that my Office is now in position to confirm the conversations between the Asesoría Técnica del Ministerio de Economía and the Capital Development Division of USAID/Bolivia, on the following terms:

1. The Government of Bolivia will guarantee any loan granted to Santa Cruz for the development of electric power, and will adopt the necessary measures to assure the supply of natural gas at reasonable prices for the execution of the project.
2. Likewise, Government of Bolivia will conduct the necessary negotiations with Santa Cruz authorities to obtain the additional financing that may be necessary to achieve the objective.

Consequently, I will appreciate you taking advantage of Mr. Birster's trip to Washington to submit our loan application for this project.

Very truly yours,

Cnl. Jaime Berdecio Zilveti
Minister of Economy

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ANNEX K - Page 3 of 3

La Paz, April 15, 1966

Col. DIM Enrique Vargas Guzmán
President of the Empresa Nacional
de Electricidad S.A.
La Paz

Mr. President:

By virtue of this letter I am pleased to inform you that in a meeting held in this Office with respect to the existing natural gas in the country, it has been determined that there is available sufficient gas to allow me to assure you that ENDE will have a supply adequate for the operation of the electric power plant contemplated in the Santa Cruz project.

The facilities (separation plants, pipeline, etc.) necessary to deliver this gas to the plant will be for the account of the entity designated by the Government of Bolivia to sell the gas to ENDE.

Very truly yours,

Cnl. DEM Eduardo Mendez P.
Minister of Mines and Petroleum

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La Paz, February 24, 1968

His Excellency
Gral. de Fuerza Alfredo Ovando Candia
President of the H. Junta Militar
La Paz, Bolivia

Mr. President:

Ref: Government Guarantee for the Santa Cruz Loan

As you know, the Empresa Nacional de Electricidad has submitted to USAID a loan application for \$us. 6, 288, 000 for the execution of an electric power program for Santa Cruz which was considered in the Socio-Economical Development Plan.

This program, in general terms, consists of the following:

- a. Installation of a thermal plant of 10, 000 KW;
- b. Power transmission installations to Montero; and
- c. Installation of a distribution system in Santa Cruz, Warnes, Montero, and surrounding rural zones.

USAID/Bolivia is considering the loan application submitted by ENDE, and in the near future this documentation will be sent to Washington for final analysis.

While ENDE will be responsible for the loan will repay it with funds resulting from the operations in Santa Cruz, in order to facilitate this application, we would appreciate if His Excellency authorizes us to officially inform USAID/B that the Government of Bolivia will be a guarantor for this loan and that the loan agreement will be signed by the GOB together with ENDE.

Waiting for your instructions in this matter, we reiterate His Excellency, the President of the Junta Militar, the assurances of our most distinguished consideration.

EMPRESA NACIONAL DE ELECTRICIDAD

Cnl. DIM Enrique Vargas Guzmán
President

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ANNEX L - Page 2 of 2

La Paz, March 21, 1966

Col. Enrique Vargas Guzmán
President of the Corporación
Boliviana de Fomento
La Paz, Bolivia

Mr. President:

In reply to your letter PEE/11/147/66 dated February 24, I am pleased to inform you that His Excellency, the President of the Republic of Bolivia, has authorized me to inform you that the GOB is willing to guarantee, before USAID/B, the loan requested for the program of Electric Power in Santa Cruz.

Very truly yours,

MARCELO GALINDO
Minister-General Secretary of
the Junta Militar

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PREVIOUS STUDIES AND REPORTS ON
THE PROJECT

The supply of power for the Santa Cruz area has been the subject of varied studies and reports dating back to 1961.

- a) "Report on Electric Power Systems in Bolivia", Ellery R. Fosdick United Nations Technical Assistance Administration, March 1961.
- b) "Power Program Report for Cochabamba, Tarija, Sucre, and Santa Cruz", International Engineering Company, Inc., San Francisco, January 1962.
- c) "Engineering Feasibility Study and Loan Application for the Cooperative, Santa Cruz, Bolivia," Cecil E. Viverette, NRECA, October 1963.
- d) "Preliminary Report on the Investments Required for Establishing an adequate supply of Electrical Energy to the Town of Santa Cruz", Deutsche Projekt Union GmbH-Ingeniería Global, March 1963.
- e) "Feasibility of a thermal power station for the supply of electrical energy to the town of Santa Cruz and its rural surroundings", Deutsche Projekt Union GmbH-Ingeniería Global, March 1964.
- f) "Primera Parte del Proyecto Detallado de la Red de Distribución de Energía Eléctrica de la Ciudad de Santa Cruz",

(First part of the detailed design of the distribution system for electric energy of the town of Santa Cruz), Deutsche Projekt Union GmbH-Ingeniería Global, Report No. 28, July 1964.

g) "Avaluación de las instalaciones de suministro de energía eléctrica en la ciudad de Santa Cruz", (Valuation of the existing electricity facilities in Santa Cruz), Deutsche Projekt Union GmbH-Ingeniería Global, Report No. 24, April 17, 1964.

h) Special Assignment

Assistance to the Cooperative, Santa Cruz, Bolivia
PIO/T 511-R-99AH-3-30113 - Contract AID/OSD 225

Paul Richter, NRECA

"Electric Energy for the city and Rural Area of Santa Cruz - Feasibility Study", May 20, 1965.

Revised 4/20/66

EXTERNAL DEBT AND REPAYMENT CAPACITY 1/

A. Summary

It is obviously important that AID and other lending institutions consider the present debt of Bolivia and the country's probable future capacity to service its debt before deciding on the amount of further credits that will be made available and the loan terms that would be most prudent.

The main relevant facts of the Bolivian debt situation are as follows:

1. Bolivia had an outstanding external public debt as of December 31, 1965 of 271.4 million.
2. During 1964 and 1965, the central government paid \$0.7 and \$5.9 million respectively on its external debt.
3. The present structure of this debt is such that the heavy burden of amortization and interest payments falls in the next few years. From the present through 1969 these charges amount to from \$12 million to \$15 million. Thereafter these service costs ^{2/} on the present debt decline to approximately \$5 million in 1975.
4. Bolivia has the possibility of a rapid growth of exports. On an optimistic but by no means totally unrealistic projection, exports in 1975 could be more than double the 1965 level.
5. If Bolivia is to achieve and sustain a rate of growth of income of from 5% to 6% per year, it will require substantial external assistance beyond that already received. In other words, the external public debt will in all likelihood increase considerably above the 1965 level.

Conclusions based on the foregoing empirical propositions:

1/ This Section has been substantially prepared by the USAID's economic staff. Although it is strongly qualified, it may still leave the reader with an overly-optimistic impression. The key element is the possibility of considerable improvement in Bolivia's economic situation if all elements of planning and performance work out as indicated.

2/ In the present context "service" costs or charges will refer to both interest and amortization.

1. As far as the basic resource situation of Bolivia is concerned, there is no foreseeable reason why it cannot absorb and put to fruitful use further large inflows of foreign capital. And if it does put such external assistance to productive uses, there is no insurmountable barrier to servicing that debt, provided always that the maturity structure of the debt is not completely inappropriate. This proposition rests on the fact that the country has enormous unutilized natural resources and a considerable amount of unemployment labor, hence the possibility of sharply diminishing returns to capital inputs, whether of domestic or foreign origin, is quite remote. To put the matter another way, it is economically feasible by increasing the rate of capital formation with external assistance to maintain a 5% to 6% average rate of increase in annual output and, out of this increase, to transfer considerable sums abroad.

2. Additional lending to Bolivia by AID and other assistance donors should be on soft terms. Minimum AID requirements with respect to interest rate, grace period and total loan period should be imposed so as not to further accentuate the already unfavorable structure of the debt and so as to maximize the net external economic assistance to Bolivia development to be received from a given flow of loans. This does not exclude, of course, the possibility of two step loan arrangements with softer terms for dollar repayment than for local currency repayment.

3. High priority should be given in Bolivian economic planning and by lending agencies to projects that increase export potential or provide import substitution. This is not to say that all projects can or should have a high direct rating by these criteria. Many infrastructure investments, for example, that have few direct foreign exchange benefits, will be necessary. The investment mix should, however, reflect this concern with future debt service problems.

4. Bolivia should make the necessary legal and institutional changes to encourage exports; for example, it may be desirable to join LAFTA, export customs procedures can be much simplified, the proposed new Investment Law can be enacted, and the new Mining Code can be implemented in such a way as to give maximum encouragement to private mining.

B. Present External Public Debt^{3/}

The following table shows the external public debt (including interest arrears) as calculated by the Ministry of Hacienda.

EXTERNAL DEBT OF BOLIVIA
(Millions of dollars)

I. Supreme Government	192.2
A. Old Bonded Debt	61.9
B. USAID	18.1
C. BID	1.1
D. IIA	4.5
E. British, French and German Moratoria	4.8
F. Argentine-Bolivian Convention	37.5
G. Brazilian-Bolivian Convention	11.8
H. Import-Export Bank	33.9
I. Other	18.1
II. COMIBOL	33.5
III. Y.P.F.B.	12.6
IV. CRF	15.2
V. Others	3.6
VI. Banco Central	12.5
VII. Development Banks (AID)	1.8
Total Public External Debt	271.4
VIII. Private Sector	6.7
TOTAL EXTERNAL DEBT	278.1

Of this \$271.4 million of public debt, loans amounting to at least \$90 million, or 33% of the total, are in default. The old Bonded Debt and the Export-Import Bank loans are the major loans in this category.

^{3/} Data supplied in Deuda Externa de Bolivia - Situación al 31/12/65, Ministerio de Hacienda, Dirección General de Banca, Moneda, y Crédito Público, January 1966.

C. Projected Additional Debt

Besides the existing debt Bolivia will incur additional obligations amounting to \$70.5 million as it draws on loans presently authorized. The largest of these is the \$33 million AID loan for highways 1 and 4. Thus, with no new lending, the total principal debt owed will amount to \$341.9 million.

Since Bolivia, one of the least developed countries of Latin America, is not likely to achieve domestic savings rates high enough to finance an acceptable rate of growth before 1975, it must be assumed that it will continue to rely on external assistance for at least the next 10 years. Some of this assistance may and should come in the form of private equity investment, and some grant assistance will continue to be forthcoming. These sources are not likely to be sufficient to cover the gap between internal resources and the necessary total for growth. Loan funds from AID, IDB and other lending agencies will be necessary. Hence the Bolivian debt may be expected to increase still further.

Present data with respect to actual savings, investment, and income rates are so suspect that it is scarcely worthwhile to make highly technical projections of Bolivia's external assistance needs over the next five to ten years. In addition, such projections would have to depend on guesses as to incremental capital-output ratios. Nonetheless even the most tentative forecast would indicate that the external debt of Bolivia will be more than double over the present level the next ten years. This assertion is based on the following assumptions:

- An average growth rate of not less than 5% per year is to be maintained.
- In order to maintain this growth rate the level of gross investment must be not less than 15% of the GNP and probably nearer to 18%.
- The present rate of domestic savings is 10% or less (this assumption is based on very scanty evidence). It will rise progressively reaching 18% of GNP in 1975.
- Additional lending will be on soft terms; this is, with relatively long grace periods, low interest rate and long payout periods. If this condition is violated the total flow of lending will have to be substantially larger to achieve the same result.^{4/}

^{4/} See a Study on Loan Terms, Debt Burden, and Development, AID, April, 1965

D. Debt Service Schedule

It is only possible to estimate in very rough terms a year-by-year schedule of amortization and interest charges that will face Bolivia. The reason for this is that more than 40% of the total present debt is in default and future interest and principal schedules will depend on the outcome of negotiations of the GOB with the bondholders committee and with the Export-Import Bank. In addition, the exact terms of repayment of Bolivia's debt to Argentina for highway and rail construction have not as yet been finally established. Thus, over half of Bolivia's external debt is in an unsettled state as to repayment timing.

A rough estimation (exclusive of Export-Import) is given below of the debt service charges in selected years. The criterion used was not contractual liability in all cases, but an estimate of amount that the GOB might attempt to pay and which would not be completely unacceptable to creditors.

ESTIMATION OF PUBLIC SECTOR DEBT SERVICE, SELECTED YEARS

(in Millions of \$U.S.)

	<u>1966</u>	<u>1969</u>	<u>1975</u>
Old Bonds	1.0	1.0	1.0
Moratoria	1.1	1.4	0.1
Argentine Debt	1.0	2.0	0.5
USAID	1.1	2.3	0.7
Japanese Sugar Mill Loan	0.3	0.3	0.2
Y.P.F.B.	1.0	1.0	1.0
C.B.F.	1.0	1.0	1.0
COMIBOL (net of Payments to USAID)	2.6	2.5	0.1
TOTAL	9.1	11.5	4.6
Estimated on \$250 Million new debt by the end of 1975	1.0	1.7	11.5
TOTAL	10.1	13.2	16.1

The servicing on new debt represents an additional borrowing of \$250 million from 1964 to 1975 ^{5/}. An additional \$250 million of debt incurred over the next ten years will affect the debt service picture in greatly differing ways depending on the average loan terms. For a crude estimate arbitrarily assume 3.5% interest, 7 year grace period, 1% interest during the grace period and 30 year total loan - that is to say - something between AID's softest terms and typical IDB terms. Assume also that during the ten year period the level of borrowing will be \$40 million per year in 1965 descending to zero in 1975 by step decrements.

In sum, Bolivia should be paying an amount rising from \$12 million to \$16 million per year on external debt in the 1960's; if it did little or no additional borrowing this would taper off rapidly in the 1970's. If it is able to borrow in the 60's, on soft terms, in the neighborhood of \$250 million more, debt service will be at the \$18 million to \$19 million level in the last half of the decade of the 70's.

It must be emphasized again that these are extremely crude estimates depending on arbitrary assumptions about the amortization schedules for the present debt and amounts and terms of new borrowings. Particularly important for the 1960's is the assumed grace period. If substantial loans are received from non-AID sources, and hence on less favorable repayment terms, the next few years will see an even greater bulge in Bolivia's debt service burden, especially if these same loans have a short total payout period.

E. Debt Service Capacity

There are three distinct but related problems where external public debt service difficulties may be encountered. These are: 1) the income-savings problem, 2) the fiscal problem, and 3) the transfer or balance of payments problem. To consider those in turn:

^{5/} Last year's CAP used figures of \$100 million and \$150 million of new debt up to 1970. On the basis of a new analysis of probable growth in Bolivia's GNP and changes in its rate of domestic saving the \$150 million figure is much too low and termination of net external investment before 1975 seems unlikely. The \$250 million figure of the text is conservative. In addition to this increase in public sector debt there should also be equity investment by private source notably in the mining and petroleum industries.

1) Income-Savings. The question here is whether the external resources provided will be applied to productive uses so that a rising output results and whether Bolivia can or will abstain from using all of these output increases for consumption purposes. If we assume that external resources of the magnitude mentioned above are used productively, a conservative estimate of the rate of growth of output would be 4% per year. At this rate of growth the external debt service as fraction of GNP would be 1966, 1.89%, 1969, 2.21%; and 1975, 0.77%. If a 5% growth rate is achieved, i.e., more or less the minimum goal, the ratios become 1966, 1.85%; 1969, 2.11%; 1975, 0.7%.

Even taking the more conservative income estimates, these do not -on the face of it- appear to represent difficult saving rates. Thus the income-saving problem does not appear serious unless the assumptions of the AID program are in error, i.e., that external assistance can achieve economic growth in Bolivia.

2) Fiscal. The external debt of Bolivia is virtually all in the public sector. If large transfers are made in the private sector it will be because the American owned Bolivian Gulf Oil Co. has large oil shipments and therefore large dollar earnings. Hence, for present purposes we can confine our attention to the problem area, the public sector.

Ability of the public sector to repay implies another problem besides the overall savings level; it implies that the Central Government will be able to tax from the public more than it spends in current operations plus capital formation and/or that the state enterprises as a whole will earn a level of profits greater than their collective capital expenditures. The only alternative open to the Government to gain control of savings is via Central Bank credit expansion. As to whether in the long-run the Government can achieve the necessary fiscal control depends largely on whether present efforts, strongly supported by USAID, to rationalize public sector finances are successful and whether, in the near future, a serious effort is made to reform the chaotic and inadequate tax structure. All that can be stated now is that the problem is a manageable one if the GOB is willing to take the necessary steps. The greatest difficulties will be encountered in the next two to four years when the debt burden will be at its largest relative to the total revenues of the public sector.

3) Balance of Payments. It is on this aspect of the external debt service problem that attention is usually focused, although in a sense the income-saving problem is more fundamental. Essentially Bolivia's debt service-balance of payments problem consists of allocating a sufficient portion of the increase in output capacity consequent on investment to the export-producing and import-replacing industries in order to avoid future balance of payments

... Additionally, this more extensively-financed investment is
... the more of an obstacle to these industries. Thus, the
... the more debt is not independent of the amount of
... investment.

... Additionally, Bolivia's export volume is quite uncertain.
... with substantial investments and relatively easy changes in the
... conditions. Investment is consequently expected to be sharply
... the industrial sector - leading to a likely overall fall in the
... of investment, especially in the heavy sector. In
... the non-industrial sector, the long-term prospects are equally good
... as before. With investment in its agricultural resources, in
... transportation, and in services using its natural resources,
... its own industry, for example, the exports of tropical
... goods, such as minerals, wood, meat, petroleum products and their
... derivatives. It also produces substitutes for many of its
... primary agricultural exports. The following projection of
... exports is expected to be by the means mentioned.

ESTIMATED FUTURE EXPORTS 1965-1975
(million \$US)

M I N I N G			P E T R O L E U M						
COMIBOL ^{a/}	MINING SECTOR ^{b/}	TOTAL	YPFB ^{c/}	PRIVATE ^{c/}	OTHER EXPORTS ^{d/}	CIF TOTAL	MINERAL COMM. COSTS ^{e/}	TOTAL FOB ^{f/}	
1965	66.5	62.6	1.1	0.9	6.4	137.5	28.4	109.1	
1966	66.8	64.4	1.2	26.1	7.7	166.2	28.9	137.3	
1967	66.2	69.0	1.2	35.3	9.2	180.9	29.7	151.2	
1968	66.2	77.4	1.3	45.3	11.0	201.2	31.6	169.6	
1969	66.2	87.1	1.4	45.3	13.2	213.2	33.7	179.5	
1970	66.2	98.1	1.5	45.3	15.8	226.9	36.1	190.8	
1971								198.4	
1972								206.3	
1973								214.6	
1974								223.2	
1975								232.1	

^{a/} 1965 value of production and 1966-1967 output level based on COMIBOL budget estimates. Prices for 1966 \$1.60 and 1967 \$1.50 per pound of tin.

^{b/} 15% rate of increase in tin production is estimated for 1965 to 1970 (assuming that in 6 years production of tin will be a little more than doubled). Tin prices: for 1965 \$1.80; 1966 \$1.60, and 1967-75 \$1.50. Proceeds of other private minerals are assumed to increase by 5% per year.

^{c/} Petroleum production was estimated by YPFB for both state and private production. Exports of private crude oil through the pipeline are expected to begin in November 1965 according to Gulf's information.

^{d/} Among others are included mainly fruits, coffee and meat. Based on USAID agricultural marketing technician's analysis.

^{e/} Reduced 22% of total mining exports. This reduction constitutes commercialization costs which it is necessary to subtract in order to arrive at net figures for mineral exports.

^{f/} From 1971 on there is estimated a 4% increase per year for total FOB exports.

These export levels would give debt service - export ratios as follows:

1966	8.8%
1969	9.1%
1975	7.5%

A number of points should be made on the projection and resulting ratios:

-COMIBOL is not counted on heavily; the 1965 figure is 18% above COMIBOL's 1964 exports but is entirely reasonable given the present rise in prices. If substantial production increases are forthcoming the COMIBOL estimates could be low.

-The private mining projection appears optimistic, but in fact is quite conservative. With the increased lending capacity of the Mining Bank, the new Mining Code, and AID/GOB investment in mine area roads, it can be achieved.

-The private petroleum exports figures are also large. Gulf Oil Company is, however, in the process of investing \$25 million in a pipeline for the export of its crude. Presumably it has good reason to think it can produce the crude. It should be noted, however, that increases in Gulf's exports carry with them the necessity to transfer profits abroad. The YPFB figure does not take into account the very real possibility that it can export natural and/or petro-chemicals to Argentina at a value of from \$5 to \$10 million per year.

-From the perspective of foreign trade, the burden of the Bolivian public foreign debt is not extremely onerous. Moreover, Bolivian private foreign debt is very low, estimated at \$17 million in 1964.

A rough balance of payments projection for 1969 (for 1966, 1967 see Annex VII) shows that Bolivia could sustain the estimated debt service payments of \$16 million for that year given the following:

-Exports increase as indicated in the table to \$179.5 million.

-Imports increase by approximately 8% per year with the negative service balance increasing proportionately. If this condition is not met, i.e., if imports of goods and services increase at an average rate of, say, 10% per year, Bolivia would have a deficit of roughly \$9 million in 1969.

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-Loans and grants on private and official account reach \$25 million. This is a relatively modest level. Should it be exceeded there is of course, more flexibility in other items.

In the 1970's, if loans and grants are progressively declining and reach zero in 1975, the rate at which exports must increase to cover a given debt service level depends on the rate of growth of imports of goods and services. This can be seen in the following figures for the year 1975, where various rates of growth of imports are shown with the related required rate of growth of exports, taking the 1970 export projection shown above as a base:

Rate of growth of imports of goods and services	3%	5%	8%
Required rate of growth of exports, 1970-1975	4.8%	7.3%	11.3%

As can be seen, if import growth is held to the 5% per year average or below, the required rate growth of exports is not excessively high if attention is given to the problem in the investment program. Import growth rates of 5% or lower will also require that attention be given to commercial policy and conceivably to the exchange rate in order to avoid excessive consumer goods imports as income rise.

Minutes of CAEC Meeting held on November 1, 1965

Santa Cruz Electric Power Project

The loan paper should include a statement of the actual rate policy and its method of determination. A two-step loan should be considered. The foreign and local cost components must be broken down.

In addition to above specific considerations, the following general points should be resolved in terms of overall Mission policies and included in the resulting loan papers where appropriate:

1) Local Currency Costs

The USAID is requested to prepare an overall statement of currently available and projected local currency and how it is to be allocated between these designated projects and other activities. This should be done both on a commitment and disbursement basis. Sufficiency of these funds will have to be determined and the effect of the IMF ceiling will have to be evaluated. Such a study should indicate the priorities to be followed for using available local currency. In establishing priorities, the USAID should take into consideration that it is becoming more and more difficult to use dollars for local currency expenditures.

2) Export-Import Bank

The USAID is requested to consider the likelihood of a settlement between the GOB and the ExIm Bank. AID/W believes that the ExIm Bank would consider only substantial payments, approximately \$2 to \$3 million per year, as a reasonable settlement. If the USAID believes the GOB budget for 1966 cannot possibly support such a figure, sufficient documentation for AID/W discussions with the Bank should be submitted. The CAEC requested the Bolivia Desk and the Country Team to develop a position vis-a-vis AID's continued lending to Bolivia while the ExIm Bank situation remains unchanged.

LOAN AUTHORIZATION

Provided from: Alliance for Progress
BOLIVIA: Santa Cruz Electric Power

Pursuant to the authority vested in the Deputy U.S. Coordinator, Alliance for Progress by the Foreign Assistance Act of 1961, as amended, and the delegations of authority issued thereunder, I hereby authorize the establishment of a loan ("Loan") pursuant to Part I, Chapter 2, Title IV, Alliance for Progress, of said Act, to Empresa Nacional de Electricidad (ENDE) ("Borrower") an autonomous public corporation, organized under the laws of the Republic of Bolivia of not to exceed four million seven hundred fifty thousand United States Dollars (\$4,750,000) to assist in financing the dollar costs, including engineering costs and technical assistance for the construction of facilities for the generation, transmission and distribution of electricity in the Department of Santa Cruz, Bolivia, this loan to be subject to the following terms and conditions:

1. Interest and Terms of Repayment: Borrower shall repay the loan to the Agency for International Development ("A.I.D.") in United States dollars within thirty (30) years from the first disbursement under the loan including a grace period of not to exceed five (5) years. Borrower shall pay to A.I.D. in United States dollars on the disbursed balance of the loan interest of one (1) percent per annum during the grace period and two and one-half (2-1/2) percent per annum thereafter.
2. Borrower shall covenant to submit to A.I.D. prior to the first disbursement under this loan, a schedule of priorities setting forth the relative positions of A.I.D. and IDB as creditors. This schedule is to be subject to A.I.D.'s approval and acknowledged by the IDB.
3. Borrower and/or the GOB shall make arrangements satisfactory to A.I.D. which will assure the availability of natural gas at the generating plant site by July 1, 1968, at a twenty-five (25) cents per 1,000 cubic feet.

4. The GOB shall covenant to guarantee repayment of the principal and interest on the loan.
5. Equipment, materials and services (except shipping and marine insurance) financed under the loan shall have their origin in and be procured from the United States. Shipping financed under the loan shall be procured from the United States, and marine insurance financed under the loan shall be placed in the United States with a company authorized to do marine insurance business in any state of the United States.
6. The loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

Deputy U.S. Coordinator
Alliance for Progress

Date