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**COLOMBIA**

**LOAN TO THE INSTITUTO COLOMBIANO DE ENERGÍA ELÉCTRICA.  
SUBTRANSMISSION AND ELECTRIC POWER DISTRIBUTION**

**(CO0009, CO0022; 211/OC-CO, 290/SF-CO)**

**LOAN PROPOSAL**

**1971**

LOAN TO THE INSTITUTO COLOMBIANO DE ENERGIA ELECTRICA.  
SUBTRANSMISSION AND ELECTRIC POWER DISTRIBUTION

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## COLOMBIA

### INSTITUTO COLOMBIANO DE ENERGIA ELECTRICA

Construction of electric subtransmission systems, and improvement and enlargement of distribution systems

#### SUMMARY

1. Borrower: Instituto Colombiano de Energía Eléctrica (ICEL), a public corporation having administrative autonomy and a separate capital structure, attached to the Ministry of Public Works. ICEL is the regulatory agency for activities in the electric power sector of Colombia. It is authorized principally to: (a) coordinate the national electrification plan; (b) undertake construction of such electric facilities as are required by law; and (c) extend technical and financial assistance for electrification projects carried out by other organizations. The Institute provides electric service through 15 affiliated companies located in different departments of the country and, for the most part, organized as stock companies. ICEL holds a majority of the paid-in capital stock of almost all its subsidiary companies. 1/ Its headquarters are in the city of Bogotá.
2. Amount and Currencies: 2/ Up to the equivalent of US\$25,000,000, of which up to the equivalent of US\$9,000,000 would be drawn from ordinary capital resources of the Bank and up to the equivalent of US\$16,000,000 would be drawn from the Fund for Special Operations. Resources of the loans cited herein would be used as follows: (a) up to US\$6,000,000 or the equivalent in currencies of other countries (except Colombia) that are part of the ordinary capital resources of the Bank, and up to US\$8,800,000 or the equivalent in currencies of other countries (except Colombia) that are part of the Fund for Special Operations of the Bank would be used to pay for goods and services of external origin; and (b) up to the equivalent of US\$3,000,000 in Colombian pesos from the ordinary capital resources of the Bank, up to US\$2,200,000 or the equivalent in currencies of other countries (except Colombia) that are part of the Fund for Special Operations, and up to the equivalent of US\$5,000,000 in Colombian pesos from the Fund for Special Operations would be used to acquire goods and services of local origin.

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1/ Aside from ICEL and its affiliates the following major electric utility companies operate in Colombia: Interconexión Eléctrica, S.A.; Empresa de Energía Eléctrica de Bogotá; Empresas Públicas de Medellín; Corporación Autónoma Regional del Valle del Cauca; and Establecimiento Público Empresas Municipales de Cali. The three last-named companies have received loans from the IDB. ICEL and its subsidiaries hold approximately 36% of the total installed electric generating capacity in in Colombia.

2/ The rate of exchange used in this document is US\$1.00 = Col. \$18.131, except where otherwise stated.

3. Source of Funds: Up to the equivalent of US\$9,000,000 would be drawn from the ordinary capital resources of the Bank, and up to the equivalent of US\$16,000,000 would be drawn from the Fund for Special Operations, according to the currency classification set forth in paragraph 2.
4. Guarantee: Full guarantee of the Republic of Colombia.
5. Terms, Interest, Service Charge, Commitment Fee, Disbursement, and Currencies of Payment:
  - (a) Terms of Amortization: The borrower would amortize both the loan from the ordinary capital of the Bank, and the loan from the Fund for Special Operations over a period of twenty years from the date of the contract, by means of 32 consecutive semiannual and, so far as possible, equal installments, each of which would include the corresponding amounts of principal and interest. The first installment would be payable four and one-half years after such date.
  - (b) Interest: 8% per annum (including the 1% special commission of the Bank) payable semiannually on principal amounts outstanding, in the case of the loan from the ordinary capital resources of the Bank. 3-1/4% per annum, payable semiannually on principal amounts outstanding on the loan from the Fund for Special Operations. The first payment of interest on both loans would be due six months after the date of the contract. 1/
  - (c) Service Charge: 3/4 of 1% per annum, payable semiannually, on the same dates as for interest, on principal amounts outstanding against the loan from the Fund for Special Operations. Payments on amounts disbursed in dollars would be made in that currency, and payments on amounts disbursed in other currencies would be made proportionately in the currencies disbursed or, at the election of the debtor (except for charges on amounts disbursed in the currencies of Mexico or Venezuela) payment could be made in Colombian pesos in all cases in a quantity equivalent to the corresponding amount due, calculated in terms of United States dollars.

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1/ 40% of the amount of the loan from ordinary capital resources would consist of currencies of nonmember countries to be expressly stated in the loan contract. A special charge of 1/2 of 1% would be made on such currencies and would be payable semiannually in the currencies loaned and on the same dates as the interest.

- (d) Commitment Fee: 1-1/4% per annum, payable semiannually on the undisbursed portion of the loan from the ordinary capital resources of the Bank. The fee would begin to accrue 60 days after the date of the contract and would be payable proportionately, in the currencies committed in the loan contract and on the same dates as the interest. 1/ 3/4% per annum, payable semiannually on the undisbursed portion of the loan from the Fund for Special Operations, proportionately in United States dollars and in the other currencies expressly provided for in the loan contract, at the equivalence in United States dollars. The fee would begin to accrue 60 days after the date of the contract, and the first payment would be made six months after such date.
  - (e) Period for Disbursement: Total disbursement of the loan would be made within a period of four years from the date of the loan contracts.
  - (f) Currencies of Payment: In the case of the ordinary capital loan, payments of principal and interest would be made proportionately in the currencies loaned. In the case of the FSO loan, payments of principal and interest would be made proportionately in the currencies disbursed (or, at the election of the debtor, except with respect to amounts disbursed in the currencies of Mexico or Venezuela), payment may be made in Colombian pesos, in a quantity equivalent to the amount due as computed in United States dollars at the rate of exchange in effect in the free market on the due date, or such other rate of exchange as may be appropriate in accordance with provisions to be included in the loan contract.
6. Description of the Project: The project calls for construction of electric subtransmission systems and improvements and expansion of the distribution systems of 12 ICEL subsidiary electric utility companies operating in 14 departments of Colombia. The work would include: (a) construction of 1,619 kilometers of subtransmission lines to operate at 66 KV, 44 KV, 33 KV, and 13.2 KV; (b) construction and/or expansion of 17 transmission substations operating at these voltages; and (c) construction of new distribution systems, and improvement and expansion of distribution systems now operating in 127 urban centers. The project

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1/ In the case of the currencies of nonmember countries expressly stipulated in the contract for the loan from the ordinary capital resources, the commitment fee would be 2% per annum, payable in the currencies of the nonmember countries specified in such loan contract (see subparagraph (b)).

would substantially improve electric service to approximately 160,000 present subscribers and would provide for approximately 109,000 new service connections throughout the service area of the following ICEL subsidiary companies: Electrificadora de Antioquia, S.A.; Electrificadora del Atlántico, S.A.; Electrificadora de Bolívar, S.A.; Electrificadora de Boyacá, S.A.; Centrales Eléctricas del Cauca, S.A.; Electrificadora de Córdoba, S.A.; Electrificadora de Cundinamarca, S.A.; Centrales Eléctricas de Huila, S.A.; Electrificadora del Magdalena, S.A.; Centrales Eléctricas de Nariño, S.A.; Central Hidroeléctrica del Río Lebrija Ltda., and Centrales Eléctricas del Tolima, S.A. 1/ The assets from the investments made would be transferred to these companies, which would then repay to ICEL the total amount of the proposed loans from the Bank on financial terms and conditions substantially similar to those furnished to ICEL by the IDB. 2/

7. Cost of the Project: The cost of the project is estimated at the equivalent of US\$42,950,000 as itemized below.

| (Equivalent in US\$ thousands)              |   |   |              |          |
|---|---|---|--------------|----------|
| <u>Category</u> <u>3/</u>                   | <u>Foreign Cur-</u><br><u>rency Costs</u> | <u>Local Cur-</u><br><u>rency Costs</u> | <u>Total</u> | <u>%</u> |
| 1. <u>Engineering and Administration</u>    |   |   |              |          |
| 1.1 Engineering and construction management | 30  | 2,350                                   | 2,380        | 5.6      |
| 1.2 Administration                          | -   | 1,300                                   | 1,300        | 3.0      |
| Subtotal 1                                  | 30  | 3,650                                   | 3,680        | 8.6      |
| 2. <u>Direct Cost of Construction</u>       |   |   |              |          |
| 2.2 Transmission facilities                 | 3,903                                     | 5,153                                   | 9,056        | 21.1     |
| 2.3 Distribution facilities                 | 8,483                                     | 13,329                                  | 21,812       | 50.8     |
| 2.4 General facilities                      | 714                                       | 68                                      | 782          | 1.8      |
| Subtotal 2                                  | 13,100                                    | 18,550                                  | 31,650       | 73.7     |

1/ Of the other three ICEL subsidiary companies, two have already obtained financing in part from the IDB, to expand their electric subtransmission and distribution facilities. The third is undergoing a reorganization. (See Chapters III and IV.)

2/ See Chapter IV.

3/ Includes only categories in which investments would be made.

(Equivalent in US\$ thousands)

| Category <u>1/</u>                                       | Foreign Cur-<br>rency Costs | Local Cur-<br>rency Costs | Total         | %            |
|--|-----------------------------|---------------------------|---------------|--------------|
| 3. <u>Financial Charges</u>                              |                             |                           |               |              |
| 3.1 Interest and other charges<br>on IDB loans <u>2/</u> | 1,950                       | 2,180                     | 4,130         | 9.6          |
| 3.2 IDB Inspection and Super-<br>vision Funds            | <u>250</u>                  | <u>-</u>                  | <u>250</u>    | <u>0.6</u>   |
| Subtotal 3   | <u>2,200</u>                | <u>2,180</u>              | <u>4,380</u>  | <u>10.2</u>  |
| 5. <u>Not Allocated</u>                                  |                             |                           |               |              |
| 5.1 General contingencies                                | <u>1,420</u>                | <u>1,820</u>              | <u>3,240</u>  | <u>7.5</u>   |
| Subtotal 5   | <u>1,420</u>                | <u>1,820</u>              | <u>3,240</u>  | <u>7.5</u>   |
| Total  | <u>16,750</u> <u>3/</u>     | <u>26,200</u>             | <u>42,950</u> | <u>100.0</u> |
| Percentage   | (39.0)                      | (61.0)                    | (100.0)       |              |

8. Financial Plan: The project would be financed as follows:

(Equivalent in US\$ thousands)

|                                  | Currency of Origin |              | Currency of Use         |               | Total         | %           |
|----------------------------------|--------------------|--------------|-------------------------|---------------|---------------|-------------|
|                                  | Foreign            | Local        | Foreign                 | Local         |               |             |
| (a) <u>IDB Loans</u> <u>4/</u>   |                    |              |                         |               |               |             |
| (i) Ordinary capital resources   | 6,000              | 3,000        | 6,000 <u>5/</u>         | 3,000         | 9,000         | 21.0        |
| (ii) Fund for Special Operations | <u>11,000</u>      | <u>5,000</u> | <u>8,800</u> <u>6/</u>  | <u>7,200</u>  | <u>16,000</u> | <u>37.2</u> |
| Subtotal                         | <u>17,000</u>      | <u>8,000</u> | <u>14,800</u> <u>3/</u> | <u>10,200</u> | <u>25,000</u> | <u>58.2</u> |

1/ Includes only categories in which investments would be made.

2/ Estimated financial charges on IDB loans during project execution.

3/ Includes an amount equivalent to US\$3,630,000 representing the estimated indirect cost in foreign currencies.

4/ Chapter V of the loan document states the reasons supporting the recommendation that a combination of ordinary capital resources and resources from the Fund for Special Operations be used to finance this project.

5/ Includes the equivalent of US\$2,899,000 for the estimated indirect costs in foreign currencies. No foreign currencies from this loan would be used to pay expenses in local currency.

6/ Includes the equivalent to US\$731,000 for estimated indirect costs in foreign currencies.



(Equivalent in US\$ thousands)

|   | Currency of Origin |        | Currency of Use      |        | Total   | %      |
|---|--------------------|--------|----------------------|--------|---------|--------|
|   | Foreign            | Local  | Foreign              | Local  |         |        |
| (b) Local Contribution                  |                    |        |                      |        |         |        |
| (i) ICEL                                | -                  | 11,590 | 1,950                | 9,640  | 11,590  | 27.0   |
| (ii) Subsidiary companies <sup>1/</sup> | -                  | 6,360  | -                    | 6,360  | 6,360   | 14.8   |
| Subtotal                                | -                  | 17,950 | 1,950                | 16,000 | 17,950  | 41.8   |
| Total                                   | 17,000             | 25,950 | 16,750 <sup>2/</sup> | 26,200 | 42,950  | 100.00 |
| Percentage (39.6)                       |                    | (60.4) | (39.0)               | (61.0) | (100.0) |        |

9. Justification: According to the technical and financial analysis of the applicant and executing agency and of the project, the operation proposed for financing is feasible from the technical and financial standpoints. Moreover, the economic evaluation of anticipated project benefits shows that the execution of the project would be timely, appropriate and necessary to achieve the objectives set forth in Colombia's economic and social development program. The reasons supporting such conclusions are as follows:

- (a) The ICEL has developed a suitable organizational structure, and the reorganization of its financial management activity has advanced satisfactorily. (In fact, the recommendations made by the consultants hired to improve its management efficiency will be fully instituted in the near future.) The subsidiary companies of ICEL are also in the final phase of instituting appropriate administrative reforms that will allow them to effectively coordinate their activities with those of ICEL. The following measures that the applicant is planning to take in connection with the proposed project afford assurances of adequate technical and administrative capability to perform and supervise the project and warrant the expectation of efficient execution: (i) establishment of a special unit for project implementation as part of the applicant's administrative organization; and (ii) hiring one or more firms of engineering consultants to advise that management unit as to the technical supervision of project activity at all stages.
- (b) The financial projections made by ICEL and each of its subsidiary companies participating in the project show that the supplementary contributions that the Colombian Government has pledged to

<sup>1/</sup> Seven of the 12 ICEL subsidiary companies participating in the project would furnish all or part of the local funds for the particular part of the project to be carried out in their service areas.

<sup>2/</sup> Includes an amount equivalent to US\$3,630,000 for estimated indirect costs in foreign currencies.

provide from the National Budget will provide the national resources necessary to meet the entire amount of the local allotment for the project. 1/

- (c) The rate schedules that would be in effect at the end of the project construction period as the result of the rate increases that the Colombian authorities have agreed to make within the period 2/ would yield a satisfactory rate of return on the fixed investment of the ICEL subsidiary companies participating in the project. These rate schedules are consistent with the applicable IDB policies. 3/ Such rates would enable the participating companies to repay to ICEL the full amount of the proposed IDB loans, on terms and conditions substantially similar to those of the loan contract between ICEL and the IDB.
- (d) The project, submitted under the Colombian Government's development program for the power sector, is meant to provide for improvement and expansion of power subtransmission and distribution facilities, a part of the program that in recent years has not kept pace with the installation of generating and transmission capacity. Sound considerations and logical procedures were used in selecting facilities to be installed. The plans and final designs would be ready in sufficient time for project execution, since the designs would be based on the standard ones prepared by the consortium of consulting firms that made the feasibility study (see paragraph 4.14).
- (e) The estimate of project cost was drawn up according to a suitable methodology, and the estimated costs are within reasonable limits. The schedule for investments and disbursements is feasible from the technical and financial standpoints, and is accompanied by a suitable and readily adjustable procurement plan. Construction would be done by contractors (as is the traditional practice of ICEL and its subsidiaries); this would be the most suitable procedure, considering the nature of the project.
- (f) The proposed project would: (i) reduce the present marked differences between power consumption in the principal Colombian cities and in most other parts of the country 4/; (ii) reduce the substantial energy losses -- which are far above limits of energy loss and are the cause of significant losses of revenue -- in the systems included in the project; (iii) allow replacement of

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1/ Letter from ICEL dated November 13, 1970, and letter from National Planning Department of Colombia dated November 19, 1970. (See Appendix I.)

2/ Letter from ICEL of November 13, 1970, and letter from National Planning Department of Colombia dated November 19, 1970, (see Appendix F).

3/ The rate of financial return on the fixed investments of the participating subsidiaries would be 5.51%.

4/ In 1966, the 20 Colombian cities having more than 30,000 inhabitants used an average of 563 KWH of electric energy per capita per year, compared to 130 KWH used by the rest of the population.

a large number of small, uneconomic generating plants with larger and more efficient plants that would meet the needs of a greater number of population centers, making possible greater use of presently idle generating capacity and thus increasing the efficiency of use of existing generating facilities in general; and (iv) provide adequate and reliable electric service to major population groups who now have either insufficient or unreliable electric service, or lack it entirely. This would yield major economies of scale in the production of electric energy and provide a significant development incentive to a much larger sector of the national population.

- (g) Institutional measures adopted by the Colombian Government as part of its development program in the electric energy sector (particularly Decree 3069 of December 16, 1968, which created the National Public Utility Rates Board, and Decree 3175 of December 26, 1968, which established the present organizational structure of the ICEL, making it the regulatory agency for activities in the electric energy sector) have shaped the institutional machinery necessary to obtain maximum economic and social benefits for the country from investments in that sector.
  - (h) The Bank has granted the following loans to Colombia to assist in development of the electric energy sector: 65/SF-CO to Establecimiento Público Empresas Municipales de Cali; 106/OC-CO and 107/OC-CO to ELECTRAGUAS (now ICEL); and 125/OC-CO to Central Hidroeléctrica de Caldas, S.A. An analysis of the results of Loans 106/OC-CO and 107/OC-CO is given in Chapter III.
10. Recommendation: On the basis of the studies made and conclusions reached by the Project Committee, the Operations Department transmits this loan document to the President of the Bank with the recommendation that, should he deem it appropriate, he submit the relevant proposed resolutions to the Board of Executive Directors for approval.

## I. INTRODUCTION

- 1.01 On May 15, 1970 the Instituto Colombiano de Energía Eléctrica (ICEL) submitted to the IDB a loan application for an amount equivalent to US\$25,866,000 to partly finance a project for construction of electric power subtransmission systems and improvement and enlargement of distribution systems in the area served by 12 of its affiliated companies. 1/ Enclosed with the application was a technical study made by the Ingetec-Integral consortium of Colombian consulting firms. This study was one of the principal references used to make the initial examination of the application. The contract with the consortium was financed through a loan provided by the National Development Fund of Colombia (FONADE) under the program of its Fund for Preinvestment Studies financed in part by the IDB. 2/ It should be noted that no contingent-recovery technical assistance has been granted to ICEL by the Bank.
- 1.02 By Letter UPEC/4/2083/70 of June 22, 1970, the National Planning Department of Colombia informed the Bank that it had filed an opinion with the Ministry of Finance and Public Credit favorable to the commencement of negotiations between ICEL and IDB, agreeing to submission of the loan application, and confirming the order of project priority as well. Moreover, the Ministry of Finance and Public Credit, by means of Resolution No. 08417 of July 24, 1970, authorized the ICEL to enter into negotiations with the Bank to obtain the loan.
- 1.03 The project submitted for financing would be included in a list of projects which Colombia intended to submit to the next meeting of the Consultative Group. The meeting will be held in Paris in February 1971, and this is one of the projects which the Management would propose that the Bank express an interest in considering for possible financing.
- 1.04 In June 1970, the Bank sent an operations mission to Colombia to make a field evaluation of the proposed project and arrive at a preliminary agreement with the Colombian authorities as to the conditions under which the Bank might wish to participate in the proposed financing. The mission inspected many of the areas and urban centers where the project would be executed, and made a detailed examination of the technical, financial, and administrative resources of the ICEL, of its affiliated electric utility companies, and of the project itself. While the operations mission was in Colombia, the management of ICEL revised the cost estimated for the project and reduced the amount of the loan application to the equivalent of US\$25,000,000. This reduction was due to minor adjustments to the original estimates of cost for the expansion and improvement of the distribution systems in some of the urban centers included in the project.

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1/ See Chapter II.

2/ See Chapter IV.

## II. BORROWER AND EXECUTING AGENCY

### A. Identity

- 2.01 The borrower and executing agency for the project would be the Instituto Colombiano de Energía Eléctrica (ICEL). This agency was established in 1946 under the name of Instituto de Aprovechamiento de Aguas y Fomento Eléctrico (ELECTRAGUAS); by Decree 3175 of December 26, 1968, it was given its present title and legal nature. It is a public entity with legal personality, administrative autonomy, and independent assets, and is attached to the Ministry of Public Works, with headquarters in Bogotá, D. E.

### B. Purpose and Functions

- 2.02 ICEL is the principal agency operating in the electric power sector; its purpose is to see that the country's requirements for services of this nature are satisfied. 1/ 2/ To this end, it has the following major functions: a) to help prepare and to coordinate the national electrification plan; b) to carry out electrification projects ordered by law; c) to provide technical and financial assistance for electrification projects carried out by other agencies, through contributions of capital, provision of loans and guarantees, and channeling of internal and external credits; d) to coordinate the activities of electrical service enterprises; e) to study and prepare adequate systems of organization for its affiliates, and promote their implementation; f) to establish technical and safety standards for the provision of electric power service and electrification facilities of all kinds in the national territory, and to ensure compliance therewith. In addition, the Institute is specifically empowered to contract internal<sup>3/</sup> and external loans, which are backed by the guarantee of the Republic.

### C. Area of Responsibility

- 2.03 Electricity services in Colombia are provided basically by four major entities; a) Empresa de Energía Eléctrica de Bogotá, which serves the Special District of Bogotá and - through block sales of power - about 60% of the Department of Cundinamarca; b) Empresas Públicas de Medellín, which serves the city of Medellín and approximately 65% of the area of the Department of Antioquia, through block sales of power; c) Corporación Autónoma Regional del Valle del Cauca, which supplies electric power services in the Cauca Valley; and d) ICEL, which serves the rest of the national territory. In addition, the agency known as

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1/ Decree 3175, Art. II.

2/ See paragraph 2.03

3/ Decree 3175, Article 7. See paragraph 2.44.

Interconexión Eléctrica; S.A. has been in operation since the end of 1967; it was formed with equal participation of the four agencies mentioned above, and is carrying out the first stage of national electrical interconnection in the central part of the country. <sup>1/</sup> The relative importance of the four major entities mentioned may be seen in the following table, which indicates each one's installed capacity for generation of electric power for public use as of the end of 1969.

|   | <u>Kw</u>        | <u>%</u>     |
|---|------------------|--------------|
| ICEL, affiliates and subsidiaries                 | 684,288          | 35.9         |
| Empresa de Energía Eléctrica de Bogotá            | 445,000          | 23.4         |
| Empresas Públicas de Medellín                     | 415,340          | 21.8         |
| Corporación Autónoma Regional del Valle del Cauca | 269,720          | 14.2         |
| Others  | <u>89,636</u>    | <u>4.7</u>   |
|   | <u>1,903,984</u> | <u>100.0</u> |

- 2.04 ICEL does not provide electric power services directly to the public, but rather serves the extensive area under its responsibility through affiliated electric companies, most of which are organized as stock companies with their own legal personality. ICEL maintains operating control of almost all of these affiliates through its ownership of over 50% of the stock or shares of paid-in capital; it is actually a holding company that now controls fifteen affiliates providing service in eighteen departments of Colombia. In general, each company serves a single department, although in some cases two departments are served by the same one. <sup>2/</sup> Within its area of coverage, each of these enterprises - which are known as electrification companies (electrificadoras) - ordinarily is responsible for the generation, transmission and distribution of electric power. Most of them also have their own affiliates, or subsidiaries, through which they provide services in the area under their jurisdiction. Finally, it should be mentioned that some of the companies, acting as agents of the Government of Colombia, manage operating divisions acquired by the government from the American and Foreign Power Co.

<sup>1/</sup> As a result of this interconnection of systems in the central part of the country, it is expected that those of the large cities of Bogotá, Medellín and Cali will be connected within the next year; this will ensure the most economical use of the major hydroelectric complexes of Central Colombia.

<sup>2/</sup> These companies do not serve cities for which the government has granted concessions to other entities, as noted in paragraph 2.03.

2.05 ICEL has the following affiliates: a) Electrificadora de Antioquia; b) Electrificadora del Atlántico, S.A.; c) Electrificadora de Bolívar, S.A.; d) Electrificadora de Boyacá, S.A.; e) Central Hidroeléctrico de Caldas, S.A.; f) Centrales Eléctricas del Cauca, S.A.; g) Electrificadora de Córdoba, S.A.; h) Electrificadora de Cundinamarca, S.A.; i) Electrificadora de Chocó, S.A.; j) Centrales Eléctricas del Huila, S.A.; k) Electrificadora del Magdalena, S.A.; l) Centrales Eléctricas de Nariño, S.A.; m) Central Hidroeléctrica del Río Lebrija Ltda.; n) Centrales Eléctricas del Norte de Santander, S.A.; and o) Centrales Eléctricas del Tolima, S.A. In addition, ICEL acts as directing agency for electric power development in the following areas, although it has not organized affiliates therein: a) Department of Cesar; b) Department of La Guajira; c) Department of Sucre; and d) Intendencias of San Andrés Islands, Arauca, Caquetá, Putumayo, Amazonas, Vaupés, Guanía, and Vichada. 1/ 2/ 3/

D. Organization, Direction and Administration of ICEL 4/

2.06 The organizational structure of ICEL establishes the following basic assignment of functions: a) the functions of management pertain to the Board of Directors and the Manager; and b) technical, administrative and financial functions are assigned to the offices of three Deputy Managers: for Administration, Technical Department, and for Affiliates. Each of these is organized in divisions and sections according to the relative importance of the functions performed. 5/ Finally, coordination and advisory functions are discharged by other special units directly under the Manager. 6/

(i) Board of Directors

2.07 The Board of Directors is the principal executive body of the Institute and is composed of five members: a) the Minister of Public Works or his representative, who presides over the Board; b) the Chief

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1/ A map showing the territorial jurisdiction of Colombia's electric companies is attached as Appendix B.

2/ Paragraph 2.26 contains a description of the twelve affiliate companies that would take part in the project under consideration for partial financing.

3/ Chapter IV gives the reasons for exclusion of the following from the project under consideration: Electrificadora de Chocó, S.A., Central Hidroeléctrica de Caldas, S.A., and Central Eléctrica del Norte de Santander.

4/ The organizational chart of the Institute is attached as Appendix C.

5/ See paragraph 2.11.

6/ See paragraph 2.10.

of the National Planning Department or his representative; c) one member appointed by the President of the Republic; d) a joint representative of the Colombian Society of Engineers and the Association of Electrical and Mechanical Engineers; and e) a joint representative of the National Manufacturers' Association and the National Federation of Businessmen. The last two members mentioned also are appointed by the President of the Republic, each from a list of four candidates (two from each of the associations concerned). The members appointed by the President hold office for two years and may be reappointed. The other members of the Board serve in their capacity as public officials. 1/

- 2.08 As executive body, the Board of Directors has the following principal functions and duties: a) to approve the annual budget of the Institute; b) to provide for the contracting of internal and external loans and to approve the corresponding contracts; c) to authorize the formation, merger, integration, dissolution and liquidation of affiliated companies of the Institute; d) to establish general policy and to draw up action plans and programs; e) to supervise the general operations of the entity and establish its administrative organization; f) to appoint and remove Deputy Managers and Division Chiefs; g) to authorize the granting of loans and guarantees to affiliates and the financial participation of the Institute in unaffiliated electric companies, cooperatives and associations. To take effect, the decisions of the Board regarding the matters referred to in items a), b) and c) above must have the favorable vote of the Minister of Public Works or his delegate. 2/

ii). Manager

- 2.09 The Manager is next in the chain of command to the Board of Directors, and is the legal representative of the institution. To hold this position, he must have a university degree in engineering, and must be experienced in the supervision and management of matters related to electrification. He is appointed and removed directly by the President of the Republic, and has the following principal functions and duties: a) to carry out the decisions of the Board of Directors; b) to direct, coordinate and supervise execution of the operations and programs of the institution; c) to prepare the budgets, plans and programs to be implemented by the Institute and present them to the Board of Directors for consideration; d) to appoint and remove staff members and make decisions regarding personnel administration; e) to exercise all shareholder functions of the Institute; f) to ensure proper use of funds and appropriate maintenance and utilization of the property of the Institute, etc.

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1/ The Manager of ICEL is a member of the Board of Directors with voice but without vote.

2/ See paragraph 2.07.



2.10 The following coordination and advisory units are directly responsible to the Manager: a) Executive Committee, comprising the Manager and Deputy Managers, the Chief of Planning, and the General Counsel of the Institute, and responsible for the coordination of operating activities; b) Planning, headed by the Chief of Planning, which conducts technical and economic feasibility studies in regard to the generation, transmission and distribution of electric power, and studies of the specific projects agreed upon; c) General Secretariat and Public Relations, under the Secretary General of the Institute, with functions appropriate to such offices; and d) Legal Department, headed by the General Counsel of the Institute.

(iii) Operating divisions

2.11 As indicated above, 1/ the operating functions of the institution are assigned to three Deputy Managers: Administration, Technical Department, and Affiliates, each of whom is directly responsible to the Manager. They perform the following functions:

- (a) Deputy Manager for Administration: Performs the administrative and financial functions of the Institute, through three divisions: Financial, General Services and Industrial Relations. The first of these is primarily responsible for the financial and accounting administration of the agency, and has the following sections: Accounting, Budget, Treasury, and Commercial; the Commercial Section is responsible for procurement and administration of materials and equipment. 2/ The General Services Division performs the service functions of the Institute: library, internal communications, files, preparation and reproduction of plans and reports, correspondence, etc. Finally the Industrial Relations Division is in charge of administration of personnel policies and benefits provided by the Institute to its employees.
- (b) Deputy Manager, Technical Department: Performs the technical and operating functions of the Institute, through its three divisions: Electrical Engineering, Hydraulic Engineering, and Auditing and Contracts. The first of these is charged with the planning and execution of electromechanical projects required for the installation, modification and expansion of electric power generation, transmission and distribution. It has four sections: Generation, Transmission, Distribution and Rural Electrification. The Hydraulic Engineering Division is responsible for the hydraulic and other civil works required for the installation, expansion and modification of hydroelectric power generation facilities, through its Hydraulic Engineering and Civil Engineering sections. Finally, the Auditing and Contracts Division takes charge of the

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1/ See paragraph 2.06.

2/ See paragraph 2.13.

programming, supervision and inspection of works carried out by the Institute, and the preparation and supervision of the corresponding contracts.

- (c) Deputy Manager for Affiliates: 1/ This department, which was established recently, is responsible for coordination of the activities of the companies affiliated with ICEL and for unification of their operating policies, procedures and methods. The organizational structure of the department has been formulated, and the institution is now engaged in organizing it and defining its administrative procedures. 2/

(iv) Personnel

- 2.12 In November 1970 the staff of ICEL consisted of 204 employees, distributed as follows:

|                 | <u>Number</u> | <u>Per cent</u> |
|-----------------|---------------|-----------------|
| Executive       | 12            | 5.9             |
| Professional 3/ | 37            | 18.1            |
| Technical       | 73            | 35.8            |
| Administrative  | 63            | 30.9            |
| Service         | 19            | 9.3             |
| Total           | <u>204</u>    | <u>100.0</u>    |

The professional staff includes 30 engineers, 2 economists, 2 geologists, 2 lawyers and one specialist in public and business administration. An evaluation of the technical and administrative capacity of ICEL is presented in paragraph 2.40 et seq. of this loan document. 4/

E. Financial Administration

(i) Internal control

- 2.13 The financial administration functions of the Institute are performed primarily by the following divisions under the Deputy Manager for Administration: a) Financial Division, b) General Services Division, and c) Industrial Relations Division. Operations relating to management of funds, inventory control and other operating procedures, as well as the corresponding supervision, are organized pursuant to the

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1/ See paragraphs 2.04 and 2.39.

2/ It should be noted that this work is being carried out in collaboration with the Colombian consulting firm Instituto de Organización y Métodos (I.O.M.), which ICEL contracted for this purpose on August 26, 1970. See paragraph 2.40.

3/ See paragraph 2.43.

4/ Appendix D to this document contains the curricula vitae of the principal staff members of the Institute.

provisions in force with respect to the organization of state entities. An evaluation of the operating procedures and control systems introduced makes it possible to state that once the Internal Audit Office of the entity begins to function - which is expected to be in the first half of the coming year - an adequate system of internal control will be in full effect. 1/

- 2.14 ICEL has been using two accounting systems for posting its operations: a) a budget accounting system, and b) a capital accounting system. The budget accounting system is adequate and its postings are up to date. On the other hand, the new plan of accounts of the capital accounting system that is being adopted with the advice of the Colombian consulting firm Instituto de Organización y Métodos (I.O.M.) 2/ will permit adequate consolidation of the financial statements of ICEL with those of its affiliated companies, and hence a more complete explanation of the entity's financial position. 3/ It should also be noted that the works costing procedure employed by ICEL is regarded as adequate. For posting operations the Accounting Section uses three National machines, which because of their capacity have permitted mechanization of the following operations: a) budget accounting; b) posting to the ledger and of ancillary records for analyses of the capital accounting system; and c) issue and control of personnel rosters and payrolls.

(ii) External auditing

- 2.15 The external auditing of ICEL is performed by the General Accounting Office of the Republic. In addition, independent auditors also have audited its financial statements. The General Accounting Office exercises control of budget execution and of aspects relating to inventory control and flow of funds. Independent auditors acceptable to the Bank also have examined the entity's financial statements and given their opinion. The reports presented by these auditors have contained the information required by the Bank. The General Accounting Office contends that it has the authority to issue auditors' opinions for public institutions, and recently has not approved the contracts that these institutions have been signing with independent auditing firms. Furthermore, so that the personnel of the General Accounting Office may familiarize themselves with the auditing requirements of the Bank, a symposium was held in Colombia under Bank sponsorship on the topic of "Financial and Operational Auditing of Development Programs". The symposium, given by the Bank's Auditing and Financial Analysis Section, is believed to have placed the Accounting Office in a position to issue audit opinions acceptable to the Bank. In view of the foregoing, it is recommended that the loan contracts contain the following provision: that ICEL shall present to the Bank, within

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1/ See Chapter VI, Conclusions and Recommendations.

2/ See paragraph 2.40.

3/ See paragraph 2.19.

120 days after the close of each fiscal year during the period in which these loan contracts are in effect, the financial statements of the institution and of the project financed, with the opinion of the General Accounting Office of the Republic, in accordance with criteria established by the Bank. In the event that the General Accounting Office cannot make its study and issue its opinion in the required time period and manner, the financial statements of ICEL and of the project would be examined by an independent firm of public accountants acceptable to the Bank, whose services would be contracted by ICEL from its own funds. 1/

F. Financial Structure of the Applicant

(i) Source of funds

- 2.16 In accordance with the operating system of the Institute and its affiliates described above, 2/ ICEL does not generate resources directly. Operating funds are obtained by the affiliates through the collection of charges for electrical services furnished; most of these companies show losses due to inadequate rate scales. 3/ 4/ Furthermore, for the companies that realize profits, ICEL has followed a policy of not withdrawing in cash that proportion due it according to its participation in the capital of these companies. 5/ Consequently, the Institute has the following principal sources of funds: a) annual allocations by the Government of Colombia in the National Budget, and b) credits obtained by the institution in internal and foreign markets. The sources thus obtained are used primarily for the financing of planned expenditures, repayment of loans, and payment of agreed contributions to affiliated companies and other entities related to ICEL.
- 2.17 The budgets of the Institute for 1967, 1968 and 1969, and their implementation, are shown in the following table:

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1/ See Chapter VI, Conclusions and Recommendations.

2/ See paragraph 2.04.

3/ An analysis of the financial performance of the electric companies to be included in the project is presented in paragraph 2.34.

4/ An analysis of the current situation regarding rates and the measures planned to improve it is presented in paragraph 2.35 et seq. of this loan document.

5/ The table in paragraph 2.26 shows ICEL's participation in the capital of the electric companies to be included in the project.

| (Equivalent in thousands of US\$) 1/                        |               |               |       |               |               |       |               |               |       |
|---|---------------|---------------|-------|---------------|---------------|-------|---------------|---------------|-------|
| INCOME  | 1967          |               |       | 1968          |               |       | 1969          |               |       |
|   | Budget-<br>ed | Re-<br>ceived | %     | Budget-<br>ed | Re-<br>ceived | %     | Budget-<br>ed | Re-<br>ceived | %     |
| Cash balance 2/   | 150           | 41            | 27.0  | 841           | 943           | 112.1 | 1,959         | 2,216         | 113.1 |
| External and internal credits                               | 8,791         | 8,791         | 100.0 | 3,709         | 3,387         | 91.3  | 6,077         | 5,728         | 94.3  |
| National Budget   | 9,876         | 8,137         | 82.4  | 17,898        | 15,307        | 85.5  | 17,782        | 12,943        | 72.8  |
| Other income  | 458           | 436           | 95.2  | 859           | 859           | 100.0 | 1,607         | 1,607         | 100.0 |
| Total income  | 19,275        | 17,405        | 90.3  | 23,307        | 20,496        | 87.9  | 27,425        | 22,494        | 82.0  |
| EXPENDITURES  |               |               |       |               |               |       |               |               |       |
| Debt service  | 2,127         | 1,998         | 93.9  | 3,366         | 3,176         | 94.4  | 4,363         | 3,841         | 88.0  |
| Operating expenses  | 391           | 369           | 94.4  | 489           | 475           | 97.1  | 613           | 556           | 90.7  |
| Investment  | 14,567        | 12,965        | 89.0  | 15,727        | 12,645        | 80.4  | 19,683        | 14,425        | 73.3  |
| Payments to affiliates                                      | 1,103         | 828           | 75.1  | 2,641         | 1,724         | 65.3  | 1,712         | 1,395         | 81.5  |
| Payments to Interconexión Nacional, S.A. and other entities | 897           | 272           | 30.3  | 966           | 260           | 26.9  | 706           | 514           | 72.8  |
| Studies and projects  | 190           | 30            | 15.8  | 118           | -             | -     | 348           | 130           | 37.1  |
| Total expenditures  | 19,275        | 16,462        | 85.4  | 23,307        | 18,280        | 78.4  | 27,425        | 20,861        | 76.1  |
| Cash balance 3/   |               | 943           |       |               | 2,216         |       |               | 1,633         |       |

1/ Rates of exchange utilized: 1967, Col. \$15.779 = US\$1.00; 1968, Col. \$16.896 = US\$1.00; 1969, Col. \$17.833 = US\$1.00.

2/ The cash balance budgeted does not match the amount shown as received because the budgets are prepared some time before the beginning of the corresponding fiscal year, making it impossible to know the initial cash balance exactly.

3/ Cash balances at the end of each fiscal year show the difference between income received and expenditures made, and are carried over to the next fiscal year.

2.18 The figures presented in the table above show that the budgeted income of ICEL rose by 42.3% over the period 1967-1969, chiefly as a result of the increase in budgetary allocations by the National Government, which rose from the equivalent of US\$9,876,000 in 1967 to the equivalent of US\$17,782,000 in 1969 - an increase of 80.1%. Thus, budgeted contributions in the National Budget increased in relative importance within the budget financing of the Institute, expanding from 51.2% in 1967 to 64.8% in 1969. As for the execution of these budgets, the evolution has been negative in relative terms, declining from 90.3% in 1967 to 82.0% in 1969; this was due to a reduction in actual receipts of 1969 budgetary allocations, which amounted to 72.8%. Nonetheless, it must be pointed out that: a) as explained below, allocations not received in cash during a given fiscal year are carried over to next, and b) in absolute terms, the executed budget of ICEL rose from the equivalent of US\$17,405,000 in 1967 to the equivalent of US\$22,494,000 in 1969, an increase of 29.2%. Moreover, the allocations of the National Budget actually paid in cash during the fiscal year increased from the equivalent of US\$8,137,000 in 1967 to the equivalent of US\$12,943,000 in 1969 - a gain of 59.1%. As noted, the undisbursed balance of the National Government's budgetary allocations for each fiscal year is transferred to subsequent budgets until the total cash payment has been made. The following table shows the subsequent transfer of items pending at the end of each fiscal year for the period under consideration:

(Equivalent in thousands of US\$)

| <u>Payments from the<br/>National Budget</u> | <u>1967</u>           |                       |                     | <u>1968</u>           |                       |              | <u>1969</u>           |                       |              |
|--|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|--------------|-----------------------|-----------------------|--------------|
|  | <u>Budg-<br/>eted</u> | <u>Re-<br/>ceived</u> | <u>Diff.</u>        | <u>Budg-<br/>eted</u> | <u>Re-<br/>ceived</u> | <u>Diff.</u> | <u>Budg-<br/>eted</u> | <u>Re-<br/>ceived</u> | <u>Diff.</u> |
| Current budget                               | 9,021                 | 7,431                 | (1,590)             | 16,274                | 13,683                | (2,591)      | 15,234                | 10,485                | (4,839)      |
| Previous budgets                             | 855                   | 706                   | (149) <sup>1/</sup> | 1,624 <sup>1/</sup>   | 1,624                 | -            | 2,458 <sup>1/</sup>   | 2,458                 | -            |
| Total  | 9,876                 | 8,137                 | (1,739)             | 17,898                | 15,307                | (2,591)      | 17,782                | 12,943                | (4,839)      |

<sup>1/</sup> The differences appearing in the dollar figures are due to the different rates of exchange used for each year (see footnote 1, paragraph 2.17).

In general, it may be stated that the level of budget execution in each of the years analyzed was acceptable.

(ii) Financial statements

- 2.19 As indicated above, 1/ the financial statements of ICEL have been examined by a firm of auditors acceptable to the Bank. In their opinions regarding the financial statements for the fiscal years ending December 31, 1967 and December 31, 1968, 2/ these auditors issued no opinion as to the statements as a whole, since they did not reflect the consolidated status of the Institute and the affiliated companies in which ICEL holds over 50% of the capital. Nonetheless, they have indicated that the figures contained in those financial statements, except as regards the category of investment and its effect on capital and operating accounts, are reasonably presented. This observation of the auditors already has been taken under consideration by the officials of the Institute, and a new plan of accounts that meets the requirements set forth is being adopted with the assistance of the I.O.M. consulting firm; it is expected that this step will be completed in the first half of 1971. 3/
- 2.20 The financial statements of ICEL for the fiscal years ending December 31, 1967, 1968 and 1969 are presented below:

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1/ See paragraph 2.15.

2/ The applicant has indicated that the opinion of the independent auditors regarding fiscal year 1969 will be presented in December 1970, since the General Accounting Office of the Republic did not give its approval of the contract between ICEL and the auditing firm, holding that the General Accounting Office itself should issue the opinion. Although this contract still has not been approved by the General Accounting Office, it has been ratified for purposes of meeting its commitment with the Bank, and the independent auditing firm is now completing its work.

3/ See paragraphs 2.14, 2.28 and 2.40.

(Equivalent in thousands of US\$) 1/

| <u>ASSETS</u>   | <u>1967</u>   | <u>1968</u>   | <u>1969</u>    |
|---|---------------|---------------|----------------|
| Current assets  | 2,788         | 4,920         | 6,566          |
| Miscellaneous debtors 2/ (net)  | 1,017         | 1,111         | 1,788          |
| Investments (net)   | 34,873        | 39,896        | 45,157         |
| Advances to subsidiaries, contractors and works in progress (net)               | 34,863        | 44,917        | 55,015         |
| Sites and works completed and under construction for transfer to other entities | 1,247         | 1,628         | 916            |
| Deferred charges  | 218           | 11            | 984            |
| Land, buildings and equipment (net)   | <u>1,826</u>  | <u>2,396</u>  | <u>2,703</u>   |
| Total Assets  | <u>76,832</u> | <u>94,879</u> | <u>113,119</u> |
| <u>LIABILITIES, CAPITAL AND RESULTS</u>   |               |               |                |
| Current liabilities   | 4,502         | 6,200         | 6,824          |
| Long-term liabilities   | <u>20,405</u> | <u>23,212</u> | <u>30,452</u>  |
| Subtotal Liabilities  | <u>24,907</u> | <u>29,412</u> | <u>37,276</u>  |
| Capital   | 52,748        | 66,701        | 76,313         |
| Results (loss for the year)   | (823)         | (1,234)       | (470)          |
| Subtotal, Capital and Results   | <u>51,925</u> | <u>65,467</u> | <u>75,843</u>  |
| Total   | <u>76,832</u> | <u>94,879</u> | <u>113,119</u> |

It will be seen from these figures that the assets of the Institute increased by 42.7% from 1967 to 1969. This rise was distributed as follows: a) a 10% increase in current assets, b) 28.4% in investments, and c) 55.4% in the category of advances to subsidiaries and contractors and works in progress. The financing of these increases was obtained chiefly through long-term borrowing (28.3%) and capital contributions from the National Government (65.0%).

1/ The original figures in Colombian pesos have been converted to U. S. dollar figures according to the following methodology: a) Fixed Assets: accounting values as of December 31, 1964 were converted at the rate of exchange in effect on that date, adding subsequent net increases at the average rate of exchange for each year; b) Other items, except Net Worth: were converted at the rate of exchange in effect at the end of each fiscal year (1967, Col.\$15.779 = US\$1.00; 1968, Col.\$16.896 = US\$1.00; 1969, Col.\$17.833 = US\$1.00); c) Net Worth: obtained from the difference between Assets and Liabilities, already converted to dollars.

2/ Refers to investments by ICEL - primarily in municipalities - which are recovered over the long term. The figures do not include the corresponding current portion, which has been shown under the heading of current assets.



- 2.21 The most important components of the assets of the Institute are:  
a) investments, and b) advances to subsidiaries and contractors and works in progress. These categories accounted for 29.9% and 48.6%, respectively, of the total assets of ICEL as of December 31, 1969. The investments category includes capital contributions by ICEL to its affiliated companies and other related entities. As of that date, the composition of this category was as follows:

(Equivalent in thousands of US\$)

Affiliated Companies

|   |               |
|---|---------------|
| Electrificadora de Antioquia, S.A. 1/             | 1,053         |
| Electrificadora del Atlántico, S.A. 1/            | 239           |
| Electrificadora de Bolívar, S.A. 1/               | 2,490         |
| Electrificadora de Boyacá S.A. 1/                 | 1,010         |
| Central Hidroeléctrica de Caldas, Ltda.           | 6,229         |
| Central Eléctrica del Cauca, S.A. 1/              | 2,672         |
| Electrificadora de Córdoba, S.A. 1/               | 2,984         |
| Electrificadora de Cundinamarca, S.A. 1/          | 1,986         |
| Centrales Eléctricas del Huila, S.A. 1/           | 2,224         |
| Electrificadora del Magdalena, S.A. 1/            | 1,222         |
| Centrales Eléctricas de Nariño, S. A. 1/          | 684           |
| Centrales Eléctricas del Norte de Santander, S.A. | 4,381         |
| Central Hidroeléctrica del Río Lebrija, Ltda. 1/  | 7,241         |
| Centrales Eléctricas del Tolima, S.A. 1/          | 3,405         |
|   | <u>37,820</u> |

Other Investments

|  |              |
|--|--------------|
| Corporación Eléctrica de la Costa Atlántica (CORELCA) 2/ | 7,870        |
| Interconexión Eléctrica, S.A.                            | 714          |
| Corporación Regional del Quindío                         | 101          |
| Corporación Autónoma Regional del Valle del Cauca        | 373          |
| Others   | 521          |
|  | <u>9,519</u> |
|  | 47,399       |
| Less: Provision for protection 3/                        | <u>2,242</u> |
|  | 45,157       |

1/ Affiliated companies that would participate in the project to be financed.

2/ This entity was established to provide generation and transmission services to the departments of the Atlantic coastal region, under a program of regional interconnection of electrical systems throughout the country (see Chapter IV).

3/ The provision for protection, in the equivalent of US\$2,242,000, represents the proportion corresponding to the capital of ICEL, in the cumulative losses of the affiliated companies as of the end of fiscal year 1969.

The category of advances to subsidiaries and contractors and works in progress was composed as follows as of December 31, 1969:

(Equivalent in thousands of US\$)

|  |                        |
|--|------------------------|
| a) Advances to subsidiaries                | 38,821.1               |
| b) Advances to contractors                 | 887.6                  |
| c) Works to be transferred to subsidiaries | <u>15,895.3</u>        |
| Subtotal                                   | 55,604.0               |
| Less: Provision for protection             | <u>(589.0)</u>         |
| Total                                      | <u><u>55,015.0</u></u> |

The component items of this category, after their final transfer to the affiliates of ICEL and issuance of the corresponding shares, will form part of the paid-in capital held by the Institute in its affiliated companies.

- 2.22 With respect to the liabilities categories, it should be pointed out that 82% of total long-term obligations corresponds to bank debts, and the remaining 18% to contracts with suppliers and others. The following table shows the distribution of these obligations as of December 31, 1969, classified by currency owed:

(Equivalent in thousands of US\$)

|                   | <u>US\$</u>     | <u>Local<br/>Currency</u> | <u>Total</u>           |
|-------------------|-----------------|---------------------------|------------------------|
| AID               | 955.1           | -                         | 955.1                  |
| ILB 106/OC-CO 1/  | 5,166.9         | -                         | 5,166.9                |
| IDB 107/OC-CO 1/  | 1,984.0         | -                         | 1,984.0                |
| EXIMBANK No. 2161 | 13,263.2        | -                         | 13,263.2               |
| Suppliers         | 3,137.2         | -                         | 3,137.2                |
| Local Banks       | -               | 3,389.4                   | 3,389.4                |
| Other             | -               | <u>2,556.2</u>            | <u>2,556.2</u>         |
| Total             | <u>24,506.4</u> | <u>5,945.6</u>            | <u><u>30,452.0</u></u> |

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1/ See Chapter III.

2.23 Finally, the capitalization of the institution, by source of funds, is shown in the following table for the years under consideration:

(Equivalent in thousands of US\$)

| <u>Source</u>   | <u>Up to<br/>12/31/67</u> | <u>Up to<br/>12/31/68</u> | <u>Up to<br/>12/31/69</u> |
|---|---------------------------|---------------------------|---------------------------|
| Direct contributions from<br>National Government <u>1/</u>      | 34,335                    | 48,879                    | 60,719                    |
| Indirect contributions from<br>National Government <u>2/ 3/</u> | 20,175                    | 19,712                    | 18,660                    |
| Contributions from other<br>agencies <u>4/</u>                  | <u>164</u>                | <u>164</u>                | <u>222</u>                |
| Subtotal  | 54,674                    | 68,755                    | 79,601                    |
| Cumulative profit (loss)  | <u>(2,749)</u>            | <u>(3,288)</u>            | <u>(3,758)</u>            |
| Total   | <u>51,925</u>             | <u>65,467</u>             | <u>75,843</u>             |

1/ Direct contributions from the National Government are those made through the National Budget.

2/ Indirect contributions from the National Government have included the following: Economic Development Bonds, capitalization of investments made and goods acquired by the National Government, capitalization of contributions made from proceeds of the Special Electrical Development Tax, etc.

3/ The observed decline in cumulative figures under this heading is due to the use of different rates of exchange in each year to convert Colombian pesos into dollar equivalents. In terms of Colombian pesos, cumulative contributions have been as follows: 1967, Col.\$318,926,000; 1968, Col.\$329,956,000; 1969, Col.\$331,864,000.

4/ This category is made up primarily of contributions from the Instituto Colombiano de la Reforma Agraria (INCORA).

(iii) Statements of income and expenditures

2.24 The following table presents the statements of income and expenditures of ICEL for fiscal years 1967, 1968 and 1969:

(Equivalent in thousands of US\$) 1/

| <u>Income</u>  | <u>1967</u>  | <u>1968</u>    | <u>1969</u>  |
|--|--------------|----------------|--------------|
| Dividends and shares in subsidiaries, cumulative contributions | 376          | 484            | 339          |
| Sale of electrical services (temporary operation)              | 271          | 76             | -            |
| Interest (net)   | 101          | 8              | 7            |
| Other  | <u>109</u>   | <u>23</u>      | <u>114</u>   |
| Total income   | 857          | 591            | 460          |
| <u>Expenditures</u>  |              |                |              |
| Cost of sale of electrical services (temporary operation)      | 278          | 161            | -            |
| Administrative expenses  | <u>1,402</u> | <u>1,664</u>   | <u>930</u>   |
| Total expenditures   | <u>1,680</u> | <u>1,825</u>   | <u>930</u>   |
| Profit or (loss)   | <u>(823)</u> | <u>(1,234)</u> | <u>(470)</u> |

As this table shows, the income and expenditures statements of ICEL refer essentially to the administrative activities of the Institute, and do not give a consolidated picture of the operations of companies in which ICEL holds over 50% of the capital. 2/ It should be noted further that under express provisions of the Budget Law, ICEL may not include as income the allocations it receives in the National Budget to cover its operating expenses. For this reason, the amounts appearing under this heading are not included in the income and expenditures statements.

1/ Rates of exchange used: 1967, Col.\$14,740 = US\$1.00; 1968, Col.\$16,325 = US\$1.00; 1969, Col.\$17,347 = US\$1.00. These rates are averages for the years indicated.

2/ See paragraph 2.19.

(iv) Financial and economic indicators

- 2.25 The following financial and economic indicators are obtained from the financial statements presented and discussed in the preceding paragraphs:

| <u>Year</u> | <u>Current liquidity</u> | <u>Proportion of net capital in total assets</u> | <u>Yield on investments</u> |
|-------------|--------------------------|--|-----------------------------|
| 1967        | 0.62:1                   | 68%  | 1.1%                        |
| 1968        | 0.80:1                   | 69%  | 1.2%                        |
| 1969        | 0.97:1                   | 67%  | 0.8%                        |

Although the current liquidity ratio was very tight in the years analyzed, it showed continuing and substantial improvement, reaching a figure very close to unity in 1969. In this connection, it should be stressed that ICEL's income structure makes it basically dependent on the disbursement of cash payments from the government in order to meet its obligations; the budget approved for 1970 includes allocations that will permit the Institute to fulfill these obligations in a satisfactory manner. The proportion of net capital in total assets for all of the years considered points to the high proportion of assets financed by the Institute's own resources. Finally, it should be mentioned that the net return of the affiliated companies in which ICEL has investments has been low, primarily because the rate levels of these companies are low. This situation will improve substantially with execution of the proposed project. <sup>1/</sup>

G. Affiliates of ICEL Participating in the Project

(i) Basic data

- 2.26 The project under consideration for partial financing would be carried out in the territory of twelve companies affiliated with ICEL. <sup>2/ 3/</sup> The following table shows the name of each of these companies, the area it serves, its net worth, the composition of its capital, and other basic data permitting an evaluation of its economic scale and the importance of its activities. The figures are as of December 31, 1969, except for sales, which are for the entire year.

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<sup>1/</sup> See paragraphs 2.34, 2.35 et. seq.

<sup>2/</sup> See paragraph 2.05.

<sup>3/</sup> See Chapter IV.

| Name                     | 1/<br>Net Worth<br>(equivalent in<br>thousands of US\$) 2/ | Percentage of<br>participation in<br>paid-in capital |                 |                                    | Generation<br>capacity<br>(Mw) | Sales 3/              |  | Number<br>of<br>sum |
|--------------------------|--|--|-----------------|------------------------------------|--------------------------------|-----------------------|--|---------------------|
|                          |  | ICEL   | Depart-<br>ment | Munici-<br>pality<br>and<br>others |                                | (Millions<br>of kwh.) | (Equivalent<br>in thousands<br>of US\$) 4/ |                     |
| ra de Antioquia, S.A.    | 7,467.9  | 52.4   | 47.5            | 0.1                                | 14.3                           | 18.1                  | 180.7                                      | 6,7                 |
| ra del Atlántico, S.A.   | 10,020.0   | 4.7  | 6.3             | 89.0 5/                            | 144.9                          | 214.8                 | 2,190.0                                    | 13,7                |
| ra de Bolívar, S.A.      | 8,960.2  | 75.7   | 17.2            | 7.1                                | 62.9                           | 184.4                 | 2,603.5                                    | 34,2                |
| ra de Boyacá, S.A.       | 9,317.1  | 73.3   | 15.3            | 11.4                               | 42.0                           | 118.4                 | 1,170.2                                    | 17,7                |
| tricas del Cauca, S.A.   | 4,012.0  | 67.2   | 9.3             | 23.5                               | 9.2                            | 35.7                  | 404.6                                      | 19,1                |
| ra de Córdoba, S.A.      | 7,582.3  | 88.7   | 3.8             | 7.5                                | 21.8                           | 71.9                  | 1,160.3                                    | 20,4                |
| ra de Cundinamarca, S.A. | 2,938.5  | 45.3   | 41.3            | 13.4                               | 9.8                            | 26.8                  | 563.3                                      | 23,0                |
| ra del Huila, S.A.       | 4,037.7  | 86.2   | 10.1            | 3.7                                | 16.0                           | 41.2                  | 486.7                                      | 27,8                |
| ra del Magdalena, S.A.   | 4,594.4  | 66.6   | 29.8            | 3.6                                | 27.2                           | 37.0                  | 492.9                                      | 5,7                 |
| tricas de Nariño, S.A.   | 1,634.4  | 55.9   | 14.2            | 29.9                               | 35.0                           | 48.4                  | 386.8                                      | 23,6                |
| léctrica del Río         | 15,330.7   | 76.8   | 9.2             | 14.0                               | 53.2                           | 142.2                 | 1,797.4                                    | 57,7                |
| tricas del Tolima, S.A.  | 4,662.7  | 75.9   | 10.0            | 14.1                               | 22.0                           | 84.8                  | 1,236.2                                    | 43,3                |

General, the names of the companies are the same as the departments in which they provide their services. In the following cases: a) Electrificadora de Córdoba, S.A., which serves the departments of Córdoba and Sucre; b) Electrificadora de Cundinamarca, which serves the Departments of Cundinamarca and Meta, and c) Central Hidroeléctrica de Santander, which serves the Department of Santander.

Methods of exchange utilized are those indicated in footnote 2 to the table in paragraph 2.20. These include direct sales and block sales to interconnected systems.

Rate of exchange: Col.\$17.833 = US\$1.00, as of the close of fiscal year 1969.

Corporación Eléctrica de la Costa Atlántica (CORELCA), a public entity responsible for generation and services in the departments of the Atlantic Coast, holds 85% of the paid-in capital (see Chapter IV).

- 2.27 The participation of these affiliated companies in the project has been programmed according to the nature of the project and the technical, administrative and financial capacity of each company. This participation will consist basically of: a) provision of funds for the local contribution to the project; b) limited participation in the acquisition of goods and the contracting of works; c) limited participation in supervision of that part of the project carried out in the territory it serves; and d) payment to ICEL of that part of the Bank loans utilized for financing the part of the project carried out in its territory and of the corresponding share of the financial costs of such loans. Chapters IV and V of this loan document contain a detailed analysis of this participation.

(ii) Organization and administration

- 2.28 The affiliates participating in the project are all stock companies, except for Centrales Hidroeléctricas del Río Lebrija Ltda., which is organized as a limited liability company. ICEL holds an absolute majority interest in the capital of these companies, with the exception of Electrificadora del Atlántico, S.A. and Electrificadora de Cundinamarca S.A. As part of the program of administrative and financial reorganization that ICEL is completing, special attention has been given to the organization of the Institute's affiliates through the standardization of their administrative structures and of their accounting systems and periodic financial reports, pursuant to the standards of the United States Federal Power Commission. <sup>1/</sup> Most of this program already has been implemented, with the consequent institutional and administrative improvement of these affiliates; it is expected that all of the recommendations made will be implemented in full during the first six months of 1971.

(iii) Financial administration

- 2.29 During visits to several of the affiliated companies, analyses were made of the major operating and administrative procedures in effect, in order to systematize and control the operations of the companies and coordinate them with the accounting system. A special examination was made of procedures regarding procurement, payment, the system of meter reading, billing and collection, storage, etc. This analysis has shown that internal control is satisfactory. It should be noted further that all of the affiliates have mechanized their accounting operations, in each case using equipment adequate to handle the volume of their operations.

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<sup>1/</sup> See paragraph 2.39 et seq.

- 2.30 The auditing of each company is the responsibility of an Auditor, who is appointed by the Stockholders' Meeting from a panel of three candidates presented by the General Accounting Office of the Republic. The systems and procedures used by these Auditors for the performance of their duties are established by the General Accounting Office, and the Auditor must render a report of his findings both to that Office and to the Stockholders' Meeting.

(iv) Financial situation

- 2.31 Appendix E to this document contains a summary comparative statement, for fiscal years 1967, 1968 and 1969, of the financial statements of the affiliates of ICEL participating in the project under consideration. In accordance with practice in Colombia, these financial statements have been reviewed by the Auditors mentioned in paragraph 2.30, although they have not been examined by independent public auditors. The principal economic and financial indicators obtained from the financial statements for 1969 are shown in the following table:

| <u>Name</u>                                   | Net working capital<br>(Equivalent in thousands of US\$) <sup>1/</sup> | Index of current liquidity | Index of indebtedness <sup>2/</sup> |           |       |
|---|--|----------------------------|-------------------------------------|-----------|-------|
|   |  |                            | Short-term                          | Long-term | Total |
| Electrificadora de Antioquia, S.A.            | 811.6  | 2.9:1                      | 0.06                                | 0.05      | 0.11  |
| Electrificadora del Atlántico, S.A.           | 338.5  | 3.1:1                      | 0.02                                | 0.41      | 0.43  |
| Electrificadora de Bolívar, S.A.              | 674.8  | 1.6:1                      | 0.12                                | 0.60      | 0.72  |
| Electrificadora de Boyacá, S.A.               | 927.9  | 2.6:1                      | 0.06                                | 0.02      | 0.08  |
| Centrales Eléctricas del Cauca, S.A.          | 633.3  | 7.6:1                      | 0.02                                | 0.03      | 0.05  |
| Electrificadora de Córdoba, S.A.              | 40.7   | 1.1:1                      | 0.10                                | 0.01      | 0.11  |
| Electrificadora de Cundinamarca, S.A.         | 652.2  | 1.8:1                      | 0.27                                | 0.11      | 0.38  |
| Electrificadora de Huila, S.A.                | 160.4  | 1.7:1                      | 0.06                                | 0.02      | 0.08  |
| Electrificadora del Magdalena, S.A.           | 164.0  | 1.6:1                      | 0.06                                | 0.02      | 0.08  |
| Centrales Eléctricas de Nariño, S.A.          | 69.9   | 1.3:1                      | 0.12                                | 0.14      | 0.26  |
| Central Hidroeléctrica del Río Lebrija, Ltda. | 1,930.5  | 5.8:1                      | 0.03                                | 0.08      | 0.11  |
| Centrales Eléctricas del Tolima, S.A.         | 739.2  | 2.3:1                      | 0.12                                | 0.08      | 0.20  |

<sup>1/</sup> Rate of exchange: Col.\$17.833 = US\$1.00, in effect at the end of fiscal year 1969.

<sup>2/</sup> Refers to the proportion of liabilities with respect to net worth.



- 2.32 It may be concluded from the above table that both the working capital and the liquidity ratios of the companies in question are adequate, with the possible exception of Electrificadora de Córdoba, whose figures are slightly adjusted, particularly as regards working capital. It should be noted that the rather high figures shown for working capital, and especially the high liquidity ratio, of Centrales Eléctricas del Cauca and Central Hidroeléctrica del Río Lebrija Ltda., are justified by the fact that these companies are investing in generation projects financed in part from their own resources. As for the indices of indebtedness, the ratios obtained are satisfactory in all cases, indicating ample ratios of net worth in over-all financing.
- 2.33 In regard to the efficiency of collection of bills for electrical services, it should be pointed out that the index - calculated from cumulative average daily sales remaining in accounts receivable as of the end of fiscal year 1969 - was acceptable for all of the affiliated companies except Centrales Eléctricas de Tolima, S.A. The average time lag varied from 1 day to 47 days except for that company, where it reached 115 days because of balances uncollected from official departmental agencies, amounting to the equivalent of US\$250,000. The company is now seeking to have this debt offset by taxes currently due and to become due in the future. It should be stressed here that for the rest of the affiliates participating in the project, sales to official entities represent only about 2% of total sales, and problems such as those faced by Centrales Eléctricas de Tolima, S.A. have not arisen.
- 2.34 The financial results obtained by the affiliated companies participating in the project, for fiscal year 1969, are shown in the following table:

(Equivalent in thousands of US\$) 1/

|   |         |
|---|---------|
| Electrificadora de Antioquia, S.A.            | (133.1) |
| Electrificadora del Atlántico, S.A.           | 241.2   |
| Electrificadora de Bolívar, S.A.              | 46.9    |
| Electrificadora de Boyacá, S.A.               | (559.9) |
| Centrales Eléctricas del Cauca, S.A.          | (57.3)  |
| Electrificadora de Córdoba, S.A.              | (35.4)  |
| Electrificadora de Cundinamarca, S.A.         | (37.8)  |
| Centrales Eléctricas del Huila, S.A.          | (66.6)  |
| Electrificadora del Magdalena, S.A.           | (250.1) |
| Centrales Eléctricas de Nariño, S.A.          | (75.4)  |
| Central Hidroeléctrica del Río Lebrija, Ltda. | 428.8   |
| Centrales Eléctricas del Tolima, S.A.         | (45.2)  |

1/ Rate of exchange: Col.\$17.347 = US\$1.00, the average rate for the year.

It will be seen that all of the companies except Central Hidroeléctrica de Río Lebrija Ltda., Electrificadora del Atlántico, S.A. and Electrificadora de Bolívar S.A. showed losses for the year. These losses were due to the low rates in effect for the electrical services they provide, which in some cases fail even to cover direct operating costs. It should be noted further that up to the present, government subsidies, channeled through ICEL, have offset in part the low operating income of these companies. Paragraph 2.35 and subsequent paragraphs of this loan document present a detailed analysis of the rates currently in effect for each participating affiliate, and the measures planned to raise them significantly.

#### H. Rate System

- 2.35 The rates charged by the affiliates of ICEL for the electrical services they provide are regulated by the National Board of Public Utilities Tariffs (JNTSP), established by Decree 3069 of December 16, 1968, at the request of the electric company concerned. The Board is made up of the Chief of the National Planning Department, who is its chairman, and three full-time members appointed and removed by the President of the Republic; it is attached to the National Planning Department. No modification of charges may take effect without the Board's approval. The Decree mentioned above also established standards for regulation of charges, providing that they must generate sufficient revenue to cover the real costs of supplying service, and must yield a reasonable return on assets to permit the financing of expansion of the systems. Until the promulgation of this decree, Colombia had no adequate national policy regarding rates, which meant that rate adjustments were frequent and were adopted only with some delay.

- 2.36 As a result of the situation described in the preceding paragraph, in the absence of appropriate rate legislation the rates now in effect for most of ICEL's affiliates are low and result in operating losses. 1/

The rates currently in effect for the twelve affiliated companies that would participate in the project to be financed range from US\$0.80 per kilowatt/hour for Centrales Eléctricas de Nariño, S.A. to US\$2.10 per kwh for Electrificadora de Cundinamarca, S.A. The average for the twelve companies is US\$1.25 per kwh. These levels are quite low in comparison with the average rate in Latin America, which is estimated at US\$2.50 to US\$3.00 per kwh. It should be stressed further that a determination has been made of the percentage rate of return to be obtained at the present rates, with respect to the fixed investment 2/ that each participating company will have

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1/ See paragraph 2.35.

2/ The basis for computation of the rates of return consists of net fixed assets plus two months' billings.

accumulated by the end of 1974, when the schedule of investments in the project under consideration calls for all works to have been completed. This computation gives the following results: a) only six of the twelve participating companies would have positive rates of return, ranging from 0.1% to 10.8%; b) the other six companies would have negative rates of return ranging from -0.3% to -3.8%; and c) the average rate of return for the twelve participating companies would be 1.43%.

- 2.37 It is appropriate to note that the rate situation described in the foregoing paragraphs has been studied and evaluated carefully by the competent authorities of the Colombian Government, who have already decided upon changes in the rate systems of the participating affiliated companies. In this connection, ICEL, in its note No. 6638 of November 13, 1970, has informed the Bank that, pursuant to the agreement with the Operating Mission that studied the project in the field, and with its findings, regular increases are scheduled in the rates applied by the participating affiliates, so that adequate rate levels will be attained prior to January 1, 1975. <sup>1/</sup> The National Planning Department, in its note No. UPEC/1/4207/70, also has assured the Bank that the Government of Colombia will take all measures at its disposal to see that requests for rate increases are presented in due time by the affiliates of ICEL and are given favorable consideration by the JNTSP. <sup>2/</sup>
- 2.38 The tariff levels scheduled to be in effect by January 1, 1975 entail rate increases by eleven of the twelve participating affiliates. <sup>3/</sup> According to the particular company, these increases range from 11.0% to 84.2%, with an average increase of 28.8% over the rates now charged by these companies, which would be put into effect gradually during the period of execution of the project to be financed. <sup>4/</sup>

The computation of return on the fixed investment of each company participating in the project, based on the rates in effect beginning in 1975, and as explained in paragraph 2.36, gives an average return of 5.51% for the twelve companies, which is regarded as acceptable for Colombia. <sup>5/</sup> Thus, in order to ensure the effective adoption of the scheduled rate levels - or of other levels acceptable to the Bank - it is recommended that the contracts with the borrower and the guarantor include appropriate provisions to establish the following obligations: a) ICEL's obligation to take the measures necessary, in the

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<sup>1/</sup> <sup>2/</sup> See Appendix F.

<sup>3/</sup> The rates currently charged by Electrificadora del Atlántico, S.A. are considered appropriate.

<sup>4/</sup> Appendix F, attached to the note received from ICEL in this regard, contains a detail, for each participating affiliated company, of the present rate, the percentage increase to take effect during the period 1971-74, and the rate level that would be reached by 1975. Rates are expressed in U.S. cents per kilowatt/hour.

<sup>5/</sup> Chapter V of this document contains an analysis of the economic and financial benefits to be derived by the participating affiliates with the rates that would be in effect beginning January 1, 1975.

judgment of the Bank, to ensure that: (i) the affiliates participating in the project gradually increase their rates during the period of execution of the project, and (ii) the rate levels in effect as of January, 1, 1975 are in accordance with the Bank's policy regarding rates for electrical services; and b) the obligation of the Government of Colombia, as guarantor of the proposed operation, to take adequate measures so that petitions for rate adjustments are presented opportunistically by the participating companies and considered favorably by the JNTSP (see draft resolution).

I. Technical and Administrative Capacity

(i) Program for reorganization of ICEL and its affiliates

- 2.39 The administrative and financial divisions of ICEL are in the final phase of a reorganization program, which also has covered the institutional, administrative and financial structure of its affiliated companies. This program was initiated during the implementation of IDB loans 106/OC-CO and 107/OC-CO to ICEL; 1/ 2/ the phases described below have been completed to date. First of all, in compliance with the contracts for the IDB loans mentioned, in September 1966 ICEL engaged Mr. Alberto Bravo Girón, a consultant in business organization and financial administration. Mr. Bravo Girón performed the following work: (i) draft Organic Act for ICEL, (ii) assistance in preparation of the Organic Regulations of ICEL, and (iii) formulation of a plan of accounts with the corresponding manuals for use by ICEL and its affiliates. Subsequently, ICEL staff members, in collaboration with the National Apprenticeship Service (SENA) - an official agency of the Government of Colombia that provides technical advisory services - prepared the following plans for standardization and reorganization of the affiliates of ICEL: (i) organizational chart and manual of organization and functions; (ii) procedural manual; (iii) new statutes; and (iv) regulations for subscribers. Finally, in November 1969, ICEL contracted the services of the Colombian consulting firm Instituto de Organización y Métodos (I.O.M.), to perform the following work: (i) preparation of the organizational chart of ICEL; (ii) preparation of its manual of organization and functions; (iii) preparation of its procedural manual; (iv) organization of the Divisions of General Services and Industrial Relations; and (v) organization of the Commercial Section.
- 2.40 At the present time, the implementation of the recommendations of these consultants is well advanced; the adoption of the plan of accounts and organization of the Department of Affiliates and the Internal Audit Section remain to be carried out by ICEL, while the affiliated

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1/ The Institute was known as ELECTRAGUAS at that time. See paragraph 2.01.

2/ Chapter III of this loan document contains a description of these loans and the present status of their execution.

companies have not yet completed incorporation of the uniform designs prepared for companies that have not yet carried out all phases of reorganization. 1/ 2/ In order to complete this reorganization properly, ICEL signed a new contract with the I.O.M. consulting firm on August 26, 1970, including the following specific tasks, as well as other work: a) design of the internal organization and administrative procedures for the Department of Affiliates, and advisory services for their implementation; b) design of the internal organization and advice in establishment of the Internal Audit Section of the Institute; and c) advisory services in the incorporation of changes in the new accounting manual of ICEL, to meet the requirements of the General Accounting Office of the Republic. 3/ The period stipulated in the contract for completion of this work is six months, which means that during the first quarter of 1971 it can be expected that the administrative and financial reorganization of the Institute and of its affiliates will have been properly implemented. 4/

- 2.41 The measures that ICEL has been taking to strengthen its own administrative capacity, as well as that of its affiliates, have caused a noticeable improvement in efficiency levels; when the I.O.M. firm completes its work and the reorganization of all affiliated companies has been fully carried out, the recommendations made in the reorganization studies will have been implemented in their entirety. It should be noted in particular that the organization of the Department of Affiliates, under a Deputy Manager, will bring about a substantial increase in institutional and operational control and coordination between ICEL and the electric companies in which it holds a majority interest. At the same time, the introduction of an internal audit section will mean a definite improvement of the efficiency of present internal control systems.
- 2.42 As for technical capacity, it must be noted that ICEL has been carrying out much of its technical work under contract, especially the preparation of construction plans and specifications for projects involving generation and transmission facilities of more than a certain size. The reason for this situation is that the Institute lacks an adequate number of electrical engineers on its staff with sufficient experience in this type of design. 5/ It should be

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1/ During the mission that made a field study of operations, a study of the administrative reorganization of Centrales Hidroeléctricas del Río Lebrija Ltda., Centrales Eléctricas del Tolima, S.A. and Electrificadora de Cundinamarca, S.A. showed that the degree of progress was satisfactory.

2/ Appendix G contains a typical organizational chart for adoption with a view to uniform organization of ICEL's affiliates.

3/ See paragraphs 2.15 and 2.19.

4/ See Chapter VI, Conclusions and Recommendations.

5/ See paragraph 2.43.

mentioned in this regard that the feasibility studies for the project under consideration were conducted with the assistance of the Ingetec-Integral consortium of Colombian consulting firms, which rendered technical advice to the Institute's planning unit.<sup>1/</sup> It should be noted further that many of the affiliated electric companies, despite the presence of excess personnel in some cases, have a shortage of technical staff with the experience necessary to carry out a project such as the one under consideration.

2.43 The authorities of ICEL are fully aware of the deficiencies noted in the Institute's technical capacity, and have agreed to take appropriate measures to improve the efficiency of its technical departments and further, to ensure adequate technical and administrative efficiency in the execution of the project to be financed. These measures are the following:

- (a) Strengthening of the Planning Unit of the Institute through the addition of the following technical personnel; (i) two electrical engineers; (ii) one economist; and (iii) one statistician. The addition of these personnel is planned for 1971, and it is expected that they will help bring about a substantial improvement in the capability and functioning of the Planning Division. Since this strengthening of staff already has been decided upon by the authorities of ICEL, and the new personnel will not participate directly in the execution of the project, no specific recommendations are presented in this regard.
- (b) Formation, to the Bank's satisfaction, of an executive unit for the project, which would be responsible for the technical and financial administration of the project, functioning independently of the other units of the Institute, and directly responsible to the Manager. <sup>2/</sup> (See draft resolution.)
- (c) Contracting, to the Bank's satisfaction, of one or more firms of consulting engineers experienced in the execution of projects such as the one under consideration, to advise the executive unit mentioned above in the supervision and technical control of all aspects of execution of the project. <sup>3/</sup> (See draft resolution.)

It is believed that the measures already taken by ICEL and those that have been programmed will raise the technical and administrative capacity of the institution to adequate levels, and will ensure proper execution of the project.

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<sup>1/</sup> See Chapter I.

<sup>2/</sup> Chapter IV of this document contains a detailed description of this unit and of its principal functions.

<sup>3/</sup> A description of the functions to be performed by the consultants is contained in Chapter IV of this document.

J. Legal Capacity

- 2.44 There are no legal impediments to the contracting of the loans requested by ICEL or to its execution of the proposed project.

K. Guarantee

- 2.45 The loan requested would be guaranteed by the Republic of Colombia.

### III. EVALUATION OF EARLIER LOANS

- 3.01 The Bank has granted ICEL two loans: 106/OC-CO for an amount equivalent to US\$8,000,000, and 107/OC-CO for an amount equivalent to US\$3,200,000 <sup>1/</sup>. Other loans from IDB have assisted in financing development of the Colombian electric energy sector, as follows: (a) Loan 65/SF-CO for an amount equivalent to US\$3,000,000 granted to the Establecimiento Público Empresas Municipales de Cali, pursuant to Resolution DE-136/65 of October 21, 1965; (b) Loan 125/OC-CO for the equivalent of US\$8,100,000 granted to the Central Hidroeléctrica de Caldas, S.A., <sup>2/</sup> pursuant to Resolution DE-145/65 of November 18, 1965; and (c) Loans 13/CD-CO in the amount of Col\$16,740,000 and 175/OC-CO for an amount equivalent to US\$43,300,000, authorized by Resolution DE-207/68 of December 30, 1968 to the Corporación Autónoma Regional del Cauca and the Central Hidroeléctrica del Río Anchicayá Limitada, both of which assumed joint and several responsibility for repayment of the loans. As for the activities of the IDB in the area to be served by the proposed project, it should be brought out that the vastness of the area, as a part of the nation's land surface, is such that almost all loans made to Colombia have had, or will have, either a direct or an indirect influence on that region.
- A. Loan 106/OC-CO
- 3.02 The loan was authorized on November 19, 1964, and the loan contract was signed on January 18, 1965. The purpose of the loan was to assist in financing a project to harness the waters of the Prado River to generate electricity. The major works constituting the project are as follows: (a) construction of a dam 70 meters in height; (b) installation of a 51-MW generating station consisting of four units; (c) installation of a step-up substation; and (d) construction of a transmission system consisting of a 115-KV line and the corresponding subtransmission and distribution systems. The power produced will be used by three ICEL subsidiaries: Centrales Eléctricas de Tolima, S.A., Centrales Eléctricas de Huila, S.A., and Electrificadora de Cundinamarca, S.A. The total estimated project cost was equivalent to US\$20,839,000; and the IDB loan, for an amount equivalent to US\$8,000,000, accounted for 38.4% of the total cost financing.
- 3.03 ICEL made a contract with the French consulting firm, Société Generale de Exploitations Industrielles (SOGEI) to prepare the plans and final designs, and with the Colombian consulting firm, Integral, for construction supervision. When construction began in 1967, the SOGEI and

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<sup>1/</sup> At the time the loan contracts were signed, the ICEL was called ELECTRAGUAS. (See Chapter II.)

<sup>2/</sup> One of the three ICEL subsidiary companies that is not included in the loan project. (See Chapter IV).



Integral held conflicting opinions on technical aspects, particularly in regard to the location for construction of the dam. These differences led to a temporary halt in construction and caused the ICEL to terminate the contracts with both firms and engage the Italian firm, Electroconsult, to serve as engineering consultants for the entire project as well as to supervise its construction. Electroconsult has been working in cooperation with the Colombian firm, Hidroestudios. The construction contracts were awarded to the German group of Grun, Bulfinger & Hochtief. The contract for hydromechanical equipment, including the turbines for the generating plant, was granted to the Voest firm; and the electrical equipment contract, including the generators, was awarded to Mitsubishi.

- 3.04 In revising and updating the project estimates early in 1970, Electroconsult determined that total project cost would increase to about the equivalent of US\$33,880,000, which is \$13 million more than the original cost estimate. The principal causes of such an increase were as follows: a) increased equipment costs in excess of estimates; and enlargement of the generating capacity beyond the original specification by the installation of an additional 18,000-KVA unit, yielding 38% more installed capacity than in the original project; b) a cost overrun was caused by the mentioned change in project consultants; c) problems encountered by the ICEL in maintaining proper control over execution of the project; 1/ and d) increases in general construction costs overhead and financial charges due to extension of the scheduled term for project implementation.
- 3.05 At the end of June 1970 the investment still to be made was approximately equivalent to US\$15,932,000. According to a review made with the Bank, this investment would come from the following sources:

(Equivalent in US\$ thousands)

|   | <u>Total</u>  |
|---|---------------|
| Appropriations from the National Budget | 5,863         |
| IDB Loan 106/OC                         | 1,697         |
| Suppliers credits                       | 5,271         |
| Swiss loan <u>2/</u>                    | 3,000         |
| Other national institutions             | <u>101</u>    |
| Total                                   | <u>15,932</u> |

1/ In the case of the project now under consideration, a number of measures are planned to prevent similar problems during its execution. See Chapters II and IV.

2/ ICEL was negotiating for an additional loan from a German consortium. This loan, if received, could supplant the Swiss loan indicated here and change the amount to be financed by the national budget.

- 3.06 The original proportion of project cost-financing was IDB 38.4% and ICEL 61.6%. Allowing for amendments, the final result would be IDB 23.6% and ICEL 76.4%, financing of which would require an extraordinary effort by the National Government through ICEL. In consideration of an undertaking by ICEL to provide the financing required for completion of the revised project, the Bank, on September 25, 1970, made the final disbursement under Loan 106/OC-CO to provide the foreign currency required in addition to the credits from suppliers and an external loan for which the borrower was then negotiating. 1/
- 3.07 After delays due to the circumstances described above, the pace of project execution returned to normal, and it is expected that this project will be completed by May 1972. As of September 30, 1970, progress (based on the revised project) was estimated at 62% for construction, 65% for transmission and subtransmission lines, and 25% for the substations. The IDB loan was fully disbursed as of September 25, 1970, after a 24-month extension to the original disbursement period. It is appropriate to note that the problems arising at the start of construction were overcome and it may be said that, the project is now advancing at a satisfactory rate.

B. Loan 107/OC-CO

- 3.08 Loan 107/OC-CO was authorized on December 3, 1964, and the loan contract was signed on January 18, 1965. The purpose of the loan was to assist in financing the expansion of one of the generating stations in the service area of Centrales Eléctricas del Norte de Santander, S.A., and the interconnection of this station with stations in Ocaña and Pamplona, and with the system operated by the Compañía de Administración y Fomento Eléctrico (CADAFE) of Venezuela. The project called for the following specific work: a) expansion of the generating station mentioned above; b) 115-KV subtransmission lines; c) a 115-KV substation; d) 33-KV and 13.2-KV lines, and other secondary facilities. The total cost of the project was estimated at the equivalent of US\$4,878,000, of which the equivalent of US\$3,200,000, or 65%, was financed by the IDB loan. The period for disbursement of the loan was four years.
- 3.09 Although it became necessary to extend the term for making the first disbursement by slightly more than eight months as a result of initial difficulties in meeting the conditions precedent to this disbursement, 2/ the project, as originally designed, was completed in 1969, and the cost of imported goods allocable to the loan was less than expected. This saving created a surplus of foreign currency in the

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1/ See footnote 2/ on page 38.

2/ Delays related to participation by the Instituto Colombiano de Reforma Agraria (INCORA) in financing part of the project facilities.

loan. With the approval of the IDB, this surplus is being used to extend transmission and distribution lines to meet additional system needs in the vicinity of Cúcuta and Ocaña, and to build distribution facilities in other parts of the department. 1/ At present all project facilities are installed and in operation, except the interconnection with the CADAPE plant in La Fría, Venezuela, since this facility does not yet have the capability for regular interconnected service with the facilities of Centrales Eléctricas del Norte de Santander, S.A. The additional facilities mentioned are expected to be completed in 1971.

- 3.10 As of November 30, 1970, disbursements under the IDB loan amounted to the equivalent of US\$2,666,940, which is 83.3% of the authorized amount of the loan (US\$3,200,000).

The period for total disbursement expires January 18, 1971. It has already been extended twice for a total of 24 months, the last extension, for 15 months, having been granted in order to allow for execution of the additional work mentioned in Section 3.09.

It should be noted that this project has advanced regularly and that no administrative, technical or financial problems that might become obstacles to its successful completion are anticipated.

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1/ See Chapter IV.

#### IV. THE PROJECT

##### A. Description of the Project

###### (i) The program

- 4.01 The Government of Colombia is engaged in an extensive program for expanding the generation, transmission and distribution of electric power to bring the service to as many new people as possible, raise current per capita consumption, and arrive at a more balanced consumption among the diverse regions of the country. When the development of the electric power sector was launched the goal had been essentially to expand the generation and transmission capability for service to the large population centers, and leave to the departmental and local enterprises the responsibility for developing the facilities for subtransmission and distribution in the rest of the country.
- 4.02 However, though some of the regional divisions and affiliate enterprises of the departmental enterprises of Colombia are now interconnected within their respective departments, there was formerly no interconnection among the departmental enterprises themselves. The creation of the firm Interconexión Eléctrica S.A. in 1967 marked the onset of the execution of national plans for the interconnection of the major electric power systems of the country. <sup>1/</sup> The power transmission programs in preparation call for the interconnection of the departments into zones under different zonal authorities with responsibility for generation and transmission, leaving the departmental enterprises in charge of subtransmission and distribution. <sup>2/</sup>

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<sup>1/</sup> See Chapter II.

<sup>2/</sup> One of these zonal enterprises, the Corporación Eléctrica de la Costa Atlántica (CORELCA), has already been set up. Its main purpose is to project, build and operate hydro- and thermoelectric power stations and transmission systems to supply blocks of power to the electrification enterprises of the Atlantic departments. It is expected that CORELCA will be ready to generate and transmit power to the Atlantic departments of Bolívar and Magdalena by 1972 and to the other departments in its area - Córdoba, César and Guajira - by 1980. CORELCA is a decentralized public agency capitalized by the Colombian Government through the National Budget and a surcharge on power consumption its service area. Its Board of Directors has seven members: a) the Manager of ICEL, b) three appointees of the President of the Republic, and c) three members elected by the production associations and labor unions in the aforementioned departments.

- 4.03 At the other end of the electric power supply chain in Colombia there has been building up a complex collection of rather antiquated and inefficient local subtransmission and distribution systems many of which are fed from uneconomic power sources of low reliability. This situation arose chiefly because the rates that most ICEL affiliates had been charging were too low to generate enough resources to finance adequately needed expansions of their distribution systems. This inadequacy of receipts delayed the construction of appropriate subtransmission facilities that could supply power to urban centers in want of the service and reduce costs in towns already receiving it from small, uneconomic generating plants. This situation was carefully studied by the authorities of the Colombian Government, which have decided to give firm support to the investments needed to improve these services.

(ii) The project

- 4.04 The proposed project aims at rectifying the above-described inadequacies in the electric power subtransmission and distribution systems to arrive at satisfactory levels of electric power supply by 1975 and thus maximize the benefits from the investments made and scheduled in the electric power generation and transmission field. It consists in the improvement and expansion of the distribution system of twelve <sup>1/</sup> electrification affiliates of ICEL operating in fourteen departments of Colombia. The works to be executed are as follows: (i) the laying of 1,619 km. of 66 kv., 44 kv., 33 kv. and 13.2 kv. subtransmission lines, (ii) the construction and/or expansion of seventeen 66 kv., 44 kv., 33 kv. and 13.2 kv. subtransmission stations, and (iii) the construction of new, and the improvement and expansion of existing, distribution systems in a total of 127 urban centers. The project would substantially improve the service to about 160,000 current consumers and extend it to about 109,000 new users.

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<sup>1/</sup> Three electrification affiliates of ICEL were left out of the project: the Central Hidroeléctrica de Caldas, S.A., Centrales Eléctricas del Norte de Santander, and the Electrificadora de Chocó, S.A. The first two have already obtained financing for the improvement of their subtransmission and distribution installations, part of it from the Bank: (a) Central Hidroeléctrica de Caldas, S.A. through IDB loan 125/OC-CO granted to the enterprise under a contract of February 18, 1966. The loan has been entirely disbursed and the project, which included subtransmission and distribution systems in several localities of Caldas department, has been finished, and (b) Centrales Eléctricas del Norte de Santander through residues of IDB loan 107/OC-CO to ELEC-TRAGUAS (now ICEL), which with IDB approval are being used to improve subtransmission and distribution systems (see Chapter III). Lastly, Electrificadora de Chocó, S.A., being in process of institutional reorganization, is not in a position to undertake projects such as the one considered here.

- 4.05 The project described in the preceding paragraph is made up of twelve subprojects, one for the territory of each participating affiliate enterprise. These enterprises would repay to ICEL the portions of the prospective IDB loans that were used to finance their respective subprojects on terms essentially similar to those governing the loans to ICEL. <sup>1/</sup> Following is a summary table of the works to be carried out under each of the twelve subprojects:

| <u>Enterprise</u>                               | <u>Subtrans-<br/>mission<br/>lines<br/>(Km)</u> | <u>Subtransmission<br/>Substations</u> |  | <u>Distribution<br/>Systems<br/>(Number of<br/>towns)</u> |
|---|---|--|--|---|
|   |   | <u>Quantity</u>                        | <u>Capacity<br/>(Kva.) <sup>2/</sup></u> |   |
| Electrificadora de<br>Antioquia S.A.            | 218   | 1                                      | 4,200                                    | 14  |
| Electrificadora del<br>Atlántico S.A.           | 138   | -                                      | -  | 20  |
| Electrificadora de<br>Bolívar S.A.              | 112   | 1                                      | 3,000                                    | 14  |
| Electrificadora de<br>Boyacá S.A.               | 72  | 1                                      | 1,300                                    | 9   |
| Centrales Eléctricas<br>del Cauca S.A.          | 185   | 2                                      | 5,000                                    | 6   |
| Electrificadora de<br>Córdoba S.A.              | 230   | 1                                      | 2,000                                    | 8   |
| Electrificadora de<br>Cundinamarca S.A.         | 203   | 3                                      | 13,500                                   | 5   |
| Centrales Eléctricas<br>del Huila S.A.          | 122   | 4                                      | 3,900                                    | 10  |
| Electrificadora del<br>Magdalena S.A.           | 60  | 2                                      | 10,400                                   | 8   |
| Centrales Eléctricas<br>de Nariño S.A.          | 28  | -                                      | -  | 15  |
| Central Hidroeléctrica<br>del Río Lebrija Ltda. | 168   | 2                                      | 7,300                                    | 6   |
| Centrales Eléctricas<br>del Tolima S.A.         | 83  | -                                      | -  | 12  |
| Total   | <u>1,619</u>                                    | <u>17</u>                              | <u>50,600</u>                            | <u>127</u>  |

<sup>1/</sup> See paragraph 4.21.

<sup>2/</sup> Kilovolt-amperes.

B. Cost of the Project

- 4.06 The project to be financed would cost the equivalent of US\$42,950,000. The following table shows the distribution of this cost among categories of investment and by origin (external and local):

(Equivalent in thousands of US\$)

| <u>Category 1/</u>                                 | <u>External<br/>Costs</u> | <u>Local<br/>Costs</u> | <u>Total</u> | <u>%</u> |
|--|---------------------------|------------------------|--------------|----------|
| 1. <u>Engineering and Adminis-<br/>tration</u>     |                           |                        |              |          |
| 1.1 Engineering and direc-<br>tion of construction | 30                        | 2,350                  | 2,380        | 5.6      |
| 1.2 Administration                                 | -                         | 1,300                  | 1,300        | 3.0      |
| Subtotal 1   | 30                        | 3,650                  | 3,680        | 8.6      |
| 2. <u>Direct Construction Costs</u>                |                           |                        |              |          |
| 2.2 Transmission                                   | 3,903                     | 5,153                  | 9,056        | 21.1     |
| 2.3 Distribution                                   | 8,483                     | 13,329                 | 21,812       | 50.8     |
| 2.4 General installations                          | 714                       | 68                     | 782          | 1.8      |
| Subtotal 2   | 13,100                    | 18,550                 | 31,650       | 73.7     |
| 3. <u>Financial Costs</u>                          |                           |                        |              |          |
| 3.1 IBD interest and<br>commissions 2/             | 1,950                     | 2,180                  | 4,130        | 9.6      |
| 3.2 IDB Inspection and<br>Supervision Funds        | 250                       | -                      | 250          | 0.6      |
| Subtotal 3   | 2,200                     | 2,180                  | 4,380        | 10.2     |
| 5. <u>Miscellaneous</u>                            |                           |                        |              |          |
| 5.1 General contingencies                          | 1,420                     | 1,820                  | 3,240        | 7.5      |
| Subtotal 5   | 1,420                     | 1,820                  | 3,240        | 7.5      |
| Total  | 16,750 3/                 | 26,200                 | 42,950       | 100.0    |
| Percentage   | (39.0)                    | (61.0)                 | (100.0)      |          |

1/ Includes only the categories in which the IDB loan funds would be invested.

2/ These are the estimated financial costs of the proposed IDB loans during the period of execution of the project.

3/ Includes the equivalent of US\$3,630,000 estimated as indirect foreign exchange costs.

- 4.07 The construction costs of the project were computed by the following method. When the physical requirements had been determined for each of the twelve subprojects into which the project was divided, the corresponding lists of needed materials and electrical equipment were compiled and the direct unit costs for each of the basic components of the works to be executed were computed in the light of the capacity of Colombian industry to provide part of the required supplies. These direct unit costs, plus the cost of constructing the works and of the needed equipment, were used to arrive at the direct cost of construction. The general construction costs were computed as the following rough percentages of the aforementioned direct construction cost: engineering and management of construction 7 per cent, administration of construction 4 per cent, contingencies 10 per cent. This method is regarded as adequate and the construction cost of the project - the equivalent of US\$38,570,000 <sup>1/</sup>, including a suitable margin to meet contingencies - is reasonable. Lastly, it should be mentioned that the indirect foreign exchange costs were determined by procedures consistent with the Bank's policy on the subject.

C. Financing of the Project

- 4.08 The project would be financed approximately in accordance with the plan set forth in the following table:

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<sup>1/</sup> This figure excludes the financial costs of the proposed IDB loans during the period of execution of the project and the contribution to the IDB Inspection and Supervision Fund.



(Equivalents in thousands of US\$)

|  | <u>Currencies of Origin</u> |                           | <u>Currencies of Use</u>    |                           | <u>Total</u>  | <u>%</u>     |
|--|-----------------------------|---------------------------|-----------------------------|---------------------------|---------------|--------------|
|  | <u>Foreign<br/>Exchange</u> | <u>Local<br/>Currency</u> | <u>Foreign<br/>Exchange</u> | <u>Local<br/>Currency</u> |               |              |
| a) <u>IDB Loans 1/</u>                 |                             |                           |                             |                           |               |              |
| Ordinary capital resources             | 6,000                       | 3,000                     | 6,000 2/                    | 3,000                     | 9,000         | 21.0         |
| Fund for Special Operations            | <u>11,000</u>               | <u>5,000</u>              | <u>8,800 3/</u>             | <u>7,200</u>              | <u>16,000</u> | <u>37.2</u>  |
| Subtotal                               | <u>17,000</u>               | <u>8,000</u>              | <u>14,800 4/</u>            | <u>10,200</u>             | <u>25,000</u> | <u>58.2</u>  |
| b) <u>Local Contribution</u>           |                             |                           |                             |                           |               |              |
| ICEL                                   | -                           | 11,590                    | 1,950                       | 9,640                     | 11,590        | 27.0         |
| Participating affiliate enterprises 5/ | -                           | 6,360                     | -                           | 6,360                     | 6,360         | 14.8         |
| Subtotal                               | <u>-</u>                    | <u>17,950</u>             | <u>1,950</u>                | <u>16,000</u>             | <u>17,950</u> | <u>41.8</u>  |
| Total                                  | <u>17,000</u>               | <u>25,950</u>             | <u>16,750 4/</u>            | <u>26,200</u>             | <u>42,950</u> | <u>100.0</u> |
| Percentage                             | (39.6)                      | (60.4)                    | (39.0)                      | (61.0)                    | (100.0)       |              |

1/ Chapter V of this document sets forth the reasons for recommending a combination of resources from the Bank's ordinary capital and the Fund for Special Operations to finance this operation.

2/ Includes the equivalent of US\$2,899,000 estimated as indirect foreign exchange costs. None of the foreign exchange of this proposed loan would be used to finance local costs.

3/ Includes the equivalent of about US\$731,000 as indirect foreign exchange costs. Twenty per cent of the foreign exchange of this proposed loan could be used to finance local costs.

4/ Includes the equivalent of US\$3,630,000 estimated as indirect foreign exchange costs.

5/ Seven of the twelve affiliate enterprises participating in the project would put up all or part of the resources needed to finance the part of the local contribution corresponding to their respective subprojects (See Chapter V).

- 4.09 The resources of the IDB loans would be used to finance all the external costs of the project except the interest and commissions on the loans during the period of execution of the project, and 40.8 per cent of the local costs. The following table illustrates the programmed use of the proceeds of each of the proposed IDB loans:

(Equivalents in thousands of US\$)

| Category                                      | Ordinary Resources |                   | Capital Fund for Special Operations |                   | Total   | %     |
|---|--------------------|-------------------|-------------------------------------|-------------------|---------|-------|
|   | Foreign Exchange   | Local Currency    | Foreign Exchange                    | Local Currency    |         |       |
| 1. <u>Engineering and Administration</u>      |                    |                   |                                     |                   |         |       |
| 1.1 Engineering and Direction of Construction | -                  | 600 <sup>1/</sup> | 30                                  | 150 <sup>2/</sup> | 780     | 3.1   |
| Subtotal 1                                    | -                  | 600               | 30                                  | 150               | 780     | 3.1   |
| 2. <u>Direct Construction Costs</u>           |                    |                   |                                     |                   |         |       |
| 2.2 Transmission                              | 2,607              | 685               | 1,296                               | 1,881             | 6,469   | 25.9  |
| 2.3 Distribution                              | 3,165              | 1,445             | 5,318                               | 4,485             | 14,413  | 57.7  |
| 2.4 General Installations                     | -                  | -                 | 714                                 | 34                | 748     | 2.9   |
| Subtotal 2                                    | 5,772              | 2,130             | 7,328                               | 6,400             | 21,630  | 86.5  |
| 3. <u>Financial Costs</u>                     |                    |                   |                                     |                   |         |       |
| 3.2 IDB Inspection and Supervision Funds      | 90                 | -                 | 160                                 | -                 | 250     | 1.0   |
| Subtotal 3                                    | 90                 | -                 | 160                                 | -                 | 250     | 1.0   |
| 5. <u>Miscellaneous</u>                       |                    |                   |                                     |                   |         |       |
| 5.1 Contingencies                             | 138                | 270               | 1,282                               | 650               | 2,340   | 9.4   |
| Subtotal 5                                    | 138                | 270               | 1,282                               | 650               | 2,340   | 9.4   |
| Total   | 6,000              | 3,000             | 8,800                               | 7,200             | 25,000  | 100.0 |
| Percentage                                    | (24.0)             | (12.0)            | (35.2)                              | (28.8)            | (100.0) |       |

<sup>1/</sup> This item would be used to finance the part of the engineering services relating to the execution of final designs, the documentation for biddings and contracts, etc., which constitute 50 per cent of the estimated cost of the advisory services included in the project (see paragraph 4.17). The part relating to advisory services for supervision of the construction would be financed with resources from the local contribution. Since there are enough national consultant engineering firms competent to do the necessary work, which is of limited technical complexity, the cost of this work has been provided for in local currency.

<sup>2/</sup> This item would cover the cost of the services of the Integral-Ingetec consortium of consulting firms, employed to perform the feasibility study on the project (see paragraph 4.14).

The specific utilization of the resources from each of these sources was decided after careful consideration of several possible alternative uses. One of the first alternatives to be considered was a) to use the ordinary capital resources to partially finance the part of the project to be carried out in the cities whose populations were not deemed eligible for the resources from the Fund for Special Operations, and b) to use the latter resources to finance the part of the project to be executed in the cities whose populations were regarded as eligible for them. 1/ This alternative proved, on consideration, unsuited to the requirements of the project for the following principal reasons: a) since the requirements in electrical equipment raw materials and electrical materials were common to all the subprojects, and hence to the different cities covered by each subproject, it would be, advantageous to make overall purchases from the same source of supply for all similar goods instead of purchases of identical goods in different countries in accordance with the eligibility requirement of each of the aforementioned sources of financing; b) to make purchases of the same electrical, construction and maintenance equipment in different countries (i) would prevent a desirable standardization of that equipment by each participating electrification enterprise in its service area, and (ii) would necessitate as many stocks of spare parts and materials as there were different sources of supply for the equipment, thus raising the cost of upkeep and maintenance of the systems to be constructed under the project; c) nor could this alternative ensure that only those cities that were regarded as eligible for resources from the Fund for Special Operations would benefit from them inasmuch as such benefit would not consist in the goods and services obtainable with those resources, but in the financial conditions on which they were lent. For this reason the apportionment of the benefits of the Fund for Special Operations has been structured in accordance with the rates to be applied to the aforementioned beneficiaries, as set forth in detail in Chapter V of this loan document.

- 4.10 It has been concluded from the foregoing considerations that the most advantageous utilization of the resources from the two proposed sources of financing would be one which, while conforming to the Bank's standards for the use of funds from those sources, took account of the basic characteristics of the project and, in particular, of the desirability of single sources of supply for similar goods. Accordingly, and given the capabilities of Colombian industry, it has been provided, in principle, that the proceeds of the possible IDB loans are to be utilized basically for the following purposes: a) the foreign exchange from the ordinary capital resources would finance the importation of finished conductors, copper and aluminum ingots and steel rails for the fabrication of conductors; b)

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1/ See Chapter V, which sets forth the reasons for recommending a combination of resources from the Bank's ordinary capital and the Fund for Special Operations to finance this operation in accordance with the economic capacity of the towns that would benefit from the execution of the project.

the foreign exchange from the Fund for Special Operations would finance: (i) the imports of insulators, metal accessories, shielding equipment, finished transformers, materials for the construction of transformers, meters, vehicles and construction, maintenance and laboratory equipment; and (ii) part of the purchases of other required materials which, depending on the offers received, will be imported or acquired on the local market; and c) the Colombian pesos of both proposed loans would partially finance (i) the purchases on the local market, including posts, metal accessories, insulators, etc., (ii) the construction of the works. In addition to the factors already described, this tentative scheme also takes account of the sources from which the offers most advantageous for the project may reasonably be expected. The procedures that would be followed in the acquisition of goods and services are entirely in line with the Bank's policy standards, and are described in detail in paragraphs 4.19 and 4.20 of this document.

- 4.11 The resources from the local contribution would finance the interest and commissions on the IDB loans and 59.2 per cent of the local costs of the project. This percentage includes the financing of all the costs of fabricating about 50 per cent of the conductors and transformers to be used in the project, which would be turned out by national factories with raw materials imported by ICEL. <sup>1/</sup> The following table breaks down the utilization if the local contribution by category of investment:

(Equivalents in thousands of US\$)

| <u>Category</u>                                  | <u>Foreign<br/>Exchange</u> | <u>Local<br/>Currency</u> | <u>Total</u> | <u>%</u> |
|--|-----------------------------|---------------------------|--------------|----------|
| <u>1. Engineering and Administration</u>         |                             |                           |              |          |
| 1.1 Engineering and Direction<br>of Construction | -                           | 1,600                     | 1,600        | 8.9      |
| 1.2 Administration                               | -                           | 1,300                     | 1,300        | 7.3      |
| Subtotal 1                                       | -                           | 2,900                     | 2,900        | 16.2     |
| <u>2. Direct Construction Costs</u>              |                             |                           |              |          |
| 2.2 Transmission                                 | -                           | 2,587                     | 2,587        | 14.4     |
| 2.3 Distribution                                 | -                           | 7,399                     | 7,399        | 41.2     |
| 2.4 General Installations                        | -                           | 34                        | 34           | 0.2      |
| Subtotal 2                                       | -                           | 10,020                    | 10,020       | 55.8     |

<sup>1/</sup> This would be the only electrical equipment manufactured in the country from raw materials imported with resources from the proposed loans.

| <u>Category</u>                             | <u>Foreign<br/>Exchange</u> | <u>Local<br/>Currency</u> | <u>Total</u>  | <u>%</u>     |
|---|-----------------------------|---------------------------|---------------|--------------|
| 3. <u>Financial Costs</u>                   |                             |                           |               |              |
| 3.1 IDB interest and<br>commissions         | 1,950                       | 2,180                     | 4,130         | 23.0         |
| 3.2 IDB Inspection and<br>Supervision Funds | -                           | -                         | -             | -            |
| Subtotal 3                                  | <u>1,950</u>                | <u>2,180</u>              | <u>4,130</u>  | <u>23.0</u>  |
| 5. <u>Miscellaneous</u>                     |                             |                           |               |              |
| 5.1 General contin-<br>gencies              | -                           | 900                       | 900           | -            |
| Subtotal 5                                  | <u>-</u>                    | <u>900</u>                | <u>900</u>    | <u>5.0</u>   |
| Total                                       | <u>1,950</u>                | <u>16,000</u>             | <u>17,950</u> | <u>100.0</u> |
| Percentage                                  | (10.9)                      | (89.1)                    | (100.0)       |              |

Chapter V of this loan document contains a detailed analysis of the sources of funds that would be available to ICEL and the participating affiliate enterprises to finance adequately the local contribution to this project, and of the resources that would be available to ICEL for the punctual repayment of the proposed loans to the Bank.

D. Execution of the Project

(i) Schedule of investments and disbursements

- 4.12 The project would be executed over a period of four years, including the terms needed for the biddings to be conducted. However, the subtransmission lines, subtransmission stations and distribution systems would be put into operation as they were completed during that period so as to make considerable improvements in services to users before the scheduled terminal date of the project. The investments and disbursements would be made on the following schedule:

(Equivalents in thousands of US\$)

|                                     | <u>I</u>     | <u>II</u>     | <u>III</u>    | <u>IV</u>    | <u>Total</u>  | <u>%</u>     |
|-------------------------------------|--------------|---------------|---------------|--------------|---------------|--------------|
| <u>IDB Loans</u>                    |              |               |               |              |               |              |
| Ordinary capital resources          | 2,171        | 2,688         | 2,686         | 1,455        | 9,000         | 21.0         |
| Fund for Special Operations         | 3,853        | 4,778         | 4,775         | 2,594        | 16,000        | 37.2         |
| Subtotal 1                          | <u>6,024</u> | <u>7,466</u>  | <u>7,461</u>  | <u>4,049</u> | <u>25,000</u> | <u>58.2</u>  |
| <u>Local Contribution</u>           |              |               |               |              |               |              |
| ICEL                                | 2,792        | 3,331         | 3,025         | 2,442        | 11,590        | 27.0         |
| Participating affiliate enterprises | <u>1,021</u> | <u>1,618</u>  | <u>2,270</u>  | <u>1,451</u> | <u>6,360</u>  | <u>14.8</u>  |
| Subtotal 2                          | <u>3,813</u> | <u>4,949</u>  | <u>5,295</u>  | <u>3,893</u> | <u>17,950</u> | <u>41.8</u>  |
| Total                               | <u>9,837</u> | <u>12,415</u> | <u>12,756</u> | <u>7,942</u> | <u>42,950</u> | <u>100.0</u> |
| Percentage                          | (22.9)       | (28.9)        | (29.7)        | (18.5)       | (100.0)       |              |

- 4.13 ICEL has been moving ahead with a small part of the investments included in the cost of the project in order to avoid initial delays in its execution that could set back the established investment schedule. Thus, it has already conducted the biddings for the purchase of some of the copper and aluminum ingots needed in the first phase of construction, and has scheduled other foreign exchange and local currency investments for execution before the prospective contracts are signed. Consequently, it is proposed that the Bank credit as part of the local contribution to the project up to the equivalent of US\$600,000 <sup>1/</sup> and authorize reimbursement from the possible loans of up to the equivalent of US\$800,000 <sup>2/</sup> of the investments made by ICEL in the project to be financed, prior to the signature of the possible loan contracts but after May 15, 1970, provided that such investments have been made on conditions that substantially meet the requirements to be established in the contracts.

(ii) Studies, plans and engineering designs

- 4.14 The feasibility studies for this project were done by Ingetec-Integral, a consortium of Colombian consulting firms, under contract <sup>3/</sup> to ICEL

<sup>1/</sup> See Chapter VI Conclusions and Recommendations.

<sup>2/</sup> See proposed resolutions.

<sup>3/</sup> The amount of this contract has been included in the cost of the project to be financed against the local currency under the proposed loan from the Fund for Special Operations because the FONADE loan to ICEL was made from the resources contributed by the Colombian Government as the counterpart to loan 174/SF-CO.

with funds from a loan to the latter agency from the Fondo Nacional de Desarrollo de Colombia (Colombian National Development Fund - FONADE) under the program of the preinvestment fund that FONADE has been carrying out with IDB financial assistance under loans 174/SF-CO, 11/CD-CO and 276/SF-CO. ICEL's contract with this consortium also called for the preparation of standard designs for distribution systems to which the specific designs for the distribution systems included in the project would have to conform. The following final engineering plans and designs have been completed: 100 per cent of the standard designs for distribution systems, b) 10 per cent of the designs for specific distribution systems, and c) 10 per cent of the designs for specific subtransmission systems. These percentages amount to about 30 per cent of the final engineering design work required for execution of the project. It should further be mentioned that for some of the works, consisting in the renovation of existing distribution systems, no new designs are needed for, in these cases, all that will be done is to replace the existing networks in accordance with the current plans. By the date on which the proposed loans were presumably eligible for disbursement, enough final designs would be completed to allow the normal execution of the investments of the first year. During this first year the final designs would be completed that were needed to continue the normal execution of the project without interruption in the second and following years from the date of the possible loan contracts.

(iii) Administration and technical supervision of execution

- 4.15 To ensure proper technical and financial administration of the project, ICEL has programmed the following measures: a) the creation of a special executing unit within its own administrative structure, and b) the hiring of the consultant services needed to provide adequate advisory services to this executing unit.
- 4.16 This executing unit would be directly under the Manager of ICEL and would function independently of the other units in the administrative structure of the agency. It would be headed by a director who would be assisted by a deputy director and be directly responsible for the execution of the project and for proper coordination with the Bank. The following units would function directly under the director: a) a secretariat, which would provide all the unit's secretarial services, b) an affiliate enterprises section, whose staff would be the local personnel of the participating affiliate enterprises who would collaborate in the formulation of the designs and in the execution and supervision of the project in the manner and within the limits prescribed by the project director with the advice of the consultants, c) administration, which would be responsible for the administration, accounting and control of the project funds, the processing of purchases, warehouse management, etc., which functions would be suitably separated and distributed among three subsections: purchasing, accounting and warehousing, and d) consultants, entrusted to one or more firms of consultant engineers in charge of the technical supervision of

all phases of the execution of the project. The unit would also be subject to external auditing, which would be performed in the same manner as for ICEL. 1/

Finally, the project's Committee on Biddings would be made up of the Director of the above-described executing unit and the chief engineer of the consultants, who would forward to the Executive Committee of ICEL 1/ the study of the proposals presented together with recommendations for the award of all contracts required for the execution of the project. 2/

- 4.17 The technical advisory services needed for the project have been programmed for all stages of its execution. They would be provided chiefly for a) the review of the designs prepared and formulation of those needed to complete the technical documentation for the project, b) preparation of the bidding specifications and documents, c) evaluation of proposals received and making of recommendations for the awarding of contracts, d) supervision of the construction and start-up of the systems constructed, e) the writing of the progress reports, and f) determination of the parts to be played by the participating affiliate enterprises in the formulation of final designs, the supply of materials and the construction of the works under the project. These technical advisory functions have been grouped in accordance with their nature into two phases: phase I would cover from the formulation and review of final designs to the awarding of supply and works contracts, and phase II all aspects of supervision of the construction. Each of these phases could be carried out by a different firm of consulting engineers, to which end provision has been made for one or more contracts for this facet of the project. 3/
- 4.18 It is considered that a project executing unit with the organization and functions described in paragraphs 4.15 and 4.16 would be an organ suited to carry out and control the proposed operation. Careful selection of personnel technically qualified to perform the described functions would ensure effective execution of the project. In consequence, it is recommended that, prior to the first disbursement from each of the requested loans, ICEL shall, to the satisfaction of the Bank, a) have created the proposed executing unit and demonstrated its technical, administrative and financial capacity to take over the execution of the project, and b) have hired one or more consulting firms to assist this executing unit in the technical supervision of the project. 4/

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1/ See Chapter II.

2/ The functional organizational chart of the project executing unit is presented as Appendix H.

3/ See paragraph 4.09.

4/ See proposed resolutions.



(iv) Procurement program

- 4.19 All the acquisitions needed for the project would be made under the control of the executing unit described above. These acquisitions would be made in the following manner: a) directly by the executing unit: (i) acquisitions abroad and purchases of materials financed partly with foreign exchange from the proposed loan from the Fund for Special Operations in international public biddings, 1/ and (ii) overall acquisitions on the local market financed solely from the local contribution and the local currency supplied in the proposed loans, and effected through public biddings open to national suppliers; and b) the participating affiliate enterprises would be delegated the authority to make the acquisitions that were best made in the zone of each subproject and which would be financed solely with the local contribution and the local currency supplied in the proposed loans, with the executing unit keeping watch over the procurement procedures. It has been provided, in principle, that the major equipment and materials to be imported would be acquired in three groups: a) the first group of purchases would cover the construction requirements of the first two years of execution of the project, and the corresponding awards would be completed in the first half of the first year, b) the second group would cover the needs of the third year of execution, with the awards being made in the third quarter of the second year, and c) the third group of acquisitions, for the requirements of the last construction year, would be awarded during the third quarter of the third year of execution. All biddings would be conducted following suitable procedures previously approved by the Bank and adhering to the general standards laid down in the laws of Colombia. Finally, it may be pointed out that the purchases slated for the local market, and the subsequent processing in the country of the imported raw materials 2/ would be carried out in close coordination with the previously described schedule of imports so as not to delay the execution of the project.

(v) Execution of the works

- 4.20 The ICEL affiliate enterprises that would participate in the project have already built and started up subtransmission and distribution installations similar to those to be set up under the project. The work was done on contract by local construction firms using electrical materials and equipment furnished by the affiliate enterprises themselves. This arrangement is regarded with approval and would be used to execute the works under the proposed project, with the additional feature that the executing unit, acting through the firm or firms of consulting engineers that were hired, would approve the contracts to be signed and supervise the works to be executed. 3/ However, responsibility for all aspects of

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1/ It would depend on the offers received in the biddings whether these materials were to be of foreign or local origin.

2/ See paragraph 4.11.

3/ According to the evaluation of the participating affiliates' capacity, it is believed that some of them would be able to do part of the work on their installations using their own personnel.

execution would lie with that executing unit. The construction work referred to in this paragraph would be financed solely with resources from the local contribution and with Colombian pesos from the proposed loans.

E. Subloans to be granted to the Participating Affiliate Enterprises

- 4.21 The prospective Bank loans to cooperate in the financing of this project would be passed on by ICEL to its participating affiliate enterprises in subloans for the amounts that the possible IDB loans were to contribute to finance the cost of their respective subprojects. In determining the financial conditions for these subloans special attention was given to the interest rate that the electrification enterprises should pay to ICEL in the light of the following considerations: a) Colombian law does not in practice permit passing on the exchange risk to sub-borrowers except through interest differentials, and b) a single interest rate for all subloans would facilitate the financial execution of the project and the control thereof by the Bank. On this last point it may further be pointed out that (i) as explained in paragraph 5.24, the subsidy implied in the use of the Fund for Special Operations would be passed on to the beneficiaries thereof through the rate system, and (ii) granting two subloans to each affiliate enterprise, one from the possible loan of ordinary capital resources and the other from the proposed loan from the Fund for Special Operations, would expose the execution of the project to all the disadvantages described in paragraph 4.09, which would greatly compromise the success of the operation. Given the financial costs of the IDB resources to be utilized and the proportion in which they would contribute to the financing, the cost to ICEL of the combination of resources proposed to finance this project would be about 6 per cent. Since ICEL would otherwise be unable to shift to the electrification enterprises the exchange risk on their respective shares in the proposed IDB loans, that 6 per cent has been enlarged by an additional percentage to cover the exchange risk. It is considered that a reasonable hedge against the possible devaluation of the Colombian peso would be 8 per cent p. a., the rate at which the peso has more or less regularly devaluated over the last few years. Accordingly, the electrification enterprises would pay a single rate of 14 per cent on outstanding balances of their subloans from ICEL.

To summarize, the principal financial conditions of these subloans would be: a) a period of amortization of 20 years, with the participating enterprises starting their payments to ICEL 4-1/2 years from the date of the loan contracts between ICEL and the Bank; b) ICEL would charge the participating affiliate enterprises interest and commissions at the single rate of 14 per cent on amounts disbursed by ICEL and debited to their accounts for the transfer of materials, the use of equipment, etc.; c) the subloans would be serviced in 32 equal and consecutive semiannual installments of principal and interest; 1/ and d) payment of the interest to ICEL would be deferred during the period of execution of the project, and

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1/ See paragraph 5.07.

the interest so accumulated would be paid by the participating affiliate enterprises to ICEL in 32 equal and consecutive semiannual installments on the same dates as the installments mentioned in c). Finally, it may be mentioned that these financial conditions are quite similar to those that would be established in the contracts that ICEL would enter into with the Bank.

- 4.22 ICEL has been moving ahead with the drafting of the model contract that would incorporate the standards for the granting of these subloans and their financial conditions. This model contract has not yet been presented to the Bank because the definitive conditions that the Board of Directors of the Bank would set for the possible granting of the requested loans have yet to be written into it. Once approved by the Bank, the model would be used as a standard for the contracts to be entered into between ICEL and each of the enterprises. The model would be presented to the Bank for approval and copies of the contracts signed with at least six of the participating electrification enterprises would be submitted to it prior to the disbursement of either of the requested loans. 1/ Upon fulfillment of this requirement disbursements would be authorized for a) financing all overall purchases, 2/ whether made locally or abroad, the fees of the consulting firm and the contribution to the IDB Inspection and Supervision Fund, and b) financing the construction and local purchases for the subprojects on which the contracts with the electrification enterprises had been signed and presented to the Bank. Disbursements to finance the construction and local purchases for the other subprojects would be authorized as the Bank approved the other contracts that ICEL signed with each enterprise and for the portion corresponding to the respective approved contract. Within six months from the date of the possible loan contracts, ICEL would have to complete the signing and presentation to the Bank of all the contracts with the participating electrification enterprises. 1/ This procedure would allow proper flexibility in the operation while ensuring the fulfillment of adequate guarantees for the participation of ICEL's affiliate enterprises prior to the specific disbursements for construction of the works corresponding to each of those enterprises. It may also be pointed out that, since ICEL holds an absolute majority of the paid-in shares in ten of the twelve affiliate enterprises and a plurality of the shares in Electrificadora de Cundinamarca S.A., and has control of Electrificadora del Atlántico S.A. through CORELCA, no difficulties are anticipated in the signing of the said contracts. 3/

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1/ See proposed resolutions.

2/ These would be the bulk purchases of materials, electrical equipment and raw materials that the project executing unit would make for all the subprojects together taking advantage of possible more advantageous contracting conditions.

3/ CORELCA holds 85.5 per cent of the paid-in capital stock of Electrificadora del Atlántico S.A. (see Chapter II).

F. Inspection and Supervision by the IDB

- 4.23 It is regarded as necessary that the Bank exercise direct inspection and supervision over all aspects of this project. It is considered that the project specialist for the electric power sector recently hired for the Bank's Office in Colombia could handle this work with the help of an assistant engineer hired locally. The cost of this supervision would be defrayed from the resources of the Bank's Inspection and Supervision Funds.

## V. JUSTIFICATION OF PROJECT

### A. Technical Feasibility

- 5.01 Technical analysis of the applicant and executing agency for the project presented has shown that the operation proposed for financing is technically and operationally feasible on the basis of the following considerations:
- a. ICEL's organization has entered upon a decisive and adequate stage of development; its financial administration reflects an advanced and satisfactory degree of reorganization, and during the coming year implementation of the recommendations submitted by the consultants contracted to improve its administrative efficiency is expected to be completed.
  - b. The participant branch companies are in the final stage of implementing suitable administrative improvements permitting satisfactory operational coordination with ICEL through standardization of their organization and of the systems and procedures employed.
  - c. The special executive unit that ICEL has agreed to establish for the technical and financial administration of project execution has the structural conditions necessary to ensure efficient execution.
  - d. The collaboration to be extended by one or more firms of consulting engineers for supervision of all project stages guarantees that the executive unit mentioned will have satisfactory technical capacity for purposes of execution and control.
  - e. The project formulated shows proper coordination with the development programs of the electric sector being carried out by the Government of Colombia and is designed to cover one aspect of that sector whose development has not kept pace in recent years with the growth recorded and planned in the field of electric power generation and transmission: the improvement and expansion of subtransmission and distribution services within an extensive area of the country.
  - f. The project feasibility study has been prepared by a consortium composed of two outstanding Colombian firms of consulting engineers, using logical and reasonable procedures for selection of the works to be executed.
  - g. The final plans and designs for construction of the works planned under the project would be completed without difficulty on the basis of the standard designs executed by the consortium of consulting firms mentioned, on a schedule consistent with the project execution timetable.

- h. The project's budgeted cost has been reasonably computed, using suitable methods, and includes sufficient margins for possible contingency costs.
- i. The schedule of investments and disbursements described in paragraph 4.12 shows a technically feasible construction timetable and properly indicates the sequence of contributions necessary for satisfactory execution of the project.
- j. The tentative schedule prepared for purchases to be made abroad is reasonable and consistent with proposed project execution requirements and has the flexibility necessary to permit utilization of the best contracting terms offered in the market.
- k. The procedure to be followed for construction of the works through construction firms contracted <sup>1/</sup> and supply of each participant electrical company with the essential electrical equipment and materials has been employed in the past by the aforesaid companies and is the type of project concerned.

B. Financial Feasibility

i. Financing of local project contribution

- 5.02 The national resources necessary for financing the local contribution to the project would be furnished as follows: a) one portion by the branch companies of ICEL participating in the project, and b) the remainder by ICEL with resources to be provided by the Government of Colombia for that purpose.
- 5.03 The financial capacity of the twelve ICEL branch companies participating in the project has been carefully studied in order to determine the amount of resources each would be able to contribute to finance the local contribution required for project execution without compromising their financial stability or deferring the execution of other scheduled projects. To this end, economic and financial projections of the 12 companies cited were prepared for the period of project execution on the following principal bases: a) reasonable demand projections formulated by ICEL and the participant companies with the advisory services of the Ingetec-Integral consortium, and b) the assumption that no rate increase would occur during the period mentioned. <sup>2/</sup> The financial

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<sup>1/</sup> According to the evaluation of the participating affiliates' capacity, it is believed that some of them would be able to do part of the work on their installations using their own personnel.

<sup>2/</sup> Despite the fact that ICEL and the National Planning Department, as indicated in Chapter II, agreed to adopt progressive rate increases during the period of project execution, it was decided to formulate the respective financial projections for that period using the rates currently applied by each electrical company, based on a conservative approach to such projections.

projections prepared as described have indicated that seven of the participant branch companies would have the availabilities necessary to finance the equivalent of US\$6.3 million of the portion of the local contribution covering their respective subprojects. Consequently, the contribution to be made by ICEL would be as follows:

(Equivalent in US\$ thousands)

|   |                      |
|---|----------------------|
| Local contribution required for project execution <u>1/</u>         | 17,950               |
| Less: contribution to be made by seven of the participant companies | <u>(6,360)</u>       |
| Contribution to be financed by ICEL                                 | <u><u>11,590</u></u> |

The contribution of the seven companies mentioned would break down as follows:

(Equivalent in US\$ thousands)

|   | <u>1st yr.</u> | <u>2nd yr.</u>  | <u>3rd yr.</u> | <u>4th yr.</u> | <u>Total</u> |
|---|----------------|-----------------|----------------|----------------|--------------|
| Electrificadora del Atlántico, S.A.           | 256            | 308             | 309            | 191            | 1,064        |
| Electrificadora de Bolívar, S.A.              | 318            | 376             | 600            | 371            | 1,665        |
| Electrificadora de Boyacá, S.A.               | 182            | 220             | 219            | 137            | 758          |
| Electrificadora de Córdoba, S.A.              | 265            | 349             | 413            | 258            | 1,285        |
| Electrificadora de Cundinamarca, S.A.         | -              | -               | 100            | 130            | 230          |
| Central Hidroeléctrica del Río Lebrija, Ltda. | -              | 365             | 365            | 228            | 958          |
| Centrales Eléctricas del Tolima, S.A.         | -              | -               | 264            | 136            | 400          |
| Total   | <u>1,021</u>   | <u>2/ 1,618</u> | <u>2,270</u>   | <u>1,451</u>   | <u>6,360</u> |

1/ See Chapter IV.

2/ Includes investments to be made prior to the date of the prospective loan contracts (see Chapter IV).

The supplementary funds needed to cover annual local contribution requirements would be supplied to ICEL by the Government of Colombia through allocations included in the national budget for this specific purpose. These allocations would be as follows:

(Equivalent in US\$ thousands)

| <u>1st yr.</u> | <u>2nd yr.</u> | <u>3rd yr.</u> | <u>4th yr.</u> | <u>Total</u> |
|----------------|----------------|----------------|----------------|--------------|
| 2,792          | 3,331          | 3,025          | 2,442          | 11,590       |

- 5.04 Thorough study has been given to the national budget effort required for execution of the proposed project. The financial projections formulated for ICEL indicate that the contribution from the national budget for the financing of all its investment projects in progress, including the portion for the project considered, would call for the following amounts:

(Equivalent in US\$ thousands)

| <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|-------------|-------------|-------------|-------------|
| 9,260       | 8,462       | 8,376       | 7,946       |

The figures transcribed are very close to the equivalent of US\$8.8 million in investments made with funds from the national budget in 1969, indicating that the effort required of that budget is significant but can be handled by the Colombian Government. 1/

- 5.05 ICEL 2/ and the National Planning Department of Colombia (DNP) 3/ have already informed the Bank of their agreement to finance the local contribution to the project in the manner described in the preceding paragraphs. They have also indicated that, if the participant electrical companies secure from adjustments in their programs of expenditures or the planned rate increases sufficient resources to contribute a greater share than that shown in the projections formulated, the government would take the necessary steps to ensure that the participant companies will make a larger contribution to financing of the local funds for the project, thus releasing a sum equivalent to the contributions provided in the national budget for allocation to other purposes. The communications from ICEL and the DNP cited also state that if one or more of the affiliated companies should be unable to make the contribution scheduled during the project execution period, the Government of Colombia will supply the additional funds necessary to cover these

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1/ See paragraph 5.11.

2/ Communication 6639, dated November 13, 1970 (see Appendix I).

3/ Communication UPEC/1/4208/70, dated November 19, 1970 (see Appendix F).



needs, through the national budget or by other equally satisfactory means. For this reason, it is considered that punctual provision of the local contribution necessary to finance the proposed project is adequately and reasonably assured.

- 5.06 Finally, it should be noted that the financial projections described in paragraph 5.03 also indicated that the five other participant branch companies that would be unable to contribute to the local counterpart, as well as some of the seven that could contribute, would record financial deficits in certain years of the project execution period, unless suitable steps are taken to finance these shortages of funds. The cumulative financial deficits would total the equivalent of US\$2,329,000 by the end of the scheduled execution period. In the communications mentioned in the preceding paragraph, ICEL and the DNP have assured the Bank that if these anticipated deficits actually occur, despite the rate increases to be ordered, the Government of Colombia, through the national budget or by other equally satisfactory means, will supply the additional funds to those companies as required to finance any deficits.

ii. Prompt service of subloans

- 5.07 In order to evaluate the financial capacity of the participant branch companies to make punctual payments to ICEL of the installments of principal and interest on subloans to be received from that agency, financial projections of the 12 participant branch companies were prepared to cover the first five years after project execution. These projections are based on the demand estimates mentioned; 1/ revenue was computed on the basis of the rates to take effect, in accordance with the commitments assumed by the Government of Colombia, 2/ starting on January 1, 1975. These rates, as stated elsewhere herein, would also meet the Bank's policy standards in this field and would be in accordance with the requirements recently approved by the Government of Colombia for public utility rates. The financial projections formulated have indicated that even without subsequent increases of the tariff rates mentioned, all participant affiliates would generate sufficient resources to: a) cover all their operating costs; b) promptly service all their debts, including service of the subloans included in this project and c) finance approximately 75% of investments for current expansion normally required after project execution to extend the systems in keeping with anticipated demand. These results are considered satisfactory, particularly because the other 25% of the investments is usually financed with long-term loans or capital increases in companies of this type. Consequently, it is estimated that

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1/ See paragraph 5.03.

2/ The projections made for the participating affiliates indicate the advisability of providing for level payments on the subloans they receive from ICEL. This would lighten the financial burden on these companies during the first years immediately following completion of the project. It has therefore been recommended that an analogous system of level payments be applied for the service of the proposed IDB loans to ICEL.

ICEL can, at the proper time, collect the resources necessary for paying the prospective Bank loans, even without recourse to assistance from the national budget. It should also be kept in mind that the proposed guarantee by the Government of Colombia for the IDB loans would further assure the timely payment of those loans and of their interest and charges.

iii. Other investments

- 5.08 The demand projections on which the financial forecasts are based also incorporate expected increases in demand in the territory directly served by local companies, which are in turn branches of ICEL affiliates, and by the operating divisions of the former American and Foreign Power Company (AMFORP) acquired by the Government of Colombia <sup>1/</sup>. In order to meet these demand increases, it was deemed necessary to maintain a suitable level of investments by these companies and operating divisions. <sup>2/</sup> It should be noted in this respect that the National Planning Department, in the communication mentioned earlier, has assured the Bank that the Government of Colombia will adopt the measures necessary to ensure execution of the investments required in the operating divisions and companies cited in order to meet anticipated increases in demand.

C. Economic Evaluation

i. General economic summary

- 5.09 Up to 1956, the Colombian economy had expanded satisfactorily, but in that year it encountered a number of serious problems characterized by continuous fluctuations in the GDP growth rate. This was caused, among other factors, by the vulnerability of the foreign sector to fluctuations in revenue from coffee exports which currently represent 64% of export earnings. Years of stagnation alternated with years of limited growth, so that during 1960-66 the per capita product increased at an average rate of 1.4%.
- 5.10 In recent years, the Colombian Government has exhibited a firm resolve to achieve more rapid economic and social development through a series of institutional reforms and the adoption of suitable economic and social policies. As a result, the expansion rate of the Colombian economy rose substantially, reaching an annual average of 5.4% in 1966-69. In 1969, GDP growth was 6.5%, this rate is expected to be maintained during 1970.

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<sup>1/</sup> See Chapter II.

<sup>2/</sup> The total investments required in the systems of the agencies mentioned are estimated at the equivalent of US\$11.67 million during the four years needed for execution of the proposed project.

5.11 During the last meeting of the CIAP Subcommittee on Colombia, in March 1970, emphasis was placed on the outstanding progress made in correcting internal and external imbalances and increasing the public and private investment to suitable levels in order to attain a satisfactory rate of economic growth. 1/ Simultaneously, the CIAP Subcommittee pointed out that the unemployment problem would be one of the major challenges confronting the Colombian Government in future years. In this context, it was indicated that the public investment program for 1970-72 assigned priority consideration to the employment problem and that the high growth rates estimated would be the essential means of reducing unemployment. The CIAP Subcommittee noted that during 1970-71 the public sector would face no serious financial problems in executing its investment program; starting in 1972, however, a considerable effort would be needed in the mobilization of domestic resources, supplemented by external financial aid at a level at least equal to that recorded in recent years.

ii. The electric power sector

5.12 Owing to its topographic conditions, Colombia has abundant potential sources for hydroelectric generation. 2/ Yet despite this potential wealth and the growth achieved in installed generating capacity over the past decade, approximately 30% of the country's population does not receive electric service. In comparison with the rest of Latin America, Colombia, with about 8% of the total population, accounts for 6% to 7% of installed capacity, which places it in fifth place among the Latin American countries. A comparison of annual per capita production of electric power shows the following ratio: 400 kwh in Colombia compared to an average of 485 kwh for Latin America.

5.13 In recent years the electric power sector has been receiving priority attention from the authorities of the Colombian Government, who are convinced of the primary importance of developing this sector in order to expand and diversify the economy. As a result of this approach, the generating capacity increased steadily from 500 Mw in 1956 to 900 Mw in 1960 and is estimated by the end of 1970 at about 2,700 Mw. 3/ Plans for development of this sector likewise call for expansion of the generating capacity of public systems to 5,000 Mw by the end of this decade, which is expected to require an additional investment of approximately US\$1.6 billion, representing an average growth rate in that capacity of over 7% per annum.

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1/ Document prepared by the CIAP Secretariat: "El Esfuerzo Interno y las Necesidades de Financiamiento Externo para el Desarrollo de Colombia".

2/ Approximately two thirds of the electricity generated in Colombia during 1969 was hydroelectric.

3/ Approximately 88% of the total capacity represents public systems.

- 5.14 However, this expansion was aimed chiefly at serving Colombia's major population centers, relegating expansion of services for the rest of the country to local companies, which caused a substantial inequality in the distribution of benefits from investments made. For example, in 1966, the 20 cities of Colombia with over 30,000 inhabitants received 73% of the electric power generated in the country, although their population represented only 38% of the national total. Thus residents of these cities enjoyed an average annual per capita consumption of 563 kwh as compared to an average of only 130 kwh for the rest of the population. This situation has been carefully studied by the Colombian Government and is acknowledged and discussed in the 1969-73 National Development Program. A significant factor in that national program is the allocation of more investment resources to the improvement of subtransmission and distribution systems than to generation and transmission services in those departments of the country included in the proposed project.

iii. The project

- 5.15 The proposed project is designed basically to improve the efficiency of electric power subtransmission and distribution in an effort to increase benefits from the sizable present and future investments in the field of power generation and transmission and substantially reduce the need for continuing to operate many small generating plants, most of which are unprofitable. Such economic benefits would derive basically from the following steps:

- a. Replacement of the current inefficient and outmoded distribution facilities, which would substantially reduce losses in power distribution.
- b. Extension of present power distribution systems to sectors of the urban population lacking electric services, which would transform a considerable potential into an actual demand for electricity. As a result of this market expansion, significant economies of scale would be achieved in power production and a strong incentive provided for development of a broader sector of the population.
- c. Installation of new subtransmission facilities to serve more population centers through a smaller number of larger and more efficient generating plants; this would entail a smaller investment in idle capacity and a better average-load factor, ensuring greater efficiency in the use of generating plants.

- 5.16 Power losses in 11 <sup>1/</sup> of the 12 distribution systems included in the project range between 13% for the Electrificadora de Córdoba, S.A., system and 29.3% for Centrales Eléctricas del Cauca, S.A. These losses

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<sup>1/</sup> This area estimate does not include the Electrificadora del Atlántico, S.A., where the system of Barranquilla, one of the largest cities in Colombia, is decisively predominant. This city is not part of the project (see paragraph 5.21).

amounted to 17.7% of net generation in 1969, representing 223 million kwh. Through rehabilitation of the subtransmission and distribution systems included in the project, this loss would be reduced by 33%, i.e., to approximately 12% of net generation, which is considered a normal rate for systems in good condition with reasonably efficient administration. It should be noted that, according to the electric rates currently in effect in each of the systems, these losses represented unperceived revenue in 1969 equivalent to US\$2.7 million to the electric companies. The reduction in power losses to the 12% level planned as a result of project execution would have curtailed unperceived revenue by approximately US\$800,000 in 1969. This figure would be proportionately higher in the following years, considering that the generation of electric power would expand by approximately 11% per annum from 1969 to 1970. Moreover, the value of these savings will be substantially higher than the amount indicated above, which is based on very low rates that are scheduled for an appropriate increase. 1/

5.17 In addition to the sizable reduction in power losses described in the preceding paragraph, project execution would provide a series of additional benefits difficult to quantify. The improvement in subtransmission facilities and extension of distribution systems would create broader and more integrated markets for electric power, making it possible to eliminate many small, inefficient generating units and to replace them with bigger and more efficient units that are currently underutilized, with the consequent reduction in operating costs and a sharp improvement in the quality and reliability of services. The increased access to electric power supply would also create new markets for domestic appliances, thus promoting an important area of the Colombian manufacturing sector. 2/ Furthermore, improvement in the quality of electrical service and its extension would encourage the development of small and intermediate industrial companies for which the investment in independent generating plants would be an unprofitable and financially impossible requirement.

5.18 Finally, it should be emphasized that the projections of electric power demand backing the proposed project employed the best information available for these purposes. These projections were formulated for each of the population centers included in the project, in the light of the following basic information: a) population growth projections; 3/ b) projections of average per capita growth in electric

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1/ See Chapter II.

2/ The bulk of domestic appliances in Colombia are manufactured in the country.

3/ These projections were based on the 1964 population census.

power demand and c) expectations of industrial, commercial and residential development that could affect such electric power demand. According to these projections, the increase in number of users combined with the increase in consumption per user would lead to an annual average growth of approximately 13% between 1969 and 1979 in total power consumption for the project area. Consequently, since the program for development of the Colombian electric sector would double generating capacity by the end of the 1970-79 decade, the distribution capacity should be rapidly improved and adapted to the generating capacity planned in order to prevent electric power supply from becoming a bottleneck in national development.

D. Institutional Benefits

- 5.19 It is important to place special stress on the fact that the program for development of the electric power sector implemented by Colombia has been accompanied by substantial institutional changes designed to facilitate the execution of that program, procure maximum benefits from investments made and ensure the conservation and continuation of these investments and the progress of the institutions involved, basically through internal generation of resources.
- 5.20 Even though many measures have been adopted on the institutional level, we need refer to only two, which were approved in December 1968. First, Decree 3175, which established the present organization of ICEL, 1/ clearly defines and limits the functions of the institute, strengthens its powers by authorizing broader participation in the regulation of electric companies and makes it the key agency operating in the electric power sector. This provision is a very important step in the country's steady institutional systematization and coordination among the principal organizations responsible for supplying electric power services. Second, Decree 3069, 1/ which established the National Public Utility Rate Board, outlines a clear policy to the effect that the provision of electric power should be an activity conducted on a businesslike, i.e., self-financing, basis. Pursuant to this premise, the decree cited establishes fair and appropriate criteria for the setting of rates by ensuring recovery of the actual costs of service supply and the generation of additional resources to finance expansion, in the light of the economic capacity of the various social sectors. The two decrees mentioned will facilitate execution of the project to be financed and make it possible to obtain maximum operational yields and a suitable profit level from the investments made.

E. Basis for Combined Use of Ordinary Capital Resources and the Fund for Special Operations

- 5.21 Initially, the authorities of the Colombian Government requested that resources from the Fund for Special Operations be used in financing this project. Their main reasons were as follows: a) the works included

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1/ See Chapter II.

in the project include only: i) improvements and expansion of distribution systems in the country's less developed cities and urban centers, and ii) subtransmission lines exclusively for supplying cheaper electric power to such cities and urban centers mentioned; b) the income levels of the cities and urban centers in question are substantially lower than those of Colombia's largest cities, 1/ for which reason the development of electric systems in these communities has lagged behind that of Colombia's major cities; c) the project would have a significant social impact even considering its substantial economic benefits.

5.22 The arguments presented by the Colombian Government were carefully analyzed and appraised in the light of available statistical data and through personal inspections of a representative sample of the population centers to be benefited by project execution. 2/ The following basic conclusions were drawn from this study:

- a. The project submitted includes: i) rehabilitation of distribution systems in the 127 urban centers included, and ii) expansion of such systems in only 112 of these urban centers, with fewer than 40,000 inhabitants. 3/ 4/ This differential planning is derived from the premise considered in preparation of the ICEL project that the 15 cities with over 40,000 inhabitants would be able to generate the funds needed to finance their own distribution system expansion.
- b. Although no detailed statistics exist in Colombia on the distribution of regional and city revenues, studies on this subject concur in the conclusion that the existence of large urban centers in all regions and/or departments of Colombia with sizable population groups has resulted in regional income differentials in Colombia that are less than those prevailing in most of the developing countries. 5/
- c. The poles of income concentration would therefore be constituted by comparatively large cities exerting a decisive influence on the average income obtained for the departments where these cities are located.

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1/ None of the following Colombian cities are included in the project: Bogota, Medellín, Cali, Barranquilla and Cúcuta.

2/ These inspections were made during the visit of the IDB operations mission that studied the operation in the field (see Chapter I).

3/ These extensions cover expansion needs for the period of project execution.

4/ The population of the 15 major cities included ranges from 44,000 in Duitama to 282,000 in Cartagena, the largest of the cities covered.

5/ Source. Reseña de los Estudios de Distribución de Ingresos en Colombia, Miguel Urrutia Montoya, Revista del Banco de la República de Colombia, February 1970.

- d. There would be a substantial difference among potential project beneficiaries between the average income levels for inhabitants of the larger cities and of the other centers included in the project.
- e. The expansion and improvement of electric services in urban centers covered by the project, except perhaps in the comparatively more important centers, will require a considerable effort by the Colombian Government, an effort based on both economic expectations and social factors.

5.23 On the basis of the conclusions set forth in the preceding paragraph, it was agreed in principle with the Colombian authorities that a combination of soft and hard resources would be the formula best suited to the nature and objectives of the project, since it would equitably and reasonably take account of the economic capacity of the potential beneficiaries of the investments to be made and would therefore be consonant with Bank policy in this area. The recommended share of each type of financing was determined in the light of the economic capacity of the prospective beneficiaries. In accordance with this criterion, it was considered that cities with more than 40,000 inhabitants could cover normal investment financing costs represented by the ordinary capital resources of the Bank, since their larger electric power markets permit greater flexibility in the application of differential rates that make proper provision for the economic capacity of users within a single city. In contrast, other urban centers included in the project, with limited electric power markets and a large majority of marginal, very low-income consumers, would be eligible for financing with resources of the Fund for Special Operations. Consequently, since the total population of the urban centers with fewer than 40,000 inhabitants is approximately 2.75 million <sup>1/</sup> and accounts for 63% of the population of all cities and communities included in the project, <sup>2/</sup> it is recommended that the equivalent of US\$16 million, i.e., 64% of the US\$25 million to be financed, be granted from the Fund for Special Operations.

5.24 The benefit to be derived from the lower financial costs resulting from partial utilization of the Fund for Special Operations (FSO) to finance this operation would be passed on in full to the ultimate beneficiaries of the investments through the rate policy to be applied by the electrical companies participating in the proposed project. <sup>3/</sup>

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<sup>1/</sup> Estimate for 1970 based on the 1964 national population census, extrapolated to 1970.

<sup>2/</sup> Estimated at approximately 4.37 million inhabitants, based on the 1964 census, extrapolated to 1970.

<sup>3/</sup> See proposed resolutions.



The operating costs to be recovered through the rates applicable in the 112 urban centers with fewer than 40,000 inhabitants would be computed by estimating the financial cost of the subproject at a rate of 12% <sup>1/</sup> on the FSO resources for each subproject. The difference between this figure and the amount of annual interest to be paid by the electric power companies to ICEL for the subloans would be computed as part of the operating costs to be recovered on the rates applied in cities of over 40,000 inhabitants within the territory of each company, whether or not they were included in the project. The FSO financing for each subproject would be determined as indicated in paragraph 5.22, relating the populations of cities with under 40,000 inhabitants to the total population of the cities included in each subproject. Thus, the soft financing supplied by the Bank would be accompanied by a suitable national effort chargeable to the more affluent communities. The establishment of suitable differential rates in each of the cities with populations exceeding 40,000 would fairly distribute within a much larger market the financing of the quota required, in accordance with the economic capacity of utility users.

In this connection, it should be noted that the establishment of a single interest rate for all subloans, which, as stated in Chapter IV, will facilitate control by the Bank, does not mean that any of the participant electrical companies will be adversely affected. Actually, the companies serve cities of over 40,000 inhabitants, whose income levels easily permit absorption of the slight differences resulting from application of the single rate instead of the actual arithmetical average resulting from the combination of IDB financing corresponding to each subproject. It should also be noted that ICEL has indicated its preference for utilization of a single rate for all subloans because of the advantages this offers in administration of this aspect of the project.

Finally, it should be observed that in establishing the rate of return on fixed investment to be perceived by each of the electrical companies with the rates applicable as of January 1, 1975, suitable account has been taken of the economy of each company and of its electric power market.

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<sup>1/</sup> 14% on the amount of the subloan (see Chapter IV). This 12% includes the interest rate of 4% for the FSO and 8% per annum for possible devaluation of the Colombian peso (see Chapter IV).

## VI. CONCLUSIONS AND RECOMMENDATIONS

- 6.01 Given the importance that the project has for the economic and social development of Colombia, considering that there are no technical, financial, economic or legal obstacles to its execution, that the Instituto Colombiano de Energía Eléctrica (ICEL) is in the final phases of implementing adequate administrative improvement and has programmed other satisfactory measures to ensure an adequate execution, and that the loans would have the full guarantee of the Republic of Colombia, it is recommended that ICEL be granted two loans for an amount totalling up to the equivalent of US\$25,000,000, of which one, for up to the equivalent of US\$9,000,000 would be from the ordinary capital resources of the Bank, and the other, for up to the equivalent of US\$16,000,000 would be from the resources of the Fund for Special Operations, to cooperate in the financing of a project, consisting of 12 subprojects for the construction of electrical subtransmission systems and enlargement and improvement of electrical distribution systems of 12 subsidiaries of ICEL.
- 6.02 It is also recommended that there be included in the loan and guarantee contracts, as appropriate, in addition to the conditions contained in the resolutions, the following conditions, which shall be fulfilled to the satisfaction of the Bank:
- (a) Prior to the first disbursement of the loans, the debtor shall present to the Bank:
    - (i) a communication from the competent authorities of Colombia expressing their intention to grant such import permits as may be necessary for the acquisition abroad of the goods payable in foreign exchange necessary for the execution of the project; and,
    - (ii) evidence that the loans have been recorded in the appropriate foreign exchange registry office of the Colombian Government.
  - (b) Within six months after the date of the loan contracts, the debtor shall present to the Bank:
    - (i) The investment and financial plan that the Government of Colombia will follow in the executing of electrical subtransmission and distribution works apart from those of the project estimated at the equivalent of US\$11,670,000,

in the departamental systems interconnected with the participating electrical enterprises, to meet the foreseen increments of electric energy demand during the execution period of the project;

- (ii) the measures that the Government of Colombia will take to adjust the electrical energy rates of the above-mentioned interconnected systems; and,
  - (iii) evidence that the debtor's Subgerencia de Filiales and Planning and Internal Audit units have been organized and are adequately functioning and that the recommendations made by the Servicio Nacional de Aprendizaje and the charts of accounts approved by the Contraloría General de la República have been implemented in all the participating electrical enterprises.
- (c) The guarantor, through the National Budget, or other sources equally satisfactory, shall make available to the participating enterprises the additional resources needed to cover possible cash deficits said enterprises might incur during the execution of the project.
- (d) The debtor and the guarantor shall adopt the necessary measures to finance such investments in subtransmission and electrical distribution systems as shall have to be made in the systems of the participating electrical enterprises and the interconnected departamental systems during the period 1975-1979.
- (e) The debtor shall keep the Bank informed of any new investment projects, aside from this present one, it may decide to execute from January 1, 1971 to December 31, 1974, indicating the source of the funds that it would use to finance them.
- (f) The Bank may recognize as part of the local contribution to the financing of the project up to the equivalent of US\$600,000 in investments, other than those provided for in the resolutions, made in the project prior to the date of the loan contracts, but after May 15, 1970, provided that requirements substantially similar to those in the loan contracts have been fulfilled.

- 6.03 In the loan contract there shall be established the manner in which the financial statements related to ICEL and the project are to be audited, taking into account the provisions of paragraph 2.15 of this document.
- 6.04 An annex substantially similar in content to Appendix A (Description of the Program) hereto shall be included in the loan contracts.
- 6.05 US\$90,000 from the loan from the ordinary capital resources of the Bank and US\$160,000 from the Fund for Special Operations shall be allocated to the appropriate Funds for Inspection and Supervision of the Bank.
- 6.06 From the resources of the loan from the Fund for Special Operations, disbursements may be made in the currencies of Argentina, Brazil, Mexico and Venezuela, in accordance with the procedures established in Document GN-455-8.
- 6.07 The equivalent of US\$2,400,000 in currencies of non-member countries to which Resolution DE-49/62, as amended, is applicable shall be utilized in the loan from the ordinary capital resources of the Bank.
- 6.08 The United States dollars to be utilized in the loan from the Fund for Special Operations shall be drawn from the resources contributed to that Fund by virtue of the increases approved by Resolutions AG-2/65 and/or AG-10/67.

## ANNEX B TO THE LOAN CONTRACT

A. Description of Project

The project calls for construction of electric power subtransmission systems improvement and enlargement of distribution systems of 12 ICEL electric utility affiliates operating in 14 of Colombia's departments. The following work would be performed: (i) construction of approximately 1,619 kilometers of subtransmission lines to operate at 66 KV, 44 KV, 33 KV and 13.2 KV; (ii) construction and/or enlargement of 17 transmission substations with voltage ratings as follows: 66 KV, 44 KV, 33 KV, 13.2 KV; and (iii) construction of new distribution systems and improvement and enlargement of existing distribution systems in 127 urban centers. The project is divided into 12 subprojects, one for each of the following ICEL electric utility affiliates: Electrificadora de Antioquia, S.A.; Electrificadora del Atlántico, S.A.; Electrificadora de Bolívar, S.A.; Electrificadora de Boyacá, S.A.; Centrales Eléctricas del Cauca, S.A.; Electrificadora de Córdoba, S.A.; Electrificadora de Cundinamarca, S.A.; Centrales Eléctricas del Huila, S.A.; Electrificadora del Magdalena, S.A.; Centrales Eléctricas de Nariño, S.A.; Central Hidroeléctrica del Río Lebrija, Ltda.; and Centrales Eléctricas del Tolima, S.A. The facilities to be built will be transferred to these companies, and each company will repay to ICEL such portion of the proceeds of the IDB loan as it may use in financing its own subproject in accordance with financial conditions acceptable to the IDB.

B. Cost of Project

The cost of the project is estimated at an amount equivalent to US\$42,950,000 1/, allocated as shown in the following table:

| (Equivalent in US\$ thousands)              |                                      |                                    |              |          |
|---|--------------------------------------|------------------------------------|--------------|----------|
| <u>Category</u>                             | <u>Foreign<br/>Currency<br/>Cost</u> | <u>Local<br/>Currency<br/>Cost</u> | <u>Total</u> | <u>%</u> |
| 1. <u>Engineering and Administration</u>    |                                      |                                    |              |          |
| 1.1 Engineering and construction management | 30                                   | 2,350                              | 2,380        | 5.6      |
| 1.2 Administration                          | -                                    | 1,300                              | 1,300        | 3.0      |
| Subtotal, 1                                 | 30                                   | 3,650                              | 3,680        | 8.6      |

1/ Rate of exchange: US\$1.00 = Col. \$18.131.

| <u>Category</u>                                | <u>Foreign<br/>Currency<br/>Cost</u> | <u>Local<br/>Currency<br/>Cost</u> | <u>Total</u> | <u>%</u> |
|--|--------------------------------------|------------------------------------|--------------|----------|
| 2. <u>Direct Cost of Construction</u>          |                                      |                                    |              |          |
| 2.2 Transmission facilities                    | 3,903                                | 5,153                              | 9,056        | 21.1     |
| 2.3 Distribution facilities                    | 8,483                                | 13,329                             | 21,812       | 50.8     |
| 2.4 General facilities                         | 714                                  | 68                                 | 782          | 1.8      |
| Subtotal, 2                                    | 13,100                               | 18,550                             | 31,650       | 73.7     |
| 3. <u>Financial Charges</u>                    |                                      |                                    |              |          |
| 3.1 Interest and other charges<br>on IDB loans | 1,950                                | 2,180                              | 4,130        | 9.6      |
| 3.2 IDB Inspection and Super-<br>vision Funds  | 250                                  | --                                 | 250          | 0.6      |
| Subtotal, 3                                    | 2,200                                | 2,180                              | 4,380        | 10.2     |
| 4. <u>Current Costs</u>                        |                                      |                                    |              |          |
| No investment allocable                        |                                      |                                    |              |          |
| 5. <u>General Contingencies</u>                | 1,420                                | 1,820                              | 3,240        | 7.5      |
| Subtotal, 5                                    | 1,420                                | 1,820                              | 3,240        | 7.5      |
| Total  | 16,750                               | 1/ 26,200                          | 42,950       | 100.0    |
| Percentage                                     | (39.0)                               | (61.0)                             | (100.0)      |          |

C. Financing of the Project

The project will be financed approximately as shown in the following table:

(Equivalent in US\$ thousands)

| <u>Source:</u>                      | <u>Currency of Origin</u> |              | <u>Currency of Use</u> |              | <u>Total</u> | <u>%</u> |
|-------------------------------------|---------------------------|--------------|------------------------|--------------|--------------|----------|
|                                     | <u>Foreign</u>            | <u>Local</u> | <u>Foreign</u>         | <u>Local</u> |              |          |
| (a) <u>IDB Loan</u>                 |                           |              |                        |              |              |          |
| (i) Ordinary capital<br>resources   | 6,000                     | 3,000        | 6,000 2/               | 3,000        | 9,000        | 21.0     |
| (ii) Fund for Special<br>Operations | 11,000                    | 5,000        | 8,800 3/               | 7,200        | 16,000       | 37.2     |
| Subtotal                            | 17,000                    | 8,000        | 14,800 1/              | 10,200       | 25,000       | 58.2     |

1/ Includes an amount equivalent to US\$3,630,000 representing estimated indirect costs in foreign currency.

2/ Includes an amount equivalent to US\$2,899,000 representing the estimated indirect costs in foreign currency. No foreign currency from this loan would be used to pay local expenses.

3/ Includes an amount equivalent to US\$731,000 representing the estimated indirect costs in foreign currency. Twenty per cent of the foreign-currency component of this loan may be used to pay local expenses, pursuant to IDB standard guidelines.

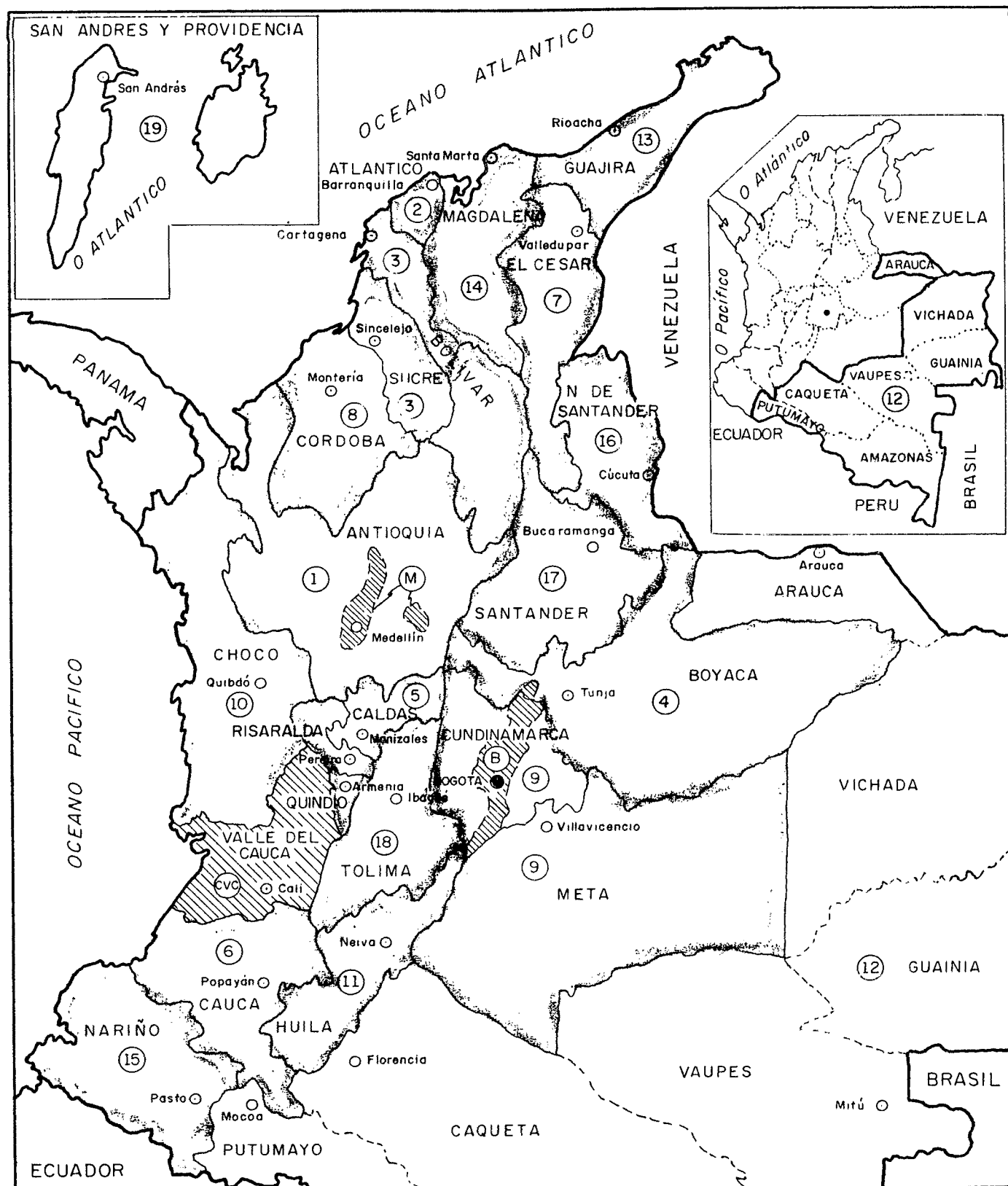
(equivalent in US\$ thousands)

| <u>Source:</u>                |                 | <u>Currency of Origin</u> |              | <u>Currency of Use</u> |              | <u>Total</u> | <u>%</u> |
|-------------------------------|-----------------|---------------------------|--------------|------------------------|--------------|--------------|----------|
|                               |                 | <u>Foreign</u>            | <u>Local</u> | <u>Foreign</u>         | <u>Local</u> |              |          |
| (b) <u>Local Contribution</u> |                 |                           |              |                        |              |              |          |
| (i)                           | ICEL            | -                         | 11,590       | 1,950 <u>1/</u>        | 9,640        | 11,590       | 27.0     |
| (ii)                          | ICEL affiliates | -                         | 6,360        | -                      | 6,360        | 6,360        | 14.8     |
|                               | Subtotal        | -                         | 17,950       | 1,950                  | 16,000       | 17,950       | 41.8     |
|                               | Total           | 17,000                    | 25,950       | 16,750 <u>2/</u>       | 26,200       | 42,950       | 100.0    |
|                               | Percentage      | (39.6)                    | (60.4)       | (39.0)                 | (61.0)       | (100.0)      |          |

- D. When the goods or services to be procured through competitive bidding are to be financed in whole or in part with foreign currency from the Bank's loans, the bidding procedures and specific bidding requirements referred to in paragraph 8(i) of Resolution DE- /71 and in paragraph 9(h) of Resolution DE- /71 shall allow free participation in the bidding by bidders of or from countries which are eligible under the eligibility rules applicable to the use of the ordinary capital resources and the Fund for Special Operations, respectively. Consequently, no conditions preventing or restricting the participation of such bidders shall be established in such procedures and for specific requirements.

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<sup>1/</sup> Interest, fees and charges on the IDB loans.  
<sup>2/</sup> Includes an amount equivalent to US\$3,630,000 representing the estimated indirect costs in foreign currency.



#### EMPRESAS FILIALES DE ICEL

- |  |  |
|--|--|
| 1- Electrificadora de Antioquia S.A.*    | 13- Departamento de la Guajira                               |
| 2- Electrificadora del Atlántico S.A.*   | 14- Electrificadora del Magdalena S.A.*                      |
| 3- Electrificadora de Bolívar S.A.*      | 15- Centrales Elect. de Nariño S.A.*                         |
| 4- Electrificadora de Boyacá S.A.*       | 16- Centrales Elect. de Norte de Santander                   |
| 5- Central Hidroel. de Caldas S.A.       | 17- Central Hidroeléctrica del Río Lebrija Ltda.*            |
| 6- Centrales Elect. del Cauca S.A.*      | 18- Centrales Elect. del Tolima S.A.*                        |
| 7- Departamento del Cesar                | 19- Empresa Intendencial de Servicios Públicos de San Andrés |
| 8- Electrificadora de Córdoba S.A.*      | CORELCA: Corporación Elect. de la Costa Atlántica            |
| 9- Electrificadora de Cundinamarca S.A.* |  |
| 10- Electrificadora del Chocó S.A.       |  |
| 11- Centrales Elect. del Huila S.A.*     |  |
| 12- Intendencias y Comisarias            |  |

#### OTRAS EMPRESAS

- M Empresas Públicas de Medellín
- B Empresa de Energía Eléctrica de Bogotá
- CVC Corporación Autónoma del Valle del Cauca
- ISA Interconexión Eléctrica S.A.

#### INSTITUTO COLOMBIANO DE ENERGIA ELECTRICA - ICEL

#### PROGRAMA DE SUBTRANSMISION Y DISTRIBUCION

#### SISTEMAS ELECTRICOS DE LA REPUBLICA DE COLOMBIA

0 125 Km

#### APENDICE B

\* Empresas Filiales de ICEL Incluidas en el Proyecto BID

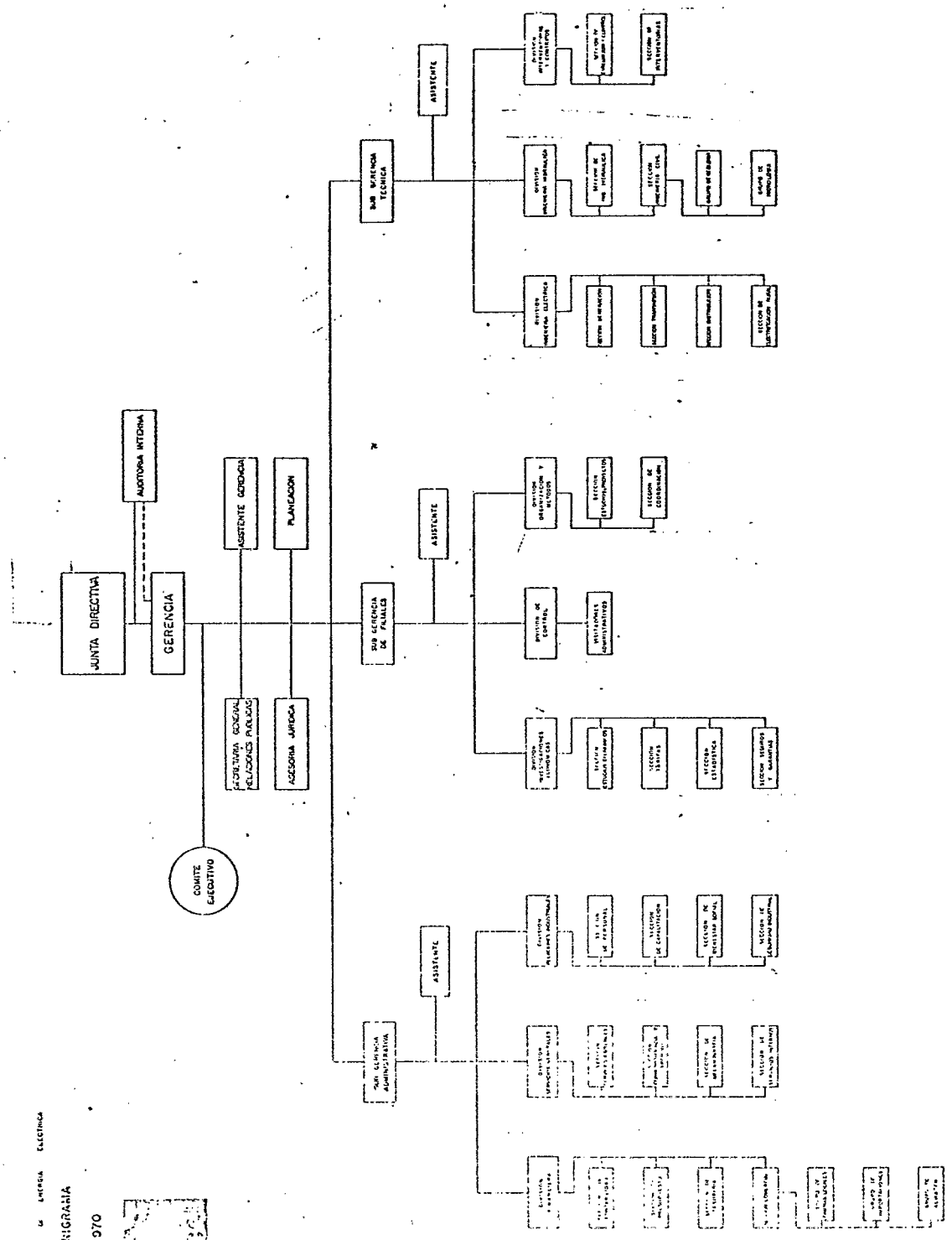
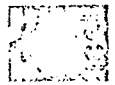


# APENDICE "C"

INSTITUTO VENEZOLANO DE ENERGIA ELECTICA

## ORGANOGRAMA

1 970



CURRICULUM VITAE

Nombre: GERARDO SILVA VALDERRAMA.

Edad: 46 años.

Estudios: Bachiller de la Pontificia Universidad Católica Bolivariana.  
Universidad Nacional - Facultad de Ingeniería de Medellín- 1946.

Cargos Públicos  
Desempeñados: Miembro del Concejo Municipal de Bucaramanga- 1947-1948.  
Secretario de Obras Públicas del Departamento de Santander- 1957.  
Diputado a la Asamblea de Santander - 1962-1963.  
Alcalde de Bucaramanga- 1965-1966.  
Gerente del Instituto Colombiano de Energía Eléctrica 1968.

Cargos Privados  
Desempeñados: Gerente de Tejar Moderno- 1947-1951.  
Gerente de Alfonso Silva Silva y Cía. 1962-1965.  
Presidente de la Corporación Financiera de Santander 1966-1967.

Posiciones Gremiales  
Desempeñadas: Vicepresidente de la Cámara de Comercio de Bucaramanga.  
Presidente de la Federación de Ganaderos de Santander.  
Vicepresidente de la Asociación Nacional de Industriales-Seccional Santander.  
Miembro de la Sociedad Santandereana de Ingenieros.

Nombre: GERMAN HERNANDEZ DUPLAT

Profesión: Ingeniero Civil.

Fecha de Nacimiento: Noviembre de 1931.

1958 Universidad de Cornell (USA). Título de Bachelor of Civil Engineering.

1967 Curso de especialización en Comercialización Internacional patrocinado por la OEA y el Fondo Nacional de Exportaciones.

Ha ocupado los siguientes cargos:

1959 Ingeniero de Proyectos de OLAP Ingeniería.

1960 Ingeniero Interventor Centrales Eléctricas del Norte de Santander, para las obras civiles de la Central Térmica Tibú y la Línea a 115 kV Tibú-Cúcuta.

1961 Secretario de Obras Públicas del Norte de Santander.

1962 Director del Fondo Departamental de Caminos Vecinales del Norte de Santander.

1963-64 Ingeniero Director del Consorcio Planeco-Mutis-Duplat y Hernández en la construcción del interceptor izquierdo del Río Pamplonita y Calle Canal de Puente Barco.

1966 Ingeniero Director de Inequipos Asociados, en la construcción de la presa del Río Zulia.

1967 Consejero Comercial de Colombia en Caracas.

1968 Subgerente Administrativo del Instituto Colombiano de Energía Eléctrica.

APENDICE D-3

Nombre: JAIME GONZALEZ ZULETA

Profesión: Ingeniero Electricista

Fecha de Nacimiento: Setiembre de 1930.

1953 Graduado en la primera promoción de Fundadores de la Universidad de los Andes. Título University of Illinois (USA) Electrical Engineer.

Ha ocupado los siguientes cargos:

1953-1954 Ingeniero de Construcción y Montaje Eléctrico de Acerías Paz del Río S.A., de la primera etapa.

1954-1955 Asistente Superintendente de la Planta de Fuerza de Belencito, durante la etapa de puesta en marcha de la Central y de la Siderúrgica en general.

1955-1957 Ingeniero Coordinador del Proyecto de Electrificación del Ferrocarril Belencito-Paz de Río, con permanencia en Europa durante la etapa de fabricación de los equipos. Jefe del Departamento Eléctrico de la Siderúrgica.

1957-1959 Ingeniero Jefe del Departamento Eléctrico del Instituto de Fomento Eléctrico.

1959-1963 Jefe de Interventoría del Instituto de Fomento Eléctrico.

1963-1964 Banco Mundial, Instituto de Desarrollo Económico, con permanencia en la sede del Banco, realizando estudios de programación industrial y desarrollo económico en general.

1964-1967 Gerente de la Electrificadora de Boyacá.

1967 Subgerente Técnico del Instituto Colombiano de Energía Eléctrica.

Nombre: GABRIEL ORTIZ McCORMICK

Edad: 46 años

Estudios: Bachiller del Gimnasio Académico.  
Universidad de América - Facultad de Ciencias de la Comunicación.  
Incolta - Gerencia de Mercadeo - Transportación.  
Miembro de la Asociación de Publicistas de la Universidad de América.  
Profesor de Promoción de Ventas - Facultad de Publicidad de la Universidad de América.

Cargos: Promotor de Fletes - Flota Mercante Grancolombiana.  
Agente en Colombia para Transportes Internacionales de:

Rohlig & Co. Hamburgo.  
ATA - Ets. Walon S.A. Paris.  
Vandegrift Forwarding Co.Ing. New York.

Secretario General - Instituto Colombiano de Energía Eléctrica.

Nombre: ELISEO DUQUE GOMEZ.  
Natural de: Cisneros (Antioquia)  
Fecha de Nacimiento: 30 de octubre de 1931.  
Estudios Profesionales: Universidad Pontificia Bolivariana (1953-1957).  
Título recibido: Ingeniero Electricista.

Actividades desarrolladas:

1958-1959 Oficina particular como Contratista de Instalaciones y Montajes Eléctricos.  
1969-1961 Instituto de Crédito Territorial como Diseñador e Interventor de las Obras Eléctricas del ICT en el País (instalaciones, redes de distribución, etc.).  
1961 a la fecha Instituto Colombiano de Energía Eléctrica ICEL, con los siguientes cargos:  
1961-1963 Ingeniero División Ingeniería Eléctrica.  
1963-1964 Asesor Técnico de la Revisoría del Gobierno Nacional encargada de controlar los bienes comprados a la Compañía Colombiana de Electricidad.  
1964-1965 Gerente Encargado de la Electrificadora del Magdalena.  
1966-1967 Ingeniero Asistente División Ingeniería Eléctrica.  
1968 a la fecha Jefe División Ingeniería Eléctrica.

Actividades Universitarias:

1963 Profesor de Electrotecnia Facultad de Ingeniería de la Universidad Gran Colombia - Bogotá.  
1965 Asesor del Proyecto Interprofesional III-B Diseño de Urbanización y Vivienda - Centro Interamericano de Vivienda y Planeamiento CINVA.

Cursillos recibidos:

Aplicación de las Turbinas de Gas (Schenektady USA - 1969).  
Ruta Crítica (CFM) Bogotá 1970.

Nombre: JUVENAL PEÑALOZA ROSAS

Estudios Universitarios: Facultad de Ingeniería de la Universidad Nacional  
1950-1955.

Especializaciones:

Curso práctico de especialización en Centrales Hidroeléctricas en la Empresa Freeman, Fox & Partners de Londres.  
Durante este tiempo tomé parte activa en el diseño de las obras hidráulicas para el Proyecto "CWM RHEIDOL" en el Norte de Gales, entre ellos el diseño de la presa de gravedad sobre el río CWM. Además, durante los últimos seis meses fui Interventor en la construcción de la Central Termonuclear de Trawsfynydd localizada también en el norte de Gales. Junio de 1957 a diciembre 1959.

Curso de Laboratorio sobre Centrales de Acumulación en la Escuela Técnica de Karlsruhe - Alemania. Mayo de 1964 a abril de 1965.

Experiencia Profesional

|                  |  |
|------------------|--|
| 1953-1955        | Dibujante de Estructuras de Concreto Reforzado para algunas firmas de Bogotá, entre ellas "Spinel & Cía." y "Guillermo González Zuleta". |
| En.1956/Set.1956 | Calculista de Estructuras de Concreto Reforzado para "Spinel & Cía." Bogotá.   |
| 1956-1957        | Ingeniero Interventor de la Caja de Vivienda Popular de Bogotá.  |
| 1960-1964        | Ingeniero de la Sección Técnica Hidráulica del Instituto de Aprovechamiento de Aguas y Fomento Eléctrico.                                |
| 1965-1968        | Ingeniero de la División de Ingeniería Hidráulica del Instituto de Aprovechamiento de Aguas y Fomento Eléctrico.                         |
| 1968 a la fecha  | Jefe de la División de Ingeniería Hidráulica del Instituto Colombiano de Energía Eléctrica, ICEL.  |

Profesorado

Profesor de Estructuras Hidráulicas en la Facultad de Ingeniería de la Universidad Nacional - 1962-1963.

Profesor de Estructuras Hidráulicas en la Facultad de Ingeniería de la Universidad La Gran Colombia - 1965-1969

Jefe del Departamento de Hidráulica de la Universidad La Gran Colombia.

Nombre: HECTOR FABIO GALLO RAMIREZ

Nacionalidad: Colombiano

Estudios Universitarios

1949-1951 Universidad de los Andes de Bogotá.  
1951-1953 University of Illinois, en Urbana, Illinois, Estados Unidos, en donde obtuve mi grado de Ingeniero Electricista en agosto de 1953.

Especialización

Al finalizar mis estudios universitarios en los Estados Unidos, el Gobierno Francés me otorgó una Beca de Asistencia Técnica, con la cual tuve la oportunidad de visitar las fábricas Alsthom en Belfort y París durante cinco meses, L'electricité de France durante un mes y las Acerías de Longwy, Rombas y la Siderurgique de Normandie durante tres meses.

Trabajos

1954-1957 Ingeniero Asistente del Jefe del Departamento Eléctrico en Acerías Paz del Río, responsable del mantenimiento eléctrico de toda la Planta. Posteriormente fui nombrado Jefe de la Oficina Técnica del Departamento Eléctrico, y a mi retiro de la fábrica en el año 1957 ocupaba el cargo de Jefe del Departamento Eléctrico de la Planta de Acero.

1957-1958 Jefe del Departamento Eléctrico de Locería Colombiana para las fábricas de Bogotá, Cali y Medellín.

1958-1959 Gerente de la Empresa Eléctrica de Villavicencio.

1959-1965 Departamento Técnico Asea de la Compañía Sudamericana S.K.F., y luego Asistente Técnico del Gerente de Asea.

1966-1967 Compañía de Ingenieros Contratistas C. Salazar C & Cía. Ltda., primero como Ingeniero Interventor-Cordinador del Montaje de la fábrica de fibras e hilazas de nylon y poliester Enka de Colombia S.A., en Girardot y luego en Bogotá como Ingeniero Coordinador de la misma compañía en el diseño de los "Off-Site Facilities" para la Refinería de Orito, en el Putumayo, de la Texas Petroleum Company.



1967 C.E. Halaby & Cía. Ltda., como Ingeniero Electricista, asistente del Gerente, encargado de manejar las casas representadas Hawker Siddeley Electric Export Ltd., de Inglaterra; T.L. Smith, también de Inglaterra; Nissho-Iwai del Japón; Alcoa International, Preformed Line Products Co., Ohio Brass, Crane, M&H Valve & Fittings y Eriez Magnetics, de los Estados Unidos.

1969 a la fecha Instituto Colombiano de Energía Eléctrica - ICEL, Jefe de la División de Planeación.

Nombre: JAIME ISAZA ROMERO

Fecha de Nacimiento: Noviembre 25 de 1939.

Estudios Universitarios

Universidad Nacional, Facultad de Economía, Bogotá.

Experiencia Profesional

Implantación de Sistemas.  
Auditorías y Revisorías.  
Contabilidad General y Costos.  
Análisis de Estados Financieros.  
Administración de Empresas.

Trabajos desempeñados en ejercicio de la profesión, comenzando por el último.

- a. Jefe de la División de Filiales del Instituto Colombiano de Energía Eléctrica - Desde el 10. de mayo de 1968.
- b. Jefe del Departamento Administrativo y Financiero de la Electrificadora de Boyacá S.A. - 1966-1968.
- c. Oficina particular en Bogotá. Durante este tiempo realicé trabajos de auditoría, contabilidad, implantación de sistemas y asesorías administrativas en trece firmas particulares y celebré otro tipo de contratos entre los que merecen destacarse:

- a) Aspectos económicos de un estudio de factibilidad para la ampliación de la Central Termoeléctrica de Paipa en Boyacá.
- b) Organización contable-administrativa de la firma Palmas Oleaginosas Monterrey Ltda., dedicada al cultivo de la Palma Africana en el Valle del Magdalena.
- c) Organización contable-administrativa de la Industria Lico-rera de Boyacá.
- d) Estudio para la ampliación del aeropuerto de Cartagena en el Departamento de Bolívar. 1964-1965.
- d. Jefe del Departamento de Contabilidad de la Compañía de Inver-siones Bogotá S.A. 1963-1962.
- e. Profesor de la Facultad de Contaduría de la Fundación Universidad Grancolombiana. 1963-1962.

Nombre: NORBERTO ARCILA GIRALDO

Edad: 40 años

Formación Profesional

- 1957 Ingeniero Civil, Universidad del Cauca (Popayán). Matrícula No. 4202 del Consejo Profesional Seccio-nal de Ingeniería y Arquitectura de Cundinamarca.
- 1959-1960 "Electricité de France". Estudios sobre proyectos Hidroeléctricos - Laboratorios de hidráulica de Grenoble y Chatou (Paris).
- 1969 ASTEF - Cooperation Technique - Paris. Curso teórico-práctico sobre Mecánica de Suelos y Fun-dación de Presas - Laboratorios de Cachan (Paris), Coyne de Bellier (Asnieres), Sole-Tanche (Montereau).
- 1970-1969 ICEL. Ingeniero Jefe de la División de Intervento-rías y Contratos.
- 1968-1969 ICEL. Ingeniero, Superintendente Hidroeléctrica del Río Mayo-Construcción.

1966-1968 ELECTRAGUAS. Ingeniero Asistente Interventoría SYNDIBEL (de Bélgica) en la Construcción Hidro-eléctrica del Río Mayo.

1964-1966 ELECTRAGUAS. Ingeniero Asistente de la Sección Técnica-Hidráulica.

1960-1964 ELECTRAGUAS. Ingeniero Sección Técnica-Hidráulica.

1958-1960 Gerente - Interventor, Construcción Hidroeléctrica de La Comoda (Santander).

1957-1958 Ingeniero Jefe Departamento de Valorización, Manizales (Caldas).

Nombre: HEBERTO HERNANDEZ GARCIA

Estado Civil: casado

Títulos:

- a) Doctor en Derecho y Ciencias Políticas, otorgado por la Facultad de Derecho de la Universidad Nacional de Colombia, el día 28 de agosto de 1951.
- b) Especialista en Derecho del Trabajo, título otorgado por el Instituto de Derecho del Trabajo de la misma Universidad, en aquella fecha.

Cargos desempeñados

1953-1955 Juez V del Circuito Judicial del Trabajo de Bogotá.

1955-1956 Abogado Auxiliar del Departamento Jurídico del Instituto Nacional de Aprovechamiento de Aguas y Fomento Eléctrico.

1956-1957 Abogado de la Cartera de la Corporación Nacional de Servicios Públicos.

1957-1963 Abogado Jefe de la Sección de Cartera del Instituto de Aprovechamiento de Aguas y Fomento Eléctrico.

1964 Abogado Asistente de la Sección Jurídica del Instituto antes citado.

1964 a la fecha Jefe de la División Jurídica del mismo Instituto.

APENDICE D-11

Nombre: MANUEL SARMIENTO MONCAYO

Posición: Jefe División Financiera

Título: Contador Público

Experiencia:

Mar.1956/Junio 1956 Jefe de Examen de Cuentas.

Junio 1956/Nov.1956 Subdirector Contabilidad.

Nov.1956/Junio 1957 Director de Contabilidad

Julio 1957/Oct.1964 Jefe Sección Contabilidad.

Nov.1964 a la fecha Jefe División Financiera.

Nombre: MARGARITA VARGAS DE VALENCIA

Lugar de Nacimiento: Bogotá.

Fecha: 12 de marzo de 1937.

Educación Universitaria

1954-1956 Universidad de los Andes, Extensión Cultural y Humanidades.

1963-1967 Universidad Nacional, Facultad de Derecho y Ciencias Políticas y Sociales.

Título: Doctor en Derecho y Ciencias Políticas y Sociales.

Experiencia:

1956 Gerente de la Revista "Mito" dirigida por Jorge Gaitán, Pedro Gómez Valderrama y Hernando Valencia Goelkel.

APENDICE D-12

|               |  |
|---------------|--|
| 1967-1968     | Auxiliar del Dr. Bernardo Carreño Varela, en su oficina privada de Abogado.  |
| 1969          | Secretaria General de la Asociación Nacional de Radio y Televisión "Anradio" (Trabajo Especial: Recopilación de las normas legales sobre la Televisión en Colombia). |
| 1970          | Ejercicio privado de la profesión.   |
| 1970          | Asesora Jurídica de Inversiones Barco S.A. "INBARSA".  |
| Cargo Actual: | Jefe de la División de Relaciones Industriales y Servicios Generales.  |

APENDICE E

INSTITUTO COLOMBIANO DE ENERGIA ELECTRICA (ICEL)

BALANCES GENERALES 1957/2/9. EMPRESAS FILIALES 1/

( En miles de US\$ )

|   | A C T I V O      |             |               |                  | PASIVO Y PATRIMONIO |                             |                   |                           |
|---|------------------|-------------|---------------|------------------|---------------------|-----------------------------|-------------------|---------------------------|
|   | Activo Corriente | Activo Fijo | Otros Activos | Total del Activo | Pasivo Corriente    | Pasivo No Corriente y otros | Patrimonio (neto) | Total Pasivo y Patrimonio |
| 1. Centrales Eléctricas del Cauca S.A.              |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 1213.1           | 3427.6      | 88.4          | 4729.1           | 60.5                | 106.5                       | 4562.0            | 4729.1                    |
| Ejercicio cerrado 31 Dic. 1968                      | 1122.1           | 3418.0      | 80.4          | 4620.5           | 56.7                | 79.7                        | 4484.1            | 4620.5                    |
| Ejercicio cerrado 31 Dic. 1969                      | 728.4            | 3411.2      | 69.6          | 4209.2           | 95.1                | 102.1                       | 4012.0            | 4209.2                    |
| 2. Centrales Eléctricas del Huila S.A.              |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 382.3            | 3551.8      | 49.9          | 3984.0           | 62.6                | 521.1                       | 3400.3            | 3984.0                    |
| Ejercicio cerrado 31 Dic. 1968                      | 407.4            | 3864.5      | 59.6          | 4331.5           | 55.0                | 347.5                       | 3929.0            | 4331.5                    |
| Ejercicio cerrado 31 Dic. 1969                      | 387.1            | 3900.9      | 62.7          | 4350.7           | 226.7               | 86.3                        | 4037.7            | 4350.7                    |
| 3. Centrales Hidroeléctricas del Río Lebrija, Ltda. |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 1625.4           | 11267.9     | 779.6         | 13672.9          | 770.6               | 1983.3                      | 10919.0           | 13672.9                   |
| Ejercicio cerrado 31 Dic. 1968                      | 2093.3           | 13142.9     | 1295.2        | 16531.4          | 435.6               | 1500.1                      | 14595.7           | 16531.4                   |
| Ejercicio cerrado 31 Dic. 1969                      | 2330.9           | 13620.0     | 1000.1        | 16951.0          | 400.4               | 1219.9                      | 15330.7           | 16951.0                   |
| 4. Centrales Eléctricas de Nariño S.A.              |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 216.3            | 1649.5      | 32.9          | 1898.7           | 116.9               | 84.3                        | 1697.5            | 1898.7                    |
| Ejercicio cerrado 31 Dic. 1968                      | 349.7            | 1715.1      | 92.6          | 2157.4           | 137.0               | 183.5                       | 1836.9            | 2151.4                    |
| Ejercicio cerrado 31 Dic. 1969                      | 269.9            | 1681.8      | 109.6         | 2061.3           | 200.0               | 226.9                       | 1634.4            | 2061.3                    |
| 5. Centrales Eléctricas del Tolima S.A.             |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 1695.7           | 2465.3      | 149.6         | 4311.6           | 435.1               | 1127.7                      | 2748.8            | 4311.6                    |
| Ejercicio cerrado 31 Dic. 1968                      | 1379.3           | 4251.6      | 228.7         | 5859.6           | 785.1               | 285.5                       | 4769.0            | 5859.6                    |
| Ejercicio cerrado 31 Dic. 1969                      | 1317.9           | 4205.5      | 93.9          | 5617.3           | 578.7               | 375.9                       | 4662.7            | 5617.3                    |
| 6. Electrificación de Antioquia S.A.                |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 1095.4           | 5114.6      | 1361.7        | 7601.7           | 793.0               | 802.8                       | 6005.9            | 7601.7                    |
| Ejercicio cerrado 31 Dic. 1968                      | 1229.1           | 5328.2      | 1449.6        | 8006.9           | 690.3               | 512.8                       | 6797.8            | 8006.9                    |
| Ejercicio cerrado 31 Dic. 1969                      | 1227.7           | 5674.7      | 1324.6        | 8226.9           | 416.1               | 342.0                       | 7467.9            | 8226.9                    |
| 7. Electrificación del Atlántico S.A.               |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 507.7            | 6546.9      | 1587.1        | 8641.7           | 135.2               | 575.1                       | 7931.4            | 8641.7                    |
| Ejercicio cerrado 31 Dic. 1968                      | 627.2            | 7041.7      | 1838.2        | 9507.1           | 142.5               | 149.7                       | 9211.9            | 9507.1                    |
| Ejercicio cerrado 31 Dic. 1969                      | 501.0            | 11593.0     | 2250.9        | 14349.9          | 162.3               | 4167.6                      | 10020.0           | 14349.9                   |
| 8. Electrificación de Bolívar S.A.                  |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 1176.4           | 8318.1      | 781.3         | 10275.8          | 613.1               | 4761.8                      | 4900.9            | 10275.8                   |
| Ejercicio cerrado 31 Dic. 1968                      | 1292.9           | 8178.7      | 801.2         | 10274.8          | 593.6               | 4385.0                      | 5296.2            | 10274.8                   |
| Ejercicio cerrado 31 Dic. 1969                      | 1785.8           | 12148.7     | 726.6         | 14661.1          | 1111.0              | 4589.9                      | 8960.2            | 14661.1                   |
| 9. Electrificadora de Boyacá S.A.                   |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 1304.6           | 9370.4      | 527.2         | 11202.2          | 223.7               | 798.3                       | 10180.2           | 11202.2                   |
| Ejercicio cerrado 31 Dic. 1968                      | 1322.8           | 8849.5      | 554.4         | 10726.7          | 422.2               | 579.3                       | 9725.2            | 10726.7                   |
| Ejercicio cerrado 31 Dic. 1969                      | 1509.6           | 8130.5      | 479.1         | 10119.2          | 581.7               | 220.4                       | 9317.1            | 10119.2                   |
| 10. Electrificadora de Córdoba S.A.                 |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 520.3            | 6166.7      | 50.8          | 6737.8           | 472.3               | 225.7                       | 6039.8            | 6737.8                    |
| Ejercicio cerrado 31 Dic. 1968                      | 610.9            | 7256.1      | 17.0          | 7884.0           | 525.7               | 124.5                       | 7233.8            | 7884.0                    |
| Ejercicio cerrado 31 Dic. 1969                      | 782.5            | 7637.9      | 16.9          | 8437.3           | 741.8               | 113.2                       | 7582.3            | 8437.3                    |
| 11. Electrificadora de Cundinamarca S.A.            |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 1015.7           | 2158.0      | 71.8          | 3245.5           | 182.6               | 537.0                       | 2525.9            | 3245.5                    |
| Ejercicio cerrado 31 Dic. 1968                      | 1346.7           | 2466.0      | 69.8          | 3882.5           | 715.4               | 311.8                       | 2855.3            | 3882.5                    |
| Ejercicio cerrado 31 Dic. 1969                      | 1450.2           | 2528.0      | 83.9          | 4062.1           | 792.0               | 331.6                       | 2938.5            | 4062.1                    |
| 12. Electrificadora de Magdalena S.A.               |                  |             |               |                  |                     |                             |                   |                           |
| Ejercicio cerrado 31 Dic. 1967                      | 179.5            | 1684.7      | 3083.1        | 4947.3           | 172.4               | 164.3                       | 4610.6            | 4947.3                    |
| Ejercicio cerrado 31 Dic. 1968                      | 260.2            | 1611.9      | 2555.6        | 4427.7           | 237.2               | 129.4                       | 4061.1            | 4427.7                    |
| Ejercicio cerrado 31 Dic. 1969                      | 419.4            | 1533.7      | 3009.1        | 4962.2           | 255.4               | 112.4                       | 4594.4            | 4962.2                    |

1/ Empresas afiliadas que intervienen en el Proyecto.



## Instituto Colombiano de Energía Eléctrica

Bogotá, noviembre 13 de 1970

Señor

Paul J. Colcaire, Director  
División de Préstamos, Zona II  
Banco Interamericano de Desarrollo  
Washington D.C.

Estimado señor Colcaire:

Nos es grato hacer referencia a su atenta carta del 25 de septiembre de 1970, respecto a nuestra solicitud de préstamo presentada al Banco para el financiamiento parcial de un programa de subtransmisión y distribución eléctrica.

Tal como acordamos con la Misión Operativa del Banco, durante su permanencia en Bogotá, en los meses de junio y julio del año en curso, entre las condiciones especiales a que se ajustaría la citada operación se incluye la siguiente referente a tarifas:

- c) ICEL debería tomar las medidas necesarias a juicio del Banco para que las tarifas de energía eléctrica en los sistemas de cada una de las filiales incluídas en el programa produzcan, por lo menos, ingresos suficientes para cubrir todos los gastos de explotación del sistema, incluyendo los relacionados con administración, operación, mantenimiento y depreciación; (ii) proporcionen una rentabilidad razonable sobre la inversión inmovilizada del sistema; y (iii) si el flujo de fondos por concepto de lo anterior no fuere suficiente para cubrir la oportuna amortización de todas las obligaciones a cargo de la empresa respectiva, generen los ingresos adicionales que sean necesarios para este propósito.

Los estudios realizados sobre el mencionado programa indican que, para satisfacer esta condición, se deberán hacer ajustes importantes a las tarifas actualmente vigentes en las empresas filiales de ICEL participantes en este programa. Al respecto, acompañamos a la presente un cuadro indicando las tarifas que, de acuerdo con dichos estudios, se aplicarán para dar cum-



## Instituto Colombiano de Energía Eléctrica

- 2 -

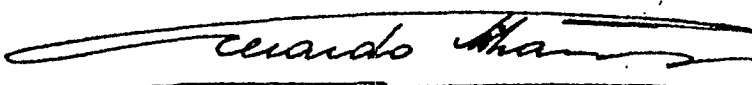
plimiento a la referida cláusula. Para lograr este nivel de tarifas, se ha programado durante el período de ejecución del programa que las empresas filiales de ICEL solicitarán a la Junta Nacional de Tarifas de Servicios Públicos un ajuste paulatino y en forma regular de sus tarifas para que, antes del 1.º de enero de 1975, se logren los niveles requeridos. De ser necesario, el plan que anexamos a la presente, será actualizado periódicamente por ICEL y presentado a la aprobación previa del Banco.

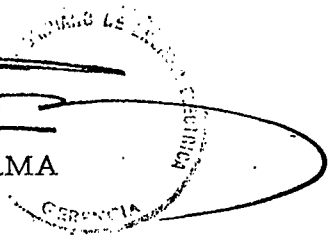
En atención a lo anteriormente expuesto, proponemos que se incluya en el posible contrato de préstamo una cláusula parecida a la siguiente:

"El deudor tomará todas las medidas a su alcance, incluyendo la incorporación de los compromisos necesarios en los correspondientes contratos de sub-préstamo que haya de suscribir con sus empresas filiales para prestar a estas últimas recursos del préstamo, para que dichas empresas ajusten paulatinamente y en forma regular sus tarifas para lograr antes del 1.º de enero de 1975, los niveles previstos en el plan tarifario presentado por el deudor y aceptado por el Banco, u otros niveles alternativos previamente propuestos por el deudor y aceptados por el Banco".

Sin otro particular, aprovechamos la oportunidad para reiterarle el testimonio de nuestra consideración muy distinguida.

De usted atentamente,

  
GERARDO SILVA VALDERRAMA  
Gerente ICEL



c.c. Dr. Jorge Ruiz Lara, Jefe Planeación  
Banco Interamericano de Desarrollo, Bogotá

/csc.-



REPÚBLICA DE COLOMBIA  
DEPARTAMENTO NACIONAL  
DE PLANEACION

APENDICE "P"

AL CONTESTAR CITESE ESTE NUMERO

UPEC/1/4207/70

Unidad de Proyectos Específicos  
y Crédito Externo

BOGOTÁ, D. E.,

19 NOV. 1970

Señor  
Paul J. Colcaire  
Director  
División de Préstamos, Zona II  
Banco Interamericano de Desarrollo  
Washington D. C.

Estimado señor Colcaire:

Deseamos referirnos a la carta que con fecha de hoy le dirige el doctor Gerardo Silva Valderrama, Gerente del Instituto Colombiano de Energía Eléctrica ( ICEL ), referente a las nuevas tarifas que hayan de aplicar las empresas filiales de ICEL para dar cumplimiento a varias cláusulas que, sobre este particular, se incluirían en el contrato de préstamo entre ICEL y el Banco.

Al respecto, me permito asegurarle que, como garante del posible préstamo del BID a ICEL, el Gobierno de Colombia tomará todas las medidas a su alcance para que las solicitudes de aumentos tarifarios que sean presentadas en su debida oportunidad por las empresas filiales de ICEL en cumplimiento de dichas cláusulas, serán consideradas favorablemente por la Junta Nacional de Tarifas de Servicios Públicos.

Sin otro particular me suscribo de usted atentamente,

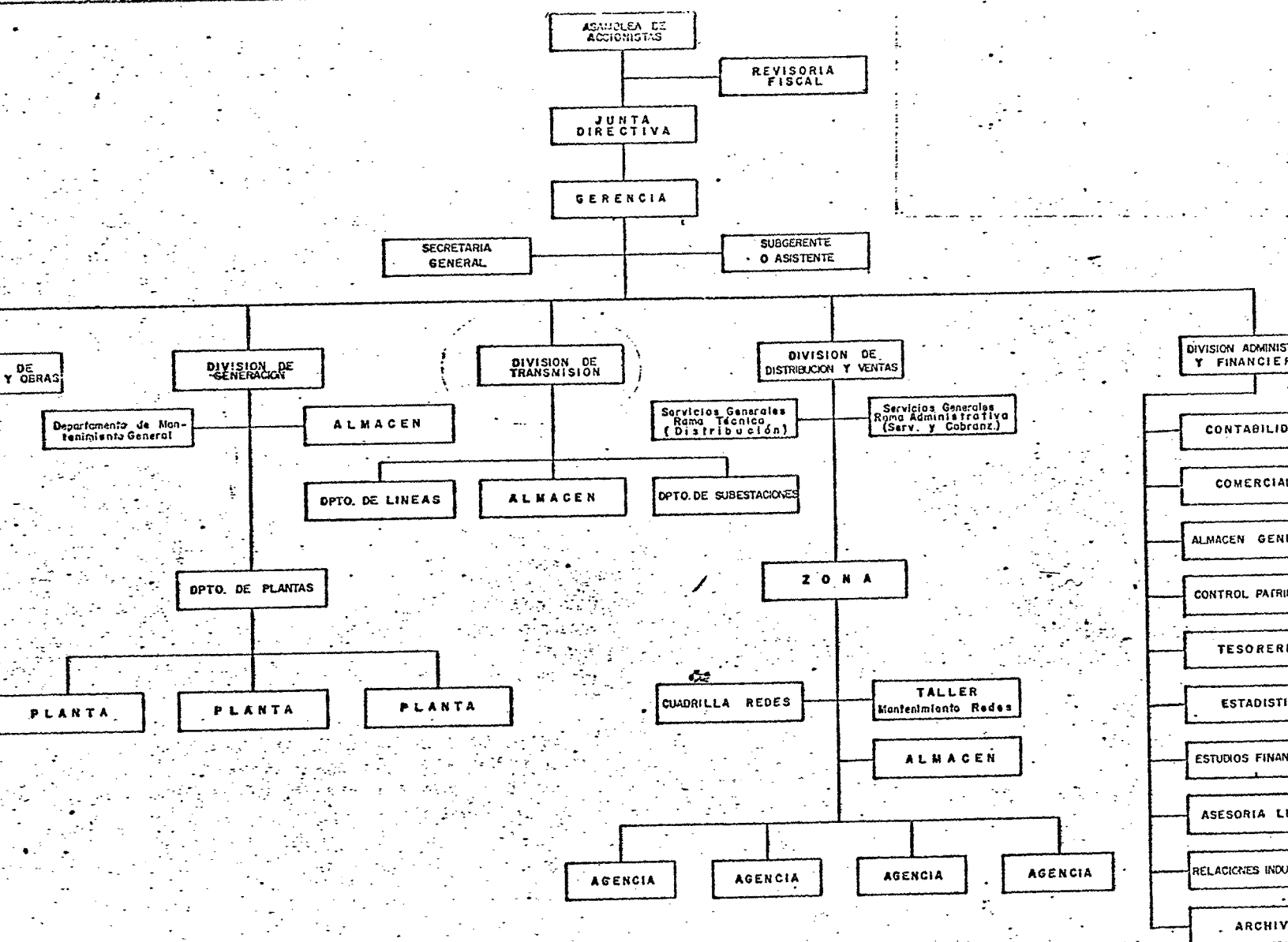
|     |     |
|-----|-----|
| PRE | LEG |
| E   | DPA |
| AUG | OSA |
| INT | PER |
| PAD | BMA |
| OFS | ADM |
| IAD | DD  |
| PRA | AS  |
| FIN | SS  |
| TRE | CO  |
| NMC | TR  |
| TTC | SEC |
| ECO | INF |
| SES | LI  |
| TAS |     |
| TRG |     |

Jorge Ruiz Lara  
Jefe del Departamento

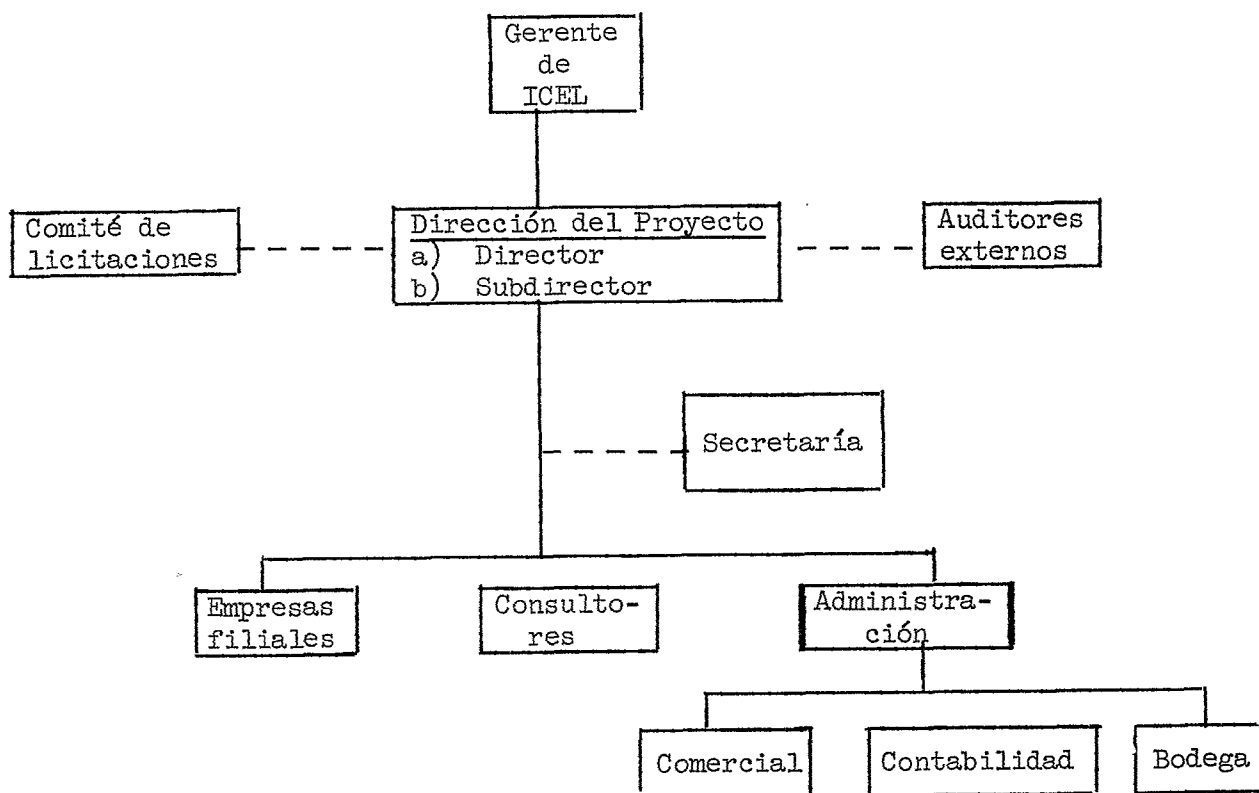
NIVEL DE TARIFAS A ALCANZAR  
PARA EL AÑO 1.975 (US ¢/kwh.)

| FILIAL                  | TARIFAS<br>VIGENTES<br>EN 1.970 | NIVEL TARIFARIO<br>PREVISTO PARA<br>EL AÑO DE 1.975 | % DE INCREMENTO |
|-------------------------|---------------------------------|---|-----------------|
| ANTIOQUIA               | 1,0 0                           | 1,7 7   | 77,0            |
| ATLANTICO               | 1,0 2                           | 1,0 2   | 0,0             |
| BOLIVAR                 | 1,4 1                           | 1,6 2   | 14,9            |
| BOYACA                  | 0,9 9                           | 1,3 4   | 35,0            |
| CAUCA                   | 0,8 5                           | 1,3 1   | 54,2            |
| CORDOBA                 | 1,6 1                           | 1,9 0   | 18,0            |
| CUNDINAMARCA            | 2,1 0                           | 2,3 3   | 11,0            |
| HUILA                   | 1,1 8                           | 1,4 3   | 21,2            |
| MAGDALENA               | 1,3 3                           | 2,4 5   | 84,2            |
| NARIÑO                  | 0,8 0                           | 1,0 5   | 31,3            |
| LEBRIJA                 | 1,2 6                           | 1,4 4   | 14,3            |
| TOLIMA                  | 1,4 6                           | 1,6 3   | 11,6            |
| PROMEDIO<br>CONSOLIDADO | 1,2 5                           | 1,6 1   | 28,8            |

ORGANIGRAMA TÍPICO DE EMPRESA FILIAL DE ICEL



ORGANIGRAMA DE LA UNIDAD EJECUTORA DEL PROYECTO





# Instituto Colombiano de Energía Eléctrica

Bogotá, noviembre 13 de 1970

Señor  
Paul J. Colcaire, Director  
División de Préstamos, Zona II  
Banco Interamericano de Desarrollo  
Washington D.C.

Estimado señor Colcaire:

Nos es grato hacer referencia a su atenta carta del 25 de septiembre de 1970, respecto a nuestra solicitud de préstamo presentada al Banco para el financiamiento parcial de un programa de subtransmisión y distribución eléctrica en el país.

Sobre el particular, les manifestamos que de los estudios realizados con relación a este programa se destaca que el aporte local necesario sería el equivalente de US\$ 17'950.000. Hemos solicitado al Gobierno Nacional que dicho aporte sea financiado en la siguiente forma:

|  |                               |
|--|-------------------------------|
| - Empresas filiales de ICEL, participantes en el Programa  | US\$ 6'356.000                |
| - Gobierno Nacional a través de asignaciones presupuestales u otras fuentes satisfactorias para dotar a ICEL de recursos con esta finalidad específica | <u>11'594.000</u>             |
| <b>TOTAL:</b>  | <b><u>US\$ 17'950.000</u></b> |

Estamos incluyendo adjunto a la presente un cuadro, en el cual se detallan los montos anuales que deben aportar para el citado propósito, tanto cada una de las empresas filiales, como el Gobierno Nacional. Es de señalar con respecto a dicho cuadro y al esquema de financiamiento citado en el párrafo anterior, que si las empresas obtienen, como resultado de reajustes en su programa de gasto o de los aumentos tarifarios previstos, recursos suficientes para aportar una porción mayor, ICEL tomará las medidas



# Instituto Colombiano de Energía Eléctrica

- 2 -

necesarias para que las empresas efectúen contribuciones superiores a los US\$6'356.000 previstos, de suerte que parte de los aportes del Presupuesto Nacional puedan ser liberados para otros fines.

En adición, queremos indicarle que si alguna o algunas de las citadas empresas filiales no pudieren hacer frente a la participación requerida durante el período de ejecución del programa o sufrieren déficit operativo durante dicho período (estos últimos se estiman en aproximadamente el equivalente de US\$2'328.700), entendemos que el Gobierno de Colombia, a través del Presupuesto Nacional u otros medios igualmente satisfactorios, proporcionará a ICEL los recursos adicionales indispensables para cubrir estas necesidades.

Por otra parte, tenemos el firme convencimiento de que el Gobierno Nacional tomará las medidas del caso para asegurar que se efectúen las inversiones necesarias en las empresas subfiliales y en las divisiones CC de las empresas filiales de ICEL comprendidas en el programa, tendientes a satisfacer los incrementos de demanda previstos durante el período de ejecución de este programa.

Sin otro particular, aprovecho la oportunidad para reiterarle los sentimientos de mi consideración y aprecio.

De usted muy atentamente,

  
GERARDO SILVA VALDERRAMA  
Gerente ICEL

c.c. Dr. Jorge Ruiz Lara, Jefe Planeación  
Banco Interamericano de Desarrollo, Bogotá

/csc.-

**PARTICIPACION DE LAS FILIALES Y CONTRIBUCION DE ICEL EN EL PROGRAMA DE SUDTRANSMISION  
Y DISTRIBUCION PARA ASEGURAR LA CONTRAPARTIDA LOCAL**

( CIFRAS EN MILES DE DOLARES )

| F I L I A L                    | 1.970   | 1.971   | 1.972   | 1.973   | 1.974   | TOTAL    |
|--------------------------------|---------|---------|---------|---------|---------|----------|
| ANTIOQUIA                      | —       | —       | —       | —       | —       | —        |
| ATLANTICO                      | 118.2   | 137.7   | 308.0   | 309.1   | 190.7   | 1.063.7  |
| BOLIVAR                        | 135.0   | 183.1   | 376.3   | 600.0   | 370.0   | 1.664.4  |
| BOYACA                         | 73.6    | 108.9   | 219.5   | 219.5   | 136.3   | 757.8    |
| CAUCA                          | —       | —       | —       | —       | —       | —        |
| CORDOBA                        | 135.6   | 129.0   | 349.1   | 413.2   | 257.2   | 1.284.1  |
| CUNDINAMARCA                   | —       | —       | —       | 100.0   | 130.0   | 230.0    |
| HUILA                          | —       | —       | —       | —       | —       | —        |
| MAGDALENA                      | —       | —       | —       | —       | —       | —        |
| NARIÑO                         | —       | —       | —       | —       | —       | —        |
| LEBRIJA                        | —       | —       | 365.0   | 365.0   | 227.2   | 957.2    |
| TOLIMA                         | —       | —       | —       | 263.6   | 135.6   | 399.2    |
| SUBTOTAL CONTRIBUCION FILIALES | 462.4   | 558.7   | 1.617.9 | 2.270.4 | 1.447.0 | 6.356.4  |
| CONTRIBUCION ICEL.             | 937.6   | 1.854.3 | 3.331.1 | 3.024.6 | 2.446.0 | 11.593.6 |
| TOTAL CONTRAPARTIDA LOCAL      | 1.400.0 | 2.413.0 | 4.949.0 | 5.295.0 | 3.893.0 | 17.950.0 |

REPUBLICA DE COLOMBIA

DEPARTAMENTO NACIONAL  
DE PLANEACION

APENDICE "I"

AL CONTESTAR CITESE ESTE NUMERO

UPEC/1/4208/70

Unidad de Proyectos Específicos  
y Crédito Externo

BOGOTA, D. E.,

19 NOV. 1970

Señor  
Paul J. Colcaire  
Director  
División de Préstamos, Zona II  
Banco Interamericano de Desarrollo  
Washington D.C.

Estimado señor Colcaire:

Con relación a la solicitud de préstamo presentada al Banco por el Instituto Colombiano de Energía Eléctrica ( ICEL ) para el financiamiento parcial de un programa de subtransmisión y distribución eléctrica, queremos manifestarle que en los estudios realizados al respecto se destaca que el aporte local necesario sería el equivalente de US\$ 17.950.000. Dicho aporte proveniría de las siguientes fuentes:

|  |                |
|--|----------------|
| Empresas filiales del ICEL, participantes en el Programa | US\$ 6.356.000 |
|--|----------------|

|   |                  |
|---|------------------|
| Gobierno Nacional a través de asignaciones presupuestales u otras fuentes satisfactorias para dotar al ICEL de recursos con esta finalidad específica | US\$ 11.594.000. |
|---|------------------|

|       |                 |
|-------|-----------------|
| TOTAL | US\$ 17.950.000 |
|-------|-----------------|



2.

Estamos adjuntando a la presente un cuadro en el cual se detallan los montos anuales que serán aportados con el citado propósito por cada una de las empresas filiales y por el Gobierno Nacional. Es de señalar con respecto a dicho cuadro y al esquema de financiamiento citado en el párrafo anterior, que si las empresas obtienen como resultado de reajustes en su programa de gasto o de los aumentos tarifarios previstos, recursos suficientes para aportar una porción mayor de los mencionados US\$ 17.950.000 el Gobierno tomará las medidas necesarias para que las empresas efectúen contribuciones superiores a los US\$ 6.356.000 previstos, de suerte que parte de los aportes del Presupuesto Nacional pueden ser liberados para otros fines.

Por otra parte, queremos indicarle que si alguna o algunas de las citadas empresas filiales no pudieren hacer frentes a su participación requerida durante el período de ejecución del programa o sufrieren déficit operativos durante dicho período ( estos últimos se estiman en aproximadamente el equivalente de US\$ 2.328.700 ) el Gobierno de Colombia, a través del Presupuesto Nacional, u otros medios igualmente satisfactorios, proporcionará adicionalmente al ICEL recursos necesarios para cubrir estas necesidades.

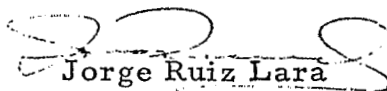
En adición, el Gobierno Nacional tomará las medidas del caso para asegurar que se realicen las inversiones necesarias en las empresas subfiliales y las divisiones CC de las empresas filiales del ICEL comprendidas en el programa tendientes a satisfacer los incrementos de demanda previstos durante el período de ejecución del programa.

En relación con lo expuesto en los párrafos anteriores, le estamos enviando con esta comunicación copias de la Ley de Presupuesto Nacional para 1970 y del Proyecto de Ley de Presupuesto Nacional para 1971 donde usted notará que se han incluido aportes para ICEL cuya suma total es el equivalente de US\$ 2.480.000 disponibles en 1971, para los propósitos indicados. Para ilustración del Banco, le anexamos también copias del Plan de Inversiones Públicas 1970-1973 en el cual aparecen las proyecciones de gasto

3.

del Gobierno de los años 1972 y 1973. Naturalmente, durante la ejecución del programa, presentaremos al Banco, dentro de los 90 días anteriores al cierre de cada año fiscal, una copia del correspondiente Proyecto de Ley de Presupuesto para el año siguiente donde se incluirán las sumas necesarias para dar cumplimiento a las medidas objeto de esta carta.

Atentamente,

  
Jorge Ruiz Lara  
Jefe del Departamento

## PARTICIPACION DE LAS FILIALES Y CONTRIBUCION DE ICEL EN EL PROGRAMA DE SUBTRANS

Y DISTRIBUCION PARA ASEGURAR LA CONTRAPARTIDALOCAL

( Cifras en miles de dólares )

| FILIAL                         | 1. 970  | 1971    | 1972    | 1973    | 1974    | TOTAL    |
|--------------------------------|---------|---------|---------|---------|---------|----------|
| ANTIOQUIA                      |         |         |         |         |         |          |
| ATLANTICO                      | 118.2   | 137.7   | 308.0   | 309.1   | 190.7   | 1.063.7  |
| BOLIVAR                        | 135.0   | 183.1   | 376.3   | 600.0   | 370.0   | 1.664.4  |
| BOYACA                         | 73.6    | 108.9   | 219.5   | 219.5   | 136.3   | 757.8    |
| CAUCA                          |         |         |         |         |         |          |
| CORDOBA                        | 135.6   | 129.0   | 349.1   | 413.2   | 257.2   | 1.284.1  |
| CUNDINAMARCA                   |         |         |         | 100.0   | 130.0   | 230.0    |
| HUILA                          |         |         |         |         |         |          |
| MAGDALENA                      |         |         |         |         |         |          |
| NARIÑO                         |         |         |         |         |         |          |
| LEBRIJA                        |         |         | 365.0   | 365.0   | 227.2   | 957.2    |
| TOLIMA                         |         |         |         | 263.6   | 135.6   | 399.2    |
| SUBTOTAL CONTRIBUCION FILIALES | 462.4   | 558.7   | 1617.9  | 2270.4  | 1447.0  | 6.356.4  |
| CONTRIBUCION - ICEL            | 937.6   | 1854.3  | 3331.1  | 3024.6  | 2446.0  | 11.593.6 |
| TOTAL CONTRAPARTIDA LOCAL      | 1.400.0 | 2.413.0 | 4.949.0 | 5.295.0 | 3.893.0 | 17.950.0 |