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IMPLEMENTATION COMPLETION REPORT

COLOMBIA

BOGOTA POWER DISTRIBUTION II PROJECT
(LOAN 2634-CO)

JUNE 19, 1995

Infrastructure and Operations Division
Department III
Latin America and the Caribbean Region

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CURRENCY EQUIVALENTS

Currency Unit	=	Colombian Peso (Col.\$)
US\$1.00	=	Col.\$101.19 (mid-1984)
US\$1.00	=	Col.\$502.2 (1990 average)
US\$1.00	=	Col.\$863.7 (1993 average)

UNITS AND MEASURES

meter (m)	=	3.28 feet
kilometer (km)	=	0.62 miles
square km (sqkm)	=	0.39 square miles

ABBREVIATIONS AND ACRONYMS

CONPES	=	Consejo Nacional de Política Económica y Social (National Council of Economics and Social Policies)
CORELCA	=	Corporación Eléctrica de la Costa Atlántica (Electric Corporation of la Costa Atlántica)
EEB	=	Empresa de Energía de Bogotá (Energy Company of Bogotá)
EPM	=	Empresas Públicas de Medellín (Public Company of Medellín)
CRE	=	Energy Regulatory Commission
CVC	=	Corporación Autónoma Regional del Valle del Río Cauca (Regional Corporation of Valle del Río Cauca)
DNP	=	Departamento Nacional de Planeación (National Department Planning)
FEN	=	Financiera Energética Nacional (National Financing Energy Corporation)
ICEL	=	Instituto Colombiano de Energía Eléctrica (Colombian Institute of Electric Energy)
ISA	=	Interconexión Eléctrica S.A. (Electric Interconnection S.A.)
IADB	=	Inter-American Development Bank
MME	=	Ministry of Mines and Energy
MOF	=	Ministry of Finance
JNT	=	Junta Nacional de Tarifas (National Tariff Commission)

FISCAL YEAR

January 1st to December 31st

IMPLEMENTATION COMPLETION REPORT
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IMPLEMENTATION COMPLETION REPORT

COLOMBIA

BOGOTA POWER DISTRIBUTION II PROJECT

(LOAN 2634-CO)

PREFACE

The Implementation Completion Report (ICR) for the Bogotá Power Distribution II Project in Colombia was prepared by Alfonso Posada (Consultant) and Jayme Porto Carreiro (LA3IN), and reviewed by Peter Ludwig (Division Chief, Infrastructure Operations) and Robert Crown, Project Adviser. The Infrastructure Operations Division, Country Department III, Latin America and the Caribbean Regional Office, prepared the ICR based, among other sources, on the Issues/Decisions Paper, the Staff Appraisal Report, the Loan and Guarantee Agreements, project files, and interviews with Borrower's Staff in Bogotá. Preparation of the ICR was begun during the Bank's final supervision/completion mission in August 1994, during which a field review of all the physical facilities included in the Project's scope was carried out. The Borrower's contribution to the ICR is reflected in the Borrower's own evaluation of the project's implementation and results, which is included as Part II of the report.

EVALUATION SUMMARY

The Bogotá Power Distribution II Project was financed through a loan to Empresa de Energía de Bogotá (EEB) which amounted to US\$171 million; it was approved in November, 1985 and made effective in September, 1987. The closing date was December, 1993, a year later than originally planned. US\$56.7 million of the loan proceeds were canceled. The balance of the loan was fully disbursed; the last disbursement took place in January, 1994.

Background.

- (i) The electricity industry provides service to around 5.2 million users; energy consumption in 1993 amounted to 36.7TWh which were generated with an installed capacity of 9660MW. The borrower, EEB, is the largest municipal utility in the country; it operates as a vertically integrated corporation with an installed capacity of 2300MW; it provides electricity service in the metropolitan region of Bogotá (pop. 6.5 million) and smaller adjacent communities. It currently serves 1.1 million customers with a peak demand of 1800MW.
- (ii) Until recently, the sector was characterized by powerful vertically-integrated monopolies together with a large number of government-controlled distribution companies. It experienced major difficulties during the 1980s: it underwent a lengthy period of financial crisis due to overbuilding of generating facilities and low tariff levels, followed in the early 90s by an unprecedented drought which caused country-wide rationing. These crises provided the impetus for embarking on radical institutional reforms.
- (iii) The sector was reorganized, with Bank support, during the 1991-94 period. The process incorporated efficiency, accountability and financial responsibility incentives into sector corporations and was complemented with tariff increases together with a financial restructuring whereby the Government injected massive resources into the sector to set it on a sound financial footing. The results of these efforts were asserted with the approval of a Public Services Law and an Electricity Law which emphasize the introduction of competitive incentives and provide for the regulation of non-competitive supplies.
- (iv) The sector's restructuring has been successful: an Energy Regulatory Commission has been operating since 1993, a competitive market for bulk supplies is being set up, the major generation and transmission enterprise (ISA) has been split up into a generation company and a transmission/dispatch corporation, and private generators are supplying part of the system's needs.

Project Objectives and Description.

- (v) The project was conceived for the purpose of supporting EEB in order to expand the distribution of electricity in the Bogotá area, extend electricity service to low-income areas of the city, reduce energy losses and theft, and improve the effectiveness and efficiency of EEB's operations.

(vi) The project consisted of a physical component and an institutional component. The physical component included 230/115kV substation equipment and lines, primary and secondary distribution equipment together with new lines, line improvements and street lighting extensions, the installation of 300,000 meters and operations and maintenance equipment. The institutional component included studies for controlling energy losses, reducing theft and improving distribution reliability and planning, technical assistance for training EEB staff, and the implementation of a loss reduction program.

Achievement of Objectives.

(vii) Reevaluating the objectives in hindsight, it becomes apparent that the physical components, which consisted of standard distribution investments, could reasonably be implemented. In contrast, the institutional components, including loss reduction targets and financial goals, appear to be unrealistic given the overall organization of the power sector at the time, and EEB in particular which lacked autonomy vis à vis municipal authorities, was subject to political meddling from the City Council and faced no accountability constraints.

(viii) The physical objectives of the project were met with the exception of primary distribution lines and secondary distribution line improvements. The 230kV and 115kV components, although delayed, will be completed by December, 1996. The extension of service to low income customers and the public lighting goals were achieved and benefited an estimated 650,000 people.

(ix) Loss reduction objectives were not achieved at all: the level of losses in 1993 was only marginally lower to that of 1987 (22% vs. 24%). Covenanted financial goals did not materialize either: the rate of return for the enterprise decreased instead of reaching the 12% target; the self financing ratio was only achieved twice during the seven-year execution period and accounts receivable (as a percentage of sales) increased to 43% instead of decreasing to 17%.

(x) A rough ex-post rate of return calculation for EEB's investment program yields a value of 9%, significantly below the ex-ante rate, estimated at 12% in the SAR. The reason for the shortfall can be traced to the cost overruns of the Guavio generation plant, rather than to failures of the distribution project itself (SAR demand projections were remarkably accurate). However, the institution building components of the project, had they been implemented, should have helped EEB to overcome many of its management weaknesses which ultimately led to an unsatisfactory performance.

Implementation Record and Major Factors Affecting Implementation.

(xi) The major factors which affected implementation were (a) unrealistic objectives in regard to the institutional components of the project; (b) procurement delays; (c) a weakly staffed Project Management Unit; and (d) a lack of stable management policies in EEB.

(xii) Procurement delays originated due to lengthy Government approval procedures and conflicts between Bank procedures and those required by the Bogotá municipality. Misprocurements caused the cancellation of US\$1.69 million of the loan proceeds. The Project Management Unit, which according to Bank experience is a critical component in the implementation process, lacked authority to coordinate the activities of different EEB groups involved in the project. Throughout project

implementation the Bank lacked an effective counterpart within EEB to account for the project's performance due to frequent staff turnover and the instability of the borrower's top management.

(xiii) The monitoring indicators of the project were uniformly unsatisfactory throughout its execution; additionally, EEB did not comply with numerous covenanted conditions. The decision to partially cancel the loan was taken in 1992 when 78% of the project had been completed and when it became evident that EEB's record would not improve. The loss reduction components were kept as a means of alleviating the power rationing which was taking place and which would last until 1993. Disbursements continued through 1993 and reached 88% of their scheduled amount.

Project Sustainability.

(xiv) The physical investments of the project are likely to be operated and maintained successfully. The sustainability of components such as the loss reduction program, which require strong management support, appears to be unlikely until institutional reform of EEB (following the directives contained in the Public Services Law) is implemented.

Bank Performance.

(xv) During appraisal and negotiation, the Bank overestimated EEB's capability of implementing institutional reforms. It failed to recognize the procurement issue which would have required agreement with the Government and the Municipality reaffirming the precedence of Bank procedures to be applied to projects financed by the Bank and it did not exert sufficient pressure on EEB to overcome the weakness of the Implementation Unit.

(xvi) The Bank's supervision reports reflect a continued preoccupation with EEB's institutional strengthening which ultimately helped to recognize the need for the overall power sector reorganization which proved successful. The Bank's support contributed to its success and continued help is being provided at present through the Energy Sector Technical Assistance Loan. Regarding implementation obstacles, the Bank has commissioned a Country Procurement Assessment Report for Colombia that will serve as a guide for future operations.

Borrower Performance.

(xvii) EEB's overall performance was unsatisfactory: it failed to find constructive solutions to procurement impediments and higher management did not respond to the project's problems. Strong management support was lacking in critical areas such as the loss reduction component. This is reflected in the low rating given the project in all of the supervision missions. On the financial front EEB's situation was hampered by the Guavio project's major problems as well as unrealistic pricing policies which were beyond its control. The blame for the latter lies squarely on the Government's macroeconomic policies which it pursued to the detriment of the power sector in general throughout the 80s; much-needed pricing reforms only materialized in 1991-92 as part of the power sector restructuring program.

Assessment of Outcome.

(xviii) Despite implementation delays, those physical elements of the project which were undertaken were put in place and are operating to satisfaction. The institution building component of the project was not successful and the loss reduction programs were ineffective. The physical component accounted for 96% of investment, and therefore the final assessment would show that the project was economical even under the assumption that all of the project's institutional component had been wasted.

Key Lessons Learned.

(xix) Experience gained from the Bogotá distribution project applicable to future operations includes:

- the need to undertake a realistic appraisal of the underlying institutional framework of the sector and the Borrower, and to include institution-building components in a project only if there is a commitment and a policy to implement required reforms;
- the requisite to carry out and to monitor the project by putting in place a Project Implementation Unit with sufficient authority and autonomy to solve execution obstacles; and
- the requirement to assess procurement procedures and to obtain explicit agreement with the Borrower and/or the Government concerning (a) following Bank contracting guidelines and (b) waiving procedures that may delay implementation.

IMPLEMENTATION COMPLETION REPORT

COLOMBIA

BOGOTA POWER DISTRIBUTION II PROJECT

LOAN 2634-CO

PART I. PROJECT IMPLEMENTATION ASSESSMENT

The Bogotá Power Distribution II Project in Colombia was financed through Loan 2634-CO in the amount of US\$171 million which was approved on November 26, 1985 and made effective on September 30, 1987. The Borrower was the Empresa de Energía de Bogotá (EEB), formerly Empresa de Energía Eléctrica de Bogotá (EEEB).

The closing date was December 31, 1993, one year later than originally foreseen. US\$56.7 million of the loan proceeds were canceled. The balance of the loan has been fully disbursed. The last disbursement was made on January 10, 1994.

Background

1. Between 1970 and 1994, the Bank supported the development of Colombia's power sector with 15 loans for over US\$1.9 billion¹. The fourteenth Bank loan to the power sector since 1970 went to EEB and helped finance the Bogotá Power Distribution II Project. It was the seventh loan to EEB since 1960².
2. Until the early 90s the power subsector was nominally under the supervision of the Ministry of Mines and Energy (MME). However, in practice it operated with little control regarding its investment plans which were prepared by ISA, a generation and transmission enterprise owned by the two principal municipal utilities and a number of Government-affiliated companies.
3. The power subsector experienced major problems during the last decade. In the 80s it became the source of considerable financial difficulties due to overbuilding of generation plants which confronted the Government with major macroeconomic problems. Paradoxically, because of the hydro predominance in the system, it became increasingly vulnerable to weather changes and faced a supply crisis due to an unprecedented drought in the early 90s, which aggravated sectorial problems caused by inadequate planning, low efficiency, and poor maintenance. These crises provided the impetus for embarking on radical institutional reforms.
4. A number of the problems that the sector faces have institutional origins. In the 60s and 70s the state increasingly became the major owner in energy enterprises, with a consequent

¹The Inter-American Development Bank (IDB) contributed a similar amount in 22 loans.

²Before 1985 the Bank had made 6 loans, totalling US\$613.2 million, to EEB for electric power generation, transmission and distribution (225-CO in 1960, 313-CO in 1962, 537-CO in 1968, 1628-CO in 1978, 1807-CO in 1980 and 2008-CO in 1981).

slackening of efficiency incentives and the virtual disappearance of accountability. The symptoms of serious problems in the energy sector became alarming in the mid-80s with the power sector's financial crisis; it then became evident that energy policy should be given a cohesive nature in order to address the issues of excessive investment in electricity generation and the underdevelopment of the gas subsector. In 1990 an OED study³, developed during a two year period with the participation of Colombian experts, identified many of the weaknesses of the power subsector and recommended its restructuring through the introduction of adequate regulation and private sector participation.

5. Since 1991 the Bank has supported the reshaping of the power sector in order to introduce market forces by promoting competition and private sector participation. This process culminated in 1994 with the approval of the Public Services Law and the Electricity Law whose implementation is expected to remedy many of the sector's weaknesses.

6. **The Borrower.** EEB is a municipal utility attached to the Bogotá Municipality since 1951. It operates as a vertically integrated corporation, with an installed generating capacity of 2300MW; its service area encompasses the metropolitan area of Bogotá (population 6.5 million) as well as a number of smaller towns in adjacent regions. It currently serves 1.1 million customers with a peak demand of 1800MW.

7. When the project was appraised, EEB had an installed capacity of 1288MW, 700,000 customers and a peak demand of 1000MW. The SAR forecast a peak demand of 1466MW in 1990; actual demand was slightly higher (1496MW); energy demand was forecast to grow at an average 5.4 percent per annum, and in fact it increased by an average 5.7 percent. In any case, the SAR projections were very accurate.

8. EEB's management is appointed by the mayor of Bogotá whose tenure lasts three years; the company has experienced a high turnaround of upper management (three CEOs during the last three years). It has been widely accepted that the company has suffered from outside intervention by the City Council. It currently has around 4100 employees.

Project Objectives and Description

9. The objectives of the project consisted of expanding the distribution of electricity in the Bogotá metropolitan area, extending electricity service to low-income areas of the city, reducing technical energy losses and energy theft, and improving the effectiveness and efficiency of EEB's operations.

10. The Project consisted of:

- (i) **Subtransmission:** Installation of 1100 MVA of substation capacity at 230/115 kV and around 10 km of 230 kV lines and 75 km of 115 kV lines;

³ OED, Colombia-The Power Sector and the World Bank, 1970-1987, Report No. 8893 (June 28, 1990).

- (ii) **Distribution:**
 - Installation of 350 MVA of distribution substation capacity at 115/11.4 kV, 115/34.5 kV and 230/11.4 kV;
 - Installation of 750 km and improvement of 1600 km of primary distribution lines at 11.4 kV and 34.5 kV;
 - Installation of 650 km and improvement of 900 km of secondary circuits;
 - Installation of 10 MVA of voltage regulators and 60 MVAR of capacitors;
 - Installation of 300,000 meters; and
 - Installation of street lighting.
- (iii) **Operation and Maintenance:** Acquisition of equipment for hot line maintenance of substations and lines, and low, medium and high voltage testing equipment;
- (iv) **Studies:** (a) an evaluation of types and locations of illegal customers; (b) studies on: reliability of EEB's distribution system, planning and operation of EEB's subtransmission system, and systematization of energy losses control;
- (v) **Training and Technical Assistance:** Provision of technical assistance and training for EEB's staff to improve their management, strategic planning and technical skills; and
- (vi) **An Energy Loss Reduction Program.**

11. The estimated project cost at appraisal was US\$348.6 million before interest during construction (IDC); including IDC, the expected cost increased to US\$389.6 million. The project was expected to be executed over a period of 5.5 years. The programmed completion date was June 30, 1991. The Bank's US\$171 million loan was designed to cover 90% of foreign currency costs, including US\$41 million of IDC.

Achievement of Objectives

12. Re-evaluating the project's objectives in hindsight, it becomes apparent that the physical objectives could reasonably be met given (a) that they are standard elements of distribution systems with no technological risk and (b) that they could be executed through experienced contractors with little risk of delays. By contrast, the institutional objectives appear to be unrealistic given the overall organization of the power subsector in general and of EEB in particular: the enterprise did not operate as a business, there were no accountability constraints, negligible financial autonomy (EEB's budget is subject to approval by the City Council which thereby exerts a stranglehold on the enterprise) and there was little management control due to frequent changes at the executive level (EEB had eight general managers between 1985 and

1994). Furthermore, EEB's management focus was overwhelmed by the construction of the 1000MW Guavio hydroelectric project which had created major financial difficulties by incurring over US\$1 billion in cost overruns due to delays and physical contingencies. Under these conditions, which were evident at the time of appraisal, the achievement of institutional goals appears unrealistic; furthermore, the strains in management would subsequently imperil the achievement of the physical objectives of the project.

13. The SAR's proposed targets for loss reduction were also overly optimistic, particularly given the level of losses - 23 percent in 1983 -. It appears unreasonable to expect that by 1990 losses could be reduced to 13 percent in a city as large as Bogotá with numerous slums. Theft control in particular requires a firm management approach in order to confront social unrest and political pressures associated with the required actions. Under the circumstances, EEB's weak management could not be expected to accomplish this goal. According to EEB this unrealistic target was proposed by the Bank and accepted with reluctance by the Colombian negotiating team.

14. **Physical Objectives.** Early in 1989 it became apparent that the physical objectives of the Project could not be achieved within the agreed time-frame, because of delays in the contracting processes due mainly to the lengthy and cumbersome contract-processing procedures to which EEB is subject by Colombia's and Bogotá's legislation, as well as the difficulties in making them compatible with the Bank's procurement guidelines. The project's achievements are summarized in the following table:

Comparison of Planned and Achieved Physical Objectives			
		Planned	Installed
(a)	Subtransmission		
	230/115kV substations	1100MVA	930MVA
	230kV, 115kV Lines	85km	23km
(b)	Primary Distribution		
	115/11.4kV substations	350MVA	438MVA
	New lines	750km	485km
	Line improvements	1600km	304km
(c)	Secondary Distribution		
	New lines	650km	630km
	Line improvements	900km	416km

15. The project's 230kV components, albeit delayed, will be completed with Borrower's resources, together with the 115kV components. The latest project completion date is December 1996, although 88% of the project was completed as of December, 1994. The delays forced a re-evaluation of the project's physical objectives and total investment in the project was reduced from US\$389.6 million at appraisal to US\$220.4 million when it became evident that the implementation milestones would not be achieved.

16. **Extension of Service to Low Income Customers:** in this area the project fully achieved its social objective. Practically all extensions of primary and secondary distribution done with project funds are in the low-income city sections of Bogota. Altogether the socially worthwhile aim of supplying reliable electric service to the poorest areas of the city has been successfully attained through the Project. An estimated 650,000 low income people benefited from the project.

The public lighting objectives were achieved: main thoroughfares were illuminated, and the programmed replacement of incandescent bulbs by mercury vapor ones was executed; lighting controls were installed thereby reducing losses.

17. **Loss Reduction Objectives.** The objectives regarding loss reduction were not achieved. On one hand, they appear to be unrealistic and, on the other, loss indicators which were on the order of 24% in 1987, were only reduced to 22% in 1993 (they were down to 18% in 1992 due principally to the energy rationing that took place and cut off supplies to mainly residential sectors where a large portion of the commercial losses is concentrated). In December 1991 EEB entered into a performance contract with Financiera Energetica Nacional (FEN), which among other indentures required EEB to reduce energy losses to percentages which are higher than those stipulated in the Bank's Loan Agreement. All the same, EEB has not been able to meet these new targets; EEB performance in this regard is summarized in the following table:

Percentage of Energy Losses

	1987	1988	1989	1990	1991	1992	1993
According to:							
Loan Agreement	21.0	18.0	16.0	14.0	13.0	13.0	13.0
Contract with FEN						19.3	18.0
Actually Achieved	24.6	24.8	22.4	22.9	20.1	18.5	22.0

18. Not much confidence can be placed on the achieved figures since a large part of consumption is not metered and computed on the basis of connected loads which are seldom verified. In other words, actual losses could be lower than stated above if legally connected but unmetered consumers consume more energy than EEB's estimates.

19. **Institutional Objectives.** Regarding the institutional objectives of the project, their unrealistic scope given the situation of EEB led to a foreseeable failure regarding their achievement. It should be noted that there have been some improvements in management quality -albeit unrelated to the project- associated with the independence of the Board of Directors (following directives contained in the 1991 Constitution) whose members are no longer subject to the direct influence of the City Council. However, the enterprise continues to lack autonomy vis à vis municipal politics and will therefore continue to depend on the quality of short-lived staff appointments rather than on its strength as a business enterprise. This situation is expected to change with the implementation of the Public Services Law which requires greater autonomy for enterprises engaged in providing energy, water, telephone and natural gas services.

20. **Covenanted Financial Objectives.** These were not achieved either, and have tended to worsen during the last three years:

EEB's Comparative Financial and Operational Performance

	1987	1988	1989	1990	1991	1992	1993
Rate of Return (%):							
As per Loan Agreement	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Actually Achieved	10.5	8.1	8.6	12.0	6.6	6.0	7.7
Self-Financing Ratio (%):							
As per Loan Agreement	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Actually Achieved	27.0	59.0	31.0	26.0	23.0	36.0	16.0
Accounts Receivable as Percent of Sales:							
As per Loan Agreement	17.0	17.0	17.0	17.0	17.0	17.0	17.0
Actually Achieved	38.0	68.0	44.0	36.0	35.0	47.0	43.0
Debt Service Coverage:							
As per Loan Agreement	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Actually Achieved	1.5	1.5	1.0	1.0	1.0	0.6	1.4

21. **Return on Investment:** The SAR evaluated the return on investment as the discount rate equalizing the present values of the stream of benefits and costs associated with EEB's 1985-90 development program of which the Project is a part and cannot be reasonably segregated. In computing the revised economic rate of return a similar methodology was used. The cost streams comprise the capital cost of the program and the incremental operational and maintenance cost related to the incremental sales of electricity associated with the 1988-93 program which was the time-frame when the Project was developed. As a proxy for benefits, revenues from sales of power were used, derived from incremental sales associated with the program. This exercise was extended for 30 years after end of 1993, which is considered to be the average life-time of EEB's facilities included in the 1987-93 investment program. On this basis the recomputed rate of return is 9% compared to 12% in the SAR. This recomputed rate of return reflects principally the very large costs associated with the construction of the Guavio Hydroelectric Project. It should be pointed out that the recomputed rate of return cannot be compared in a strict sense with the SAR's computed rate of return, since the actual time-frame for EEB's investment program was shifted from 1985-90 to 1987-93 in the later computation.

Implementation Record and Major Factors Affecting Implementation.

22. Delays in project implementation led to the decision to partially cancel the loan. The Bank realized, towards the end of 1991, that EEB was far from achieving the institutional objectives of the Project and decided to suspend loan disbursements arguing non-compliance with several loan covenants (October 25, 1991). In February 1992, at the request of EEB, a Bank mission visited the utility to discuss EEB's proposal to lift the suspension of disbursements. During this mission EEB informed the Bank of actions taken and plans to improve project implementation. Although

the mission acknowledged EEB's progress and improvements, it considered that the current structural problems (i.e. lack of sufficient autonomy) of EEB would not allow a substantial and sustainable improvement in efficiency and, consequently, that continuing the Bank's financial support for the project could not be justified on economic grounds. The mission discussed with EEB the following solution: (i) reduction of the project scope and consequent cancellation of the loan for the amounts related to expansion of the distribution system beyond certain on-going activities approved by the Bank before the suspension of disbursements; and (ii) lifting the suspension of disbursements to finance the loss reduction program, which was economically justified and which would alleviate the power rationing being experienced by the utility, and (iii) financing of interest during construction due in 1992, so as not further worsen EEB's already precarious financial situation. Upon acceptance by EEB of this proposal the Bank decided in March 1992 to lift the loan disbursement suspension.

23. The decision to cancel part of the loan was taken in 1992 when 78% of the project had been completed and when it became evident that its timely implementation was hopeless. As the cancellation was partial, disbursements continued throughout 1993, reaching 88% of the scheduled amount with the last disbursement in January, 1994.

24. **Unrealistic Objectives:** Expectations that EEB could be turned around from a politically-controlled utility into an efficient and fully autonomous public enterprise within the project's time-frame, were clearly unrealistic given the relatively weak leverage the Bank had on Government policies and actions and the unlikelihood that EEB's management would try to push for this objective given its political commitments. Only lately has there been any action by Government and EEB's management along this line. The targets set for the reduction of energy losses were also clearly unrealistic. In this context the Bank certainly was unreasonable in setting unattainable goals.

25. **Procurement Delays:** To a large extent, project implementation was seriously affected by procurement delays caused by the Government approval procedures to which EEB is subjected. This oversight contributed to project delays. Misprocurements caused the cancellation of US\$1.69 million of the loan proceeds. The Project, which was supposed to be completed by June 30, 1991, was only completed towards the end of 1994 even in its reduced scope.

26. **Project Management Unit:** Experience throughout the Bank's operations has shown that successful implementation of projects requires a dedicated Project Management Unit, with full authority to coordinate the tasks of all the Borrower's resources involved in the Project. Before effectiveness, an administrative unit in charge of this task, with powers and responsibilities satisfactory to the Bank, was required by the Loan Agreement (Section 3.03a.); EEB put in place a Project Management Unit with no authority and which barely kept up with the administrative paperwork. Although it was noted that one of the main causes for delays in the first Distribution Project (Loan 1807-CO) had been the lack of coordination between EEB's units, the Bank accepted the setting up of a project management unit without sufficient authority to perform its task in a satisfactory manner.

27. **Lack of Stable Management Policies:** Undoubtedly the main factor directly affecting the Project's implementation and EEB's overall performance has been the lack of continuity in management policies. This in turn has been caused by the rapid turn-over in EEB's top management both at the Chief Executive and department levels.

28. **Macroeconomic Policies:** Implementation of EEB's investment program was affected by changing Government public investment targets set up by DNP (Departamento Nacional de Planeación) which required EEB to revise its investment budgets according to instructions issued by Government.

Project Sustainability

29. The power sector has been hampered by an unrealistic tariff level which has led to massive subsidization. This problem impacted on EEB during the last decade and only recently have measures been taken to adjust tariffs to the level of electricity costs. These measures should allow the enterprise to be strengthened financially, therefore generating funds to maintain the physical components of the project (the latter should provide service during their lifetime, as their maintenance requirements are relatively modest). This covers both investments in network elements and those oriented towards the reduction of technical losses (e.g. line rehabilitation). The component of the project oriented towards the reduction of commercial losses and theft is principally a management function which requires continued attention; given the institutional situation of EEB, the sustainability of this component appears unlikely, at least before the full implementation of the Public Services Law and the Electricity Law which will incorporate commercial incentives within the enterprise.

Bank Performance

30. Although the Bank's decision to support the Project was based on optimistic assessments as to the degree of reform that could be achieved in EEB during the Project's implementation, it is also true that the Bank played a constructive role in assisting EEB to carry out the Project. Throughout the supervision mission reports the Bank's preoccupation with the strengthening of EEB can be detected. The Bank's efforts are finally paying out in the current strengthening program of EEB. Bank's participation in the Project was fully consistent with the policy of the Government to undertake major infrastructure improvements, particularly in the power sector, within a framework of achieving efficiency in the performance of the utilities in charge of operating the facilities. Nevertheless, the setbacks that arose during project implementation, particularly in meeting the loan covenants, should have been foreseen by the Bank given EEB's track record during implementation of the first Distribution Project.

31. The delays associated with the project could have been avoided by agreeing with both the municipality and the Government on a streamlined procurement procedure. The Bank neglected to take into account this factor at the assessment stage. Furthermore, project supervision concentrated on the physical objectives of the project, rather than the institutional ones. The Bank also neglected to pressure EEB for setting up a project implementation unit to carry out the project on time, despite having recognized that this element was a major factor in the delays experienced during the implementation of the EEB First Distribution Project.

32. However, regarding the overall institutional problem in the power sector, the Bank recognized the issue and took steps to support the Government in the process of power sector institutional reform since 1991. The Bank has helped to shape and to define a new vision for the energy sector by: (a) supporting analyses of the sector's problems and identifying the issues; (b) exploring the options for addressing them; (c) fostering constructive debate concerning past conceptual and systemic deficiencies attributable to inadequate institutions; (d) designing a reform program starting with the power subsector; and (e) by supporting the implementation of this program.

33. The Bank's role regarding the electric power sector was formulated in detail in a 1993 Policy Paper⁴ which provides guiding principles for Bank support of power sector restructuring programs. The recommendations consist of: (a) transparent regulation requiring countries to separate their government's role as operator and owner of utilities from its policy formulation role, through independent regulatory bodies; (b) importation of services which the Bank would assist in financing for improving efficiency; (c) commercialization and corporatization whereby the Bank will aggressively support power sector strategies designed to reorganize the operation of utilities as commercial concerns; (d) commitment lending focused on countries clearly engaged in improving sector performance in line with the preceding principles; and (e) encouraging private sector investment.

34. In Colombia, the Bank has implemented this policy by promoting institutional reform in the Power Sector; and by continuing this support through two complementary approaches: (a) technical assistance oriented towards institutional strengthening and (b) support for specific projects and investments which will promote the effective operation of the proposed institutions. Technical assistance is being provided through the Energy Sector Technical Assistance Project approved by the Board in December 1994. The Power Market Development Project, an operation to be submitted to the Board in the second semester of 1995, will support the development of infrastructure for a competitive bulk-supply market.

Borrower Performance

35. EEB's performance regarding the project was unsatisfactory: upper management did not support it in regard to finding solutions to the implementation obstacles that were encountered and did not structure an adequate Implementation Unit. The Borrower was hampered by the lack of continuity in management policy which inevitably impacted on the project. Although the physical aspects of the Project were well designed, the preparation for its implementation were generally sketchy. This resulted in delays and finally in a sharp reduction in project scope. Altogether EEB's performance during project implementation can be considered poor and this is reflected in the low rating given it in all the supervision mission reports. A specially negative aspect of project implementation has been the inability of EEB to deal with the major management issue of non-technical losses.

⁴ The World Bank's Role in the Electric Power Sector , The World Bank, 1993

Assessment of Outcome

36. Despite implementation delays, those physical elements of the project which were undertaken were put in place and are operating to satisfaction. The institution building component of the project was not successful and the loss reduction programs were ineffective. Despite these setbacks, over 95% of the project's investments are providing service and have served their primary purpose of reinforcing EEB's distribution network.

Key Lessons Learned

37. The main lessons learned from the Bogotá Distribution II Project are:

- At the project preparation stage a realistic appraisal of the institutional framework of the Borrower and the sector should be undertaken; in particular, institution-building components should be included in a project only if there is a sector-wide institutional framework in place thereby ensuring that they have a reasonable chance of being implemented (as opposed to paying lip service to Bank guidelines by setting unrealistic objectives);
- A commitment to project implementation should be assured prior to project execution, both on the part of the Government and the Borrower; this commitment should translate into putting in place a project execution unit endowed with sufficient power to obtain executive decisions necessary for successful implementation; and
- A realistic evaluation of procurement procedures at the preparation stage should be followed at the negotiations stage with an explicit agreement to by-pass local procedures (e.g. import licenses and municipal contracting codes) that may delay the implementation and a commitment to follow Bank contracting guidelines (In 1987 the Bank made an attempt that has partially overcome these discrepancies by negotiating with the Government the use of model bidding documents. However, this arrangement was only put in effect after the signature of this loan. The Bank is currently preparing a Country Procurement Assessment Report for Colombia that will serve as a guide for future operations).

PART II. PROJECT REVIEW FROM BORROWER'S PERSPECTIVE⁵

EMPRESA DE ENERGIA DE BOGOTA BOGOTA POWER DISTRIBUTION II PROJECT LOAN 2634-CO IMPLEMENTATION COMPLETION REPORT

A. Executive Summary

1. Objectives

- The main objectives of the Project were to expand EEB's urban subtransmission and distribution capacities to meet demand up until 1993, reduce energy losses and thereby improve the Empresa's economic and financial situation, and improve the effectiveness and efficiency of its operations.

2. Principal Aspects of the Project: We give below the principal aspects that are either related to the project or else affected it in some way during implementation.

- The project was submitted to the World Bank in 1984. It followed on from the first Bogotá Power Distribution Project, Loan 1807-CO, and was implemented over the period 1987-1993.
- IBRD loan 2634-CO for US\$171.0 million was approved by the Bank in December 1986; following negotiations in Bogotá in May 1987 it became effective in September of that year.
- The total project cost, originally estimated in the Appraisal Report at US\$389.6 million (US\$189.6 million in foreign exchange and US\$200.0 million equivalent in local currency) was revised twice. The final cost of the completed project was US\$220.53 million (US\$131.1 million in foreign exchange and US\$89.43 million equivalent in local currency).
- On October 25, 1991 the Bank temporarily suspended disbursements because EEB was not complying with its financial or commercial commitments under the Loan Agreement or meeting its energy loss targets.
- At the end of 1990, the Bank canceled US\$1.69 million of loan amount because EEB had awarded a contract without fully observing the Bank's procurement guidelines.
- In February 1992, EEB followed the Bank's recommendation and requested cancellation of US\$38.2 million of loan amount because it could not feasibly be used by the original project completion date of December 31, 1992.

⁵ Full ICR from Borrower available in LAC Files

- This brought the final loan amount to US\$131,109,841.00.
- The final loan disbursement figure, including financial charges up to November 1992 (US\$19,517,508.80) and disbursements authorized by the Bank up to January 1994, was US\$114,431,899.33.
- Colombia imposed an energy rationing program between March 2, 1992 and April 2, 1993, affecting up to 25% of overall energy demand, to cope with the decrease in water resources caused by the climatic disturbances experienced throughout the country.
- The five generating units for the El Guavio Hydroelectric Project were completed and placed in operation between December 1992 and July 1993; this contributed decisively to the termination of the rationing program.

3. **Achievements:** The project's achievements may be summarized as follows:

- Execution of the planned works in the areas of subtransmission, transformer and distribution capacity, and procurement and installation of ancillary equipment and materials, thereby assuring a ready supply of energy to handle increased demand.
- Expansion of service coverage and remodeling of distribution networks within an extensive area inhabited by low-income groups (1 and 2 especially); this made a very important contribution toward improving their socioeconomic situation.
- Energy losses were reduced from 25.7% in 1987 to 18.5% in 1992, but rose back up to 22% in December 1993; however, the percentage was affected by the rationing program because it was calculated for a full year. There are now signs that, thanks to the actions taken, it is regaining its downward momentum, and it is to be hoped that this trend will continue.
- EEB was restructured in accordance with the recommendations of the institutional study carried out under the Project. It has switched over from an operations-based administrative organization to a process-based system in which the various work areas are organized to reflect the ultimate objectives of the different processes, their goals and responsibilities now being more clearly defined.
- In December 1991, a performance contract was signed with Financiera Energética Nacional (FEN), under which EEB, supported by the district and central governments, agreed to take immediate steps toward making the necessary structural changes and to set and achieve targets for improving its business performance and hence its financial results. FEN, for its part, will provide the financial support needed by EEB to improve its debt service capacity, and is virtually guaranteeing the funds required for completion of the El Guavio Hydroelectric Project.

- Under Decree #1421 of 1993, establishing the Organic Statute of the Capital District [Estatuto Orgánico del Distrito Capital], the composition of the Board of Directors was amended, and EEB was granted administrative and budgetary autonomy, while now being designated a State industrial and commercial enterprise [empresa industrial y comercial del Estado].
- The Electricity Law and Residential Public Services Law were finally enacted in 1994, ratifying EEB's autonomy and its status as a State industrial and commercial enterprise.
- Law #80 was enacted in October 1993, establishing the General Government Procurement Statute [Estatuto General de Contratación de la Administración Pública], which considerably simplifies contracting procedures and revokes the rules formerly governing EEB (Decree #222 and the District Tax Code).
- It is also pointed out that during the project execution period substantial changes were made to the institutional structure of Colombia's electricity sector, basically through the introduction of competency criteria for service delivery and private sector participation. Sector planning will now come under the Ministry of Mines and Energy.
- In 1990 the corporation changed its name to Empresa de Energía de Bogotá, with a view to extending its field of action to other energy sources. Acting along these lines, it decided to take out a 40% participation in Compañía de Gas Natural S.A., with a view to ensuring orderly management of the use of natural gas, a fuel that partially replaces the electricity used by certain population groups for cooking and heating water.
- The economic analysis gives an annual rate of return of 8.9%, measured in constant dollars. Although this rate of return is lower than the appraisal estimate, it cannot be called low, since present financial market conditions are not the same as when the appraisal was carried out. At that time the return on public capital in Colombia was calculated at 12%, whereas it is currently estimated as being no higher than 10%.

4. **Difficulties:** Project implementation was affected by the following difficulties:

- At the very outset, the loss targets set were overly optimistic, virtually impossible to achieve with EEB's available resources and within the agreed time frame.
- The investment ceilings set by the Government.
- The priority assigned to completion of the El Guavio Hydroelectric Project; combined with the fixed investment ceiling, this restricted resource availability for the present Project.
- Lack of real and effective project management with sufficient autonomy and authority to carry out the Project.

- Frequent changes in the management, organization and staff of the various areas.
- Conflicts between the Bank's procurement guidelines and Colombian contracting legislation.

5. **Works in progress**

- Work is progressing on the substations and lines that were not completed within the project execution period, and the study of planning and operation of the subtransmission system is nearing completion.
- To ensure the program's continuity, and in response to the requirements imposed by the new free market regulations, the present Government has introduced a Business Strengthening Plan, focusing mainly on a strengthening of the electricity system and of customer service.
- The purpose of these plans is to reduce vulnerability, ensure reliable, high-quality, stable, continuous and efficient service delivery, and promote optimum customer relations.

PART III. STATISTICAL ANNEXES

Table 1: Summary of Assessment

Achievement of objectives	Substantial	Partial	Negligible	Not Applicable
Macroeconomic policies				X
Sector policies		X		
Institutional development		X		
Physical objectives		X		
Poverty reduction				X
Gender concerns				X
Other social objectives	X			
Public sector management		X		
Private sector development				X
Other				X
Project Sustainability	Likely	Unlikely	Uncertain	
	X			
Bank Performance	Highly Satisfactory	Satisfactory	Deficient	
Identification		X		
Preparation assistance			X	
Appraisal			X	
Supervision		X		
Borrower Performance				
Preparation		X		
Implementation			X	
Covenant compliance			X	
Operation			X	
Assessment of Outcome	Highly Satisfactory	Satisfactory	Unsatisfactory	Highly Unsatisfactory
			X	

Table 2: Related Bank Loans

Loan Title	Purpose	Year of Approval	Status
Preceding Operations			
575-CO	National Interconnection	1968	Completed
681-CO	Chivor Hydro	1970	Completed
1582-CO	San Carlos Hydro	1978	Completed
1583-CO	500 kV Interconnection to Northern Coast	1978	Completed
1628-CO	Mesitas Hydro	1978	Completed
1725-CO	San Carlos II Hydro	1979	Completed
1807-CO	Bogotá Distribution I	1980	Completed
2008-CO	Guavio Hydro	1981	Completed
2401-CO	Energy Financing Corporation	1984	Completed
2889-CO	Electric Sector Adjustment	1987	Completed
Following Operations			
3278-CO	Public Sector Reform	1990	Ongoing

Table 3: Project Timetable

Steps in Project Cycle	Date Planned	Latest Estimate
Identification	1984	1984
Preparation	1984	1984
Appraisal	11/84	11/84
Negotiations	05/85	10/85
Board Presentation	06/85	11/85
Signing	12/85	12/86
Effectiveness	03/86	09/87
Project Completion	06/91	12/96
Loan Closing	12/92	12/93

Note: The Project was substantially completed on 12/94

Table 4: Loan Disbursements: Cumulative Estimated and Actual

(in US\$Million)

Bank FY	86	87	88	89	90	91	92	93	94
Appraisal Estimate ¹	15.9	40.2	66.9	93.0	114.7	130.0	-	-	
Actual	--	-	3.7	29.6	63.6	77.9	101.4	108.9	114.3
Actual % of estimate		0	6	32	55	60	78	84	88
Date of Final Disbursement				January 10, 1994					

Table 5: Key Indicators for Project Implementation

EEB's Comparative Financial and Operational Performances

	1987	1988	1989	1990	1991	1992	1993
Rate of Return (%):							
As per Loan Agreement	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Actually Achieved	10.5	8.1	8.6	12.0	6.6	6.0	7.7
Self-Financing Ratio (%):							
As per Loan Agreement	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Actually Achieved	27.0	59.0	31.0	26.0	23.0	36.0	16.0
Account Receivables as Percent of Sales:							
As per Loan Agreement	17.0	17.0	17.0	17.0	17.0	17.0	17.0
Actually Achieved	38.0	68.0	44.0	36.0	35.0	47.0	43.0
Debt Service Coverage:							
As per Loan Agreement	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Actually Achieved	1.5	1.5	1.0	1.0	1.0	0.6	1.4

¹Loan amount was for US\$171 million, US\$41.0 million was from interest during construction.

Percentage of Energy Losses

	1987	1988	1989	1990	1991	1992	1993
According to:							
Loan Agreement	21.0	18.0	16.0	14.0	13.0	13.0	13.0
Contract with FEN						19.3	18.0
Actually Achieved	24.6	24.8	22.4	22.9	20.1	18.5	22.0

Table 6: Key Indicators for Project Operation

(Same as above)

Table 7: Studies Included in Project

Study	Purpose as defined at appraisal/redefined	Status	Impact of Study
Illegal Consumers	Location of Illegal Consumers	Completed	Satisfactory
Reliability and Losses	Distribution System Reliability and Losses Evaluation	Completed	Satisfactory
Planning and Operation	Reliability of Subtransmission System and its Planning	Completed	Satisfactory
Computer Aided Planning of Distribution	Planning of Distribution	Completed	Satisfactory
Control Center Supervision	Supervision during Implementation of Control Center	Completed	Satisfactory
Distribution System Mapping	Overall Mapping of Distribution	Completed	Satisfactory
Institutional Study	EEB's Organizational Structure	Completed	Satisfactory

Table 8A: Comparative Project Costs

(in US\$ Million)

	Appraisal Estimate			Actual		
	Local	Foreign	Total	Local	Foreign	Total
Subtransmission	5.9	12.5	18.4	14.0	17.3	31.3
Distribution	141.2	80.3	221.5	52.3	52.3	104.6
Maintenance Equipment and Lab.	0.3	15.1	15.4	1.9	7.2	9.1
Training		2.0	2.0	1.0	2.8	3.8
Studies	0.8		0.8	4.0	2.0	6.0
Losses Reduction	1.0	1.0	2.0	10.7	20.0	30.7
engineering and Administration	13.0		13.0	3.3		3.3
Total Base - Line Cost	162.2	110.9	273.1	87.2	101.6	188.8
Physical Contingencies	16.2	11.1	27.3	2.2	3.4	5.6
Price Contingencies	21.6	26.6	48.2			0.0
Total Project Cost	200.0	348.6	348.6	89.4	105.0	194.4
Interest during construction		41.0	41.0		26.0	26.0
Total Cost After IDC	200.0	189.6	389.6	89.4	131.0	220.4

Table 8B: Project Financing

(in US\$ Million)

Source	Appraisal Estimate			Actual		
	Local	Foreign	Total	Local	Foreign	Total
IBDR Loan		130.0	130.0		114.4	114.4
Supplies Credit		18.6	18.6			0.0
EEB	200.0		200.0	89.4	16.6	106.0
Total Financing	200.0	148.6	348.6	89.4	131.0	220.4

Table 9: Economic Costs and Benefits

**Flow of Funds for the Program
(in tconstant 1984 USS'000)**

Years	Costs				Benefits			Net Flow
	Invest-ments	Function	Purchase of Energy	Total	Sales of Energy	Others Oper	Total	
1987	161,932	0	0	161,932				(161,932)
1988	137,704	12,075	17,134	166,913	15,033	50,707	65,740	(101,173)
1989	143,657	10,524	23,457	177,637	35,374	22,151	57,525	(120,113)
1990	192,062	15,230	28,619	235,911	41,841	20,172	62,019	(173,892)
1991	153,989	37,384	33,741	225,114	55,765	113,041	168,806	(56,309)
1992	110,365	28,453	89,631	228,449	39,966	13,306	53,272	(175,177)
1993	70,695	39,309	478	110,482	86,218	101,968	188,186	77,704
1994		59,976	(2,844)	57,131	140,968	8,384	149,352	92,221
1995		59,976	(2,844)	57,131	153,490		153,490	96,359
1996		59,976	(2,844)	57,131	153,490		153,490	96,359
1997		59,976	(2,844)	57,131	153,490		153,490	96,359
1998		59,976	(2,844)	57,131	153,490		153,490	96,359
1999		59,976	(2,844)	57,131	153,490		153,490	96,359
2000		59,976	(2,844)	57,131	153,490		153,490	96,359
2001		59,976	(2,844)	57,131	153,490		153,490	96,359
2002		59,976	(2,844)	57,131	153,490		153,490	96,359
2003		59,976	(2,844)	57,131	153,490		153,490	96,359
2004		59,976	(2,844)	57,131	153,490		153,490	96,359
2005		59,976	(2,844)	57,131	153,490		153,490	96,359
2006		59,976	(2,844)	57,131	153,490		153,490	96,359
2007		59,976	(2,844)	57,131	153,490		153,490	96,359
2008		59,976	(2,844)	57,131	153,490		153,490	96,359
2009		59,976	(2,844)	57,131	153,490		153,490	96,359
2010		59,976	(2,844)	57,131	153,490		153,490	96,359
2011		59,976	(2,844)	57,131	153,490		153,490	96,359
2012		59,976	(2,844)	57,131	153,490		153,490	96,359
2013		59,976	(2,844)	57,131	153,490		153,490	96,359
2014		59,976	(2,844)	57,131	153,490		153,490	96,359
2015		59,976	(2,844)	57,131	153,490		153,490	96,359
2016		59,976	(2,844)	57,131	153,490		153,490	96,359
2017		59,976	(2,844)	57,131	153,490		153,490	96,359
2018		59,976	(2,844)	57,131	153,490		153,490	96,359
2019		59,976	(2,844)	57,131	153,490		153,490	96,359
2020		59,976	(2,844)	57,131	153,490		153,490	96,359
2021		59,976	(2,844)	57,131	153,490		153,490	96,359
2022		59,976	(2,844)	57,131	153,490		153,490	96,359
2023		59,976	(2,844)	57,131	153,490		153,490	96,359
Total	970,404	1,942,243	107,733	3,020,381	4,866,383	329,730	5,196,112	2,175,731
VP 84	694,319	377,865	109,363	1,181,547	905,677	206,264	1,111,942	(69,606)
10.00 %		B/C		0.94	TIR			8.9%
			B/C					
	Rates of discount	3.00%	1.43					
		6.00%	1.18					
		9.00%	0.99					
		12.00%	0.85					

Table 10: Status of Legal Covenants

**Empresa De Energia De Bogota
Compliance With The Contractual Agreements
Loan 2634-CO**

Agreement	Section	Covenant type	Present status	Original fulfillment date	Revised fulfillment date	Description of covenant	Comments
2634-CO	3.03	5	C	Jan. 1987	---	Establish, and thereafter maintain: (i) a project coordination unit, and (ii) a unit for purposes of planning and implementing Part F of the Project in respect of the energy losses.	
2634-CO	3.04	5	NC	Dec. 1990	---	Take all measures as shall be required to reduce the losses occurring in its distribution systems so that such losses in respect of its total energy generation shall not exceed 14% in 1990; 13% in fiscal year 1991, 13% in 1992 and in the fiscal years thereafter.	
2634-CO	4.01	13		Jan. 1987		Carry on its operations and conduct its affairs in accordance with sound administrative, financial engineering and public utility practices under the supervision of qualified and experienced management assisted by competent staff in adequate numbers.	Partially
2634-CO	5.02	2	NC	Dec. 1987		Produce, for each of its fiscal year, after its fiscal year ending on December 31, 1986, funds from internal sources equivalent to not less than 35% of the annual average of the Borrower's capital expenditures, incurred for that year, the previous fiscal year and the next fiscal year.	
2634-CO	5.04	2	NC	Dec. 1987		Reduce its accounts receivable for electricity sales so that such accounts receivable, as a percentage of Borrower's total electricity sale for each such fiscal year, shall not exceed seventeen percent (17%) in fiscal year 1987; and at all times thereafter, maintain such accounts receivable at a level not exceeding seventeen percent (17%) of its total electricity sales. Earn, for each of its fiscal year, an annual return of not less than 12% of the average current net value of the Borrower's fixed assets in operation	

Agreement	Section	Covenant type	Present status	Original fulfillment date	Revised fulfillment date	Description of covenant	Comments
2634-CO	5.06	2	NC	Jan. 1987		Not incur any debt unless a reasonable forecast of the revenues and expenditures of the Borrower shows that the estimated net revenues of the Borrower for each fiscal year during the term of the debt to be incurred shall be at least 1.5 times the estimated debt services requirements of the Borrower in such year on all debt of the Borrower including the debt to be incurred.	
2634-CO	5.08	2	NC	Dec. 1987		Make its best efforts to pay not later than December 31, 1987 and in accordance with a schedule satisfactory to the Bank, all outstanding amounts (including any arrears) owed by it to Interconexión Electrica S.A. and to its contractors and pay all such amounts not later than December 31, 1988.	

Covenant types:

- 1 = Accounts/ Audits
- 2 = Financial performance/revenue generation from beneficiaries
- 3 = Flow and utilization of project funds
- 4 = Counterpart Funding
- 5 = Management aspects of the project or executing agency
- 6 = Environmental Covenants
- 7 = Involuntary resettlement
- 8 = Indigenous people
- 9 = Monitoring, review, and reporting
- 10 = Project implementation not covered by categories 1-9
- 11 = Sectoral or cross-sectoral budgetary or other resource allocation
- 12 = Sectoral or cross-sectoral policy/regulatory/institutional action
- 13 = Other

Present status:

- C = covenant complied with
- CD = complied with after delay
- CP = complied with partially
- NC = not complied with

Table 11: Bank Resources; Staff Inputs

Stage of Project Cycle	Planned		Revised		Actual	
	Weeks	US\$	Weeks	US\$	Weeks	US\$
Through Appraisal					53.3	
Appraisal-Board					7.7	
Supervision					99.6	
Completion					4	
Total					164.6	

Table 12: Bank Resources; Missions

Stage of Project Cycle	Month /Year	Number Persons	Days in Field	Specialized Staff Skills Represented	Performance Rating Implementation Status	Types of Problems
LENP	82	1	6	EGR		
LENP	83	1	9	EGR		
LENP	84	1	12	EGR		
LENA	11/84	2	30	EGR-FNA		
SPN	9/87	4	7	EGR-FNA-IAV	1	
SPN	4/88	3	7	EGR-FNA-IAV	2	P.Mg.-Av. Fund
SPN	10/88	3	12	EGR-FNA-IAV	2	P.Mg.-Av.Fund
SPN	4/89	2	5	EGR	3	L.Conv-P.Mg.-Av.Fund
SPN	6/90	2	18	EGR-FNA	3	L.Conv-P.Mg.-Av.Fund
SPN	7/91	3	10	EGR-ES-CONS	3	L.Conv-P.Mg.-Av.Fund
SPN	2/92	2	11	ES-EGR	4	L.Conv-P.Mg.-Av.Fund- P.Dev.Objectives
COM	8/94	1	20	EGR	2	L.Cov

IMAGING

Report No: 14627
Type: ICR