

DOCUMENT OF **THE** INTER-AMERICAN DEVELOPMENT BANK

REGIONAL

**CENTRAL AMERICAN ELECTRIC INTERCONNECTION SYSTEM
(SIEPAC)**

**(CA-0035)
(1001/OC-RG AND SQ-2)**

REPORT FOR REFORMULATION OF THE FINANCING PLAN

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BASIC SOCIOECONOMIC DATA

The basic socioeconomic data for Regional are available on the Internet at the following address:

English:

<http://www.iadb.org/int/sta/english/staweb/>

Spanish:

<http://www.iadb.org/int/sta/spanish/staweb/>

ABBREVIATIONS

CEAC	Consejo de Electrificación de America Central [Central American Electrification Council]
CRCT	Centro regional de coordinación y transacciones [Regional coordination and transactions center]
CRİE	Comisión Regional de Interconexion ElCctrica [Regional electric interconnection commission]
EIB	European Investment Bank
EOR	Ente Operador Regional [Regional operator]
EPL	Empresa Propietaria de la Linea [Line Proprietor]
EPR	Empresa Propietaria de la Red [Grid Proprietor]
REM	Regional electricity market
SC	Supervisory Committee
SIEPAC	Sistema de Interconexion ElCctrica de los Paises de América Central [Central American Electric Interconnection System]
SQ	Spanish Quincentennial Fund

CENTRAL AMERICAN ELECTRIC INTERCONNECTION SYSTEM (SIEPAC)

(CA-0035)

EXECUTIVE SUMMARY

Objective: The purpose is to change the financing plan originally approved by the Bank's Board of Executive Directors, while maintaining the project's objectives and basic design. On 10 March 1997, the Board approved a loan proposal to support the Central American Electric Interconnection System (SIEPAC), which consisted of creating and starting up a wholesale electric power market and developing the first regional grid.

Since it is proposed to change the source of funds for the portion of the loan that goes to Honduras and Nicaragua from the Ordinary Capital (OC) to the Fund for Special Operations (FSO) and to use proceeds from current operations to finance technical-cooperation activities, which in one case requires a change in the objectives of the operation, it is incumbent on the Board of Directors to exercise its authority to approve the proposed changes under policies OA-420 III.C and OA-421 III.B.1.

The objectives and basic design of the SIEPAC project as originally approved will not change. The activities and technical content of the investment project are substantially identical to the those of the original project, **as** established in the loan proposal approved by the Board **of** Executive Directors (Resolution DE-23/97). The only changes are adjustments made on the basis of information now available from the recently-completed preliminary design of the line and the updated cost estimate (financed under ATN/NC-5 171-RG).

Original plan: Under the plan originally approved by the Board on 10 March 1997, the Bank loan was granted directly to the Empresa Propietaria de la Linea (EPL) [Line Proprietor] from the Single Currency Facility **of** the OC. A loan **was also granted to the EPL** from the Spanish Quincentennial Fund. The two loans required sovereign guarantees from the six Central American countries.

In parallel, and **as** an integral part of the original operation presented in documents PR-2189 and PR-2189-1, the Board **of** Executive Directors also **approved a nonreimbursable technical-cooperation**

project for the Consejo de Electrificación de AmCrica Central (CEAC) [Central American Electrification Council] from the net income of the Fund for Special Operations and a technical-cooperation loan from the Single Currency Facility of the Ordinary Capital.

Problems with the original plan:

The loan contracts were not signed and since the date of approval it has only been possible to execute the components in the nonreimbursable technical-cooperation program, for three main reasons: (1) the financing included use of OC resources for Honduras and Nicaragua; (2) two of the contracting countries determined that they are constitutionally prevented from acting as guarantors for a **Bank** loan to a private regional company such as the EPL; and (3) over the period, the countries have been actively reforming their national electric energy sectors, which has called into question some of the project's basic elements, including the advisability of executing it as a regional project with public financing.

Proposed financing plan:

The new financing plan for the investment project replaces the EPL as borrower by the electric power companies of the contracting countries. In turn, the electric companies will transfer the loan proceeds to the EPL to build the line. Each of the loans will have the sovereign guarantee of the respective country (see Table 2.1).

Borrowers:

Infrastructure loan: Instituto Costarricense de Electricidad (Costa Rica); Instituto Nacional de Electrificación (Guatemala); Comisidn Ejecutiva Hidroeléctrica del Río Lempa (El Salvador); Empresa Nacional de Energia ElCctrica (Honduras); Empresa Nicaragüense de Electricidad (Nicaragua); and Empresa de Transmisidn ElCctrica, S.A. (Panama).

Technical-cooperation loan: Consejo de Electrificación de America Central (CEAC) and Instituto Nacional de Electrificación (INDE) of Guatemala (and, indirectly, by diverting funds from other loans and technical-cooperation projects under way, the other borrowers of the infrastructure loan named above).

Guarantors:

The six Central American countries for the loans to their national electric power companies.

Executing agencies:

For the infrastructure loan: Empresa Propietaria de la Linea (EPL).

For the technical-cooperation program: Consejo de Electrificación de América Central (CEAC)

Financial terms and conditions:**Ordinary Capital: (US\$120 million)**

Amortization period:	25 years
Disbursement period:	5 years
Interest rate:	variable
Inspection and supervision:	1%
Credit fee:	0.75%
Currency:	U.S. dollar, Single Currency Facility

Fund for Special Operations: (US\$50 million)

Amortization period:	40 years
Disbursement period:	5 years
Interest rate:	1% for ten years, 2% thereafter
Inspection and supervision:	1%
Credit fee:	0.50%

Spanish Quincentennial Fund: (US\$70 million)¹

Amortization period:	35 years
Disbursement period:	5 years
Interest rate:	variable
Inspection and supervision:	0%
Credit fee:	0%
Currency:	Euro

Contractual conditions:

Reformulation of the sources of financing includes updating the contractual clauses of the loans (see section IV), based on electricity market development in the region (see Annex I) and the progress made in project execution (see Annex 11).

The special contractual clauses (chapter IV) have been updated to take account of developments in national electricity markets and regional power exchanges and the progress made in executing the project, particularly with respect to the technical recommendations for general market design. Considerable progress has been made in complying with these contractual conditions, which are intended to respond to the concerns shared by the Bank and the countries with respect to protecting the integrity of the investments.

¹ Contribution in Euros. Equivalent in dollars.

Critical path: Approval of reformulation by the Board of Executive Directors will make it possible for the countries: (1) to proceed with timely preparation of the project's environmental and social studies; (2) to begin the preliminary activities for acquiring rights-of-way for the transmission line; and (3) to commit funds to finance the development of the regional institutions and the market regulations.

I. BACKGROUND

- 1.1 The project for the Central American Electrical Interconnection System (SIEPAC) consists of the creation and **start up** of a Central American wholesale electricity market and development of the first regional transmission system. The market will be created in the context of national restructuring efforts in each **of** the countries and will gradually permit any qualified agent to sell or buy electricity, regardless of its geographic location.
- 1.2 To finance construction of the transmission line (hereinafter the 'investment project') and the actions necessary to establish the wholesale energy market, at its meeting on **10** March 1997, the Bank's Board of Executive Directors approved financing of **US\$170.6** million from the Ordinary Capital (OC), Single Currency Facility, and a loan of ECU **60** million (about **US\$70** million at the time of approval) from the Spanish Quincentennial Fund (SQ). The two loans were granted directly to the body **known as** Empresa Propietaria de la Linea (EPL) [line proprietor],¹ with the Republics **of** Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama acting as guarantors.
- 1.3 In parallel, the Board of Executive Directors also approved a non-reimbursable technical-cooperation program for the Consejo de Electrificación de AmCrica Central (CEAC) [Central American Electricity Council] for up to US\$5 million from the net income of the Fund for Special Operations and a technical-cooperation loan for up to US\$9.9 million from the OC, Single Currency Facility. The latter was guaranteed by the governments of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama. Hereafter, the term 'project' refers collectively to the investment project and the technical-cooperation program, unless otherwise mentioned.
- 1.4 Earlier technical-cooperation operations (ATN/SF-5 **171**-RG and ATN/SF-5502-RG) went a long way towards resolving technical constraints and making the project a viable alternative. Although only **60%** of the first operation has been disbursed, the funding has been employed to draft a preliminary design of the SIEPAC line which was used to determine more accurately the technical specifications and the costs. The resources were used to finance the advance medium-term electrical studies to simulate the electrical behavior of the REM. This study has not yet been approved by either the region or the **Bank**, but should be completed shortly. With respect to the second operation, only **26%** of the funding **has** been disbursed. However, the **funds** have been used to prepare a general market design on the basis of which the technical-cooperation program is being reformulated since it has made it possible to identify the consultants that would be

¹ Originally it was called Empresa Propietaria de la Red (EPR) [grid proprietor] but later was more appropriately called Empresa Propietaria de la Linea (EPL).

needed for the detailed design of the regional electricity market (REM), its terms of reference, and its costs.

- 1.5 Despite the importance and priority that the Central American governments have accorded to this project, only the components financed from the non-reimbursable technical cooperation have been executed since the operations were approved. There are three main reasons why: (1) the financing included use of OC resources for Honduras and Nicaragua; (2) two of the contracting countries are constitutionally prevented from acting as guarantors for a *Bank* loan to a private regional company such as the EPL; and (3) over the period, the countries have been involved in an active process of reform of their national electric energy sectors, which called into question some of the project's basic elements, including the advisability of executing it **as** a regional project with public financing.
- 1.6 After intensive analysis and discussion, the directors of the SIEPAC project and the *Bank's* technical teams have agreed unanimously on the need to maintain the project **as** a regional one and to execute it with public financing. The main reasons behind their decision were largely that a private **party** would have the incentive and be interested in carrying out a project of this nature. Some of these reasons are: (1) the complementarity of the investments to be undertaken in each of the countries which, in the absence **of** a regional project, the individual countries would not have the incentive to carry out; (2) the imbalances between the returns and risks involved in electric power transmission, which are not conducive to private investment in a regulated activity with an open market where vertical integration is not permitted; and (3) the strategic importance of electric power transmission in creating incentives and disincentives for investments in generating and distribution.
- 1.7 Transmission is a natural monopoly and, **as** such, plays a determining role in the nature of the generating and distribution markets. The market imperfections and externalities that mark this activity mean that, in general, market signals do not permit needs for efficient expansion of capacity to be reflected in adequate returns that would mobilize the necessary investments.
- 1.8 As in other experiences in the hemisphere, with the exception of dedicated lines, it is not reasonable to expect private investors to be interested in participating in this segment of the market under the present conditions and with the market development objectives proposed for the SIEPAC line.

11. OBJECTIVE OF THE REFORMULATION

2.1 It is proposed that the sources of financing approved by the Board of Executive Directors be modified, while maintaining the objectives and basic design of the project. Reformulation of the OC and SQ loans for the investment project and the technical-cooperation loan from the OC makes it necessary to update the contractual conditions (see Section IV and Annex 11), based on progress in the components financed under the nonreimbursable technical-cooperation (see Annex 11) and the changes brought about by the modernization of the institutions and the structure of electric energy markets in Central America (see Annex I).

A. Investment project

2.2 The loan of US\$170.6 million (OC) to the Empresa Propietaria de la Linea (EPL) will be replaced by six separate loans, one to each of the countries that **are** partners in the EPL, four of them from the *OC* and two from the FSO. The loan of ECU 60 million (approximately US\$70 million on date of approval) from the Spanish Quincentennial Fund (SQ) will be replaced by six separate loans from the Fund to each of the partner six EPL countries also chargeable to the SQ.

2.3 Two of the six loans that will replace the OC loan to the EPL will be new loans to Honduras and Nicaragua of US\$25 million each from the FSO, and the other four, for US\$30 million each, will come from the Single Currency Facility of the OC. The OC loans will go to Costa Rica, El Salvador, Guatemala and Panama.

Table 2.1. Investment project financing
(US\$ millions)

Country		Counterpart funding		Source of financing		
		Equity	ENDESA	SQ	FSO	OC
Costa Rica	45.8	5.8		10.0		30.0
El Salvador	45.8	5.8		10.0		30.0
Guatemala	45.8	5.8		10.0		30.0
Panama	45.8	5.8		10.0		30.0
Honduras	45.8	5.8		15.0	25.0	
Nicaragua	45.8	5.8		15.0	25.0	
ENDESA	45.8		45.8			
TOTAL	320.3	34.5	45.8	70.0	50.0	120.0

- 2.4 This documents proposes the following to the Board of Executive Directors with respect to the investment project:
- a. To cancel the US\$170.6 million from the OC loan to the EPL approved by the Board of Executive Directors pursuant to Resolution DE-23/97 of 10 March 1997.
 - b. To approve the attached proposed resolutions for six new loans to each of the ~~six~~ public electric utilities that are partners in EPL, with guarantees from each of their governments. The loans to Costa Rica, El Salvador, Guatemala and Panama will be for US\$30 million each, from the Single Currency Facility of the OC. The loans to Honduras and Nicaragua will be for US\$25 million equivalent each, from the FSO. The funds will be transferred by the public utilities to the EPL, under terms agreed upon in advance with the Bank, ~~as~~ part of project financing and the EPL will pay the entire cost of service on debts contracted by electrical utility companies with the Bank.
 - c. To approve replacing the EPL as borrower of the *SQ* loan authorized by the Board under Resolution DE-25/97 of 10 March 1997 with the six public utilities that are partners in the company. Individual contracts for those funds would need to be authorized. The electric utilities of Costa, Rica, El Salvador, Guatemala and Panama will each sign contracts in an amount equivalent to approximately US\$10 million and the electric utilities of Honduras and Nicaragua will each sign contracts in an amount equivalent to approximately US\$15 million. Each of the six loans will be guaranteed by the respective governments. The funds will be transferred by the companies to the EPL ~~as~~ part of project financing, the countries will continue to have all of their obligations with the Bank, and the EPL will pay the entire cost of service on debts incurred by electrical utility companies with the Bank.
 - d. To approve updating the special contractual conditions on the basis of Section IV and Annex III, to take account of developments in the national electricity markets and regional power exchanges and the progress made in executing the project, particularly with respect to the technical recommendations for general market design.
 - e. To approve a term of five years for disbursement of the investment loans, counted from the date on which all the contracts for execution of the project have entered into force. All of the loan contracts for the investment project will be formally signed within one year after the date on which the present reformulation is approved.
- 2.5 Once construction of the line has been completed, the resources transferred by Honduras and Nicaragua to the EPL will be subject to the terms and conditions applied to resources of the Single Currency Facility of the OC. During project

execution, the lending terms and conditions of the **FSO** will apply to the resources transferred. The financial benefit that Honduras and Nicaragua gain from the transfer will **be** used to set up a Fund in each country for financing rural electrification projects in low-income areas such as the Atlantic coast region. The terms on which the resources will be granted to the countries will be agreed in due course as part of the strategy developed between these countries and the Bank for this purpose. The transfer agreements for loan resources and the contractual terms and conditions of each of the borrowers, the EPL, and CEAC will include the Bank's debt services mechanisms.

- 2.6 Project activities and technical content are substantially the same as the original project established in the loan proposal approved by the Board (Resolution DE-23/97). The only changes are adjustments made on the basis of information now available from the recently-completed preliminary design of the line and the updated cost estimate (ATN/NC-5171-RG).
- 2.7 As planned, in October 2001, the Spanish company ENDESA and the SIEPAC management group began **talks** on ENDESA joining the EPL **as** a shareholding partner.²
- 2.8 ENDESA will provide approximately US\$45.8 million to the EPL, of which US\$5.8 million represent a contribution to EPL's equity and the remaining US\$40 million will be financed with a credit **from** the European Investment Bank (EIB).

B. Reimbursable technical-cooperation funding

- 2.9 The sum of US\$8.25 million from technical-cooperation loan 1002/OC-RG in the amount of US\$9.9 million for the Central American Electrification Council (CEAC) will be replaced with funds available from other operations that the Bank is financing in Costa Rica, El Salvador, Honduras, and Nicaragua and with a new technical-cooperation loan to the Instituto Nacional de Electrificación (INDE) [National Electricity Authority] of Guatemala for up to US\$1.65 million from the OC, which will be guaranteed by that country's government.
- 2.10 As a result, the reimbursable technical-cooperation would be financed with US\$6.6 million from the above reallocations, US\$1.65 million from the new

² Paragraph IV of the letter of understanding signed in Barcelona, Spain, on 16 March 1997, by the representatives of the six countries of Central America and Panama, the Spanish government, the CEAC, and the Bank, establishes that for project financing from the resources of the Quincentennial Fund administered by the **Bank** the Spanish government stipulates that such financing is subject to participation by ENDESA, or any other company that the Spanish government may designate, in the share capital of the Company Owning the Network mentioned in paragraph V.

technical-cooperation loan to INDE in Guatemala and US\$1.65 million from the original loan to CEAC, maintaining the guarantee from the government of Panama.

2.11 With respect to the technical-cooperation loan, this document proposes the following to the Board of Executive Directors:

- a. To cancel US\$8.25 million from the total of US\$9.9 million under technical-cooperation loan **1002/OC-RG**, leaving just US\$1.65 million for the loan to CEAC, which will be backed by Panama as sole guarantor.
- b. To authorize a new technical cooperation loan to INDE, guaranteed by the government of Guatemala, for US\$1.65 million (see the proposed resolution attached to this document). This sum is one sixth of loan **1002/OC-RG**, and Guatemala would have guaranteed it under the original plan. INDE will transfer the proceeds of this new loan to CEAC to execute the reimbursable technical-cooperation project under the plan that was originally approved.
- c. To approve changes in some of the benchmarks for market development established in the project conditionalities and the plan of operations already approved by the Board, to adjust them to current technical-cooperation requirements for project preparation. The changes in benchmarks in Annex A of the technical-cooperation loan agreement do not affect the objectives of the technical-cooperation program and are not exceptions to Bank policies.
- d. To approve the redirection of funds from contracts under way to finance the shares of Honduras and Nicaragua in the technical-cooperation funding, in accordance with the plan presented in paragraph 2.12 (c) below.

2.12 The remaining US\$6.6 million for the technical-cooperation program comes from the reallocation of loans already approved and local counterpart funds. The financing will take the following form:

- a. El Salvador. The Comisidn Ejecutiva HidroelCctrica del Río Lempa (CEL) [Lempa River Hydroelectric Executive Commission] will contribute one sixth of the direct and contingency costs of the technical-cooperation program which, when the financial costs are included, will be up to US\$1.65 million, through the transfer of funds from loan 838/OC-ES. The transfers were made from categories already approved by COF/CES.
- b. Costa Rica. The Instituto Costarricense de Electricidad (ICE) [Costa Rican Electricity Authority] will contribute one sixth of the direct and contingency costs **of** the program which, when the financial costs are included, will be **up to** US\$1.65 million, by redirecting funds from loan 796/OC-CR, which is guaranteed by the country's government. Redirection of loan proceeds has already been approved by Bank Management and the amended contract has been signed and is in effect.

- c. Honduras. The Empresa Nacional de Energia ElCctrica (ENEE) [National Electric Power Company] will contribute one sixth of the direct and contingency costs of the program which, when the financial costs are included, will be up to US\$1.65 million, by redirecting US\$352,709 from **ATN/SF-4737-HO** and US\$125,033 from 936/SF-HO and a direct contribution from the government of US\$1,172,258.

It is recommended that the Board approve redirection of surplus funds from **ATN/SF-4737-HO** and loan 936/SF-HO in the amounts in question. Under Policies OA-420 III.C and OA-421 III.B.1, the Board has the authority to approve modifications that substantially alter the objective of an operation. The objective of loan 936/SF-HO, approved on 7 December 1994, is to support reforms in the country's energy sector by financing high priority investments and consulting services to improve the operating performance of the ENEE. The objective of **ATN/SF-4737-HO**, a parallel technical-cooperation to loan 936/SF-HO, is to support implementation of the reforms included in the loan. Since the use of funds to support the SIEPAC technical-cooperation program is not included among the objectives of the operations in question, it is recommended that the Board authorize reallocation of the amounts under consideration for that purpose.

- d. Nicaragua. The Empresa Nicaragiiense de Electricidad (ENL) [Nicaraguan Electricity Company] will contribute one sixth of the direct and contingency costs of the program which, when the financial costs are included, will be up to US\$1.65 million, by redirecting funds from loan **1017/SF-NI**. The Manager of Regional Operations Department II will be responsible for reorienting these funds.

- 2.13 Apart from the changes in the benchmarks, the technical-cooperation activities and their content are substantially the same as the original project established in the plan of operations approved by the Board. The changes to the plan consist of adjustments in some of the technical activities **as** indicated in this document, which do not change substantively the original objectives.
- 2.14 The funds that each country will contribute to executing the technical-cooperation program will be transferred to the current executing agency—CEAC—which will continue to be responsible for the entire technical-cooperation project. Each country has undertaken to provide any additional funds that may be required for full and uninterrupted execution of the program. The six national electric companies will enter into substantially identical agreements to coordinate financing and execution of the program.
- 2.15 It is recommended that the execution period for the technical-cooperation activities to be funded from the INDE and CEAC technical cooperation loans be three years

and the disbursement period be three and one half years, from the date on which the operation is approved by the Board of Executive Directors.

- 2.16 In addition to the actions presented to the Board for approval in this document, Bank Management will take complementary measures in accordance with policy **OA-420** to complete the new financing plan by redirecting surplus funds from other operations.

C. Legal feasibility

- 2.17** The legal feasibility of the proposed plan has been confirmed in reports issued by the Attorney General or the Legal Advisor of the Ministry **of** Finance in each **of** the participating countries on the validity and binding nature of the obligations to be contracted by the country as guarantor of the loans that the Bank will grant to the national electric companies, whose funds and execution obligations will be transferred to the EPL (or in the case of the reimbursable funds **for** the technical-cooperation project, to **CEAC**) .

III. THE PROJECT

A. Introduction

- 3.1** To achieve its purpose of creating and integrating a regional market, the project has the following specific objectives:
- a. To establish market rules that are common for all transactions between agents in the six countries.
 - b. To create and start up two regional institutions: the Comisión Regional de Interconexión Eléctrica [regional electric interconnection commission] as the regulatory agency and the Ente Operador Regional [regional operating agency] as operator of the system and administrator of regional transactions on the market.
 - c. To construct **1,830 km** of **230 kV** line (the SIEPAC line) that will run from Guatemala to Panama. The line, whose cost has been recently estimated as **US\$320.3 million**, is an indivisible trunk transmission system that interconnects **16** substations, from the Veladero substation in Panama to the El Cajón substation in Honduras, crossing through Costa Rica, Honduras, Nicaragua, El Salvador and Guatemala, with a branch line between the Pavana and Suyapa substations in Honduras.
- 3.2** The bilateral interconnections that now exist between the countries of Central America and Panama are of poor quality, and limit firm transactions to **50 MW**. Even the interconnection between Honduras and El Salvador under construction that has the Bank's financial support is the same type of bilateral interconnection. These characteristics prevent larger firm energy purchase agreements (longer duration and with responsibility for supply and purchase) from being entered into which could justify the construction of larger plants than is necessary to supply the markets in each country. The SIEPAC line will increase firm inter-country transfer capacity to **300 MW**.
- 3.3** It emerges from the foregoing that the Central American market does not have the electrical interconnection capacity to support the volume of commercial transactions found in a regional competitive market. That is why the SIEPAC project provides from the outset for the construction of a trunk transmission line as the minimum essential infrastructure for establishing a regional wholesale market. Although the other two pillars of the REM, the regional regulatory framework and regional institutions, were successfully established, without the transmission infrastructure, the resulting market will not have the breadth that is required to justify the investment in regional power generating plants since it would have no physical medium in which to market its product. Conversely, the justification for a

trunk line with the SIEPAC line specifications calls for a well-established regional market with a large volume of commercial transactions to ensure high line use. The REM and the SIEPAC line **are** two inseparable concepts: the former cannot exist without the latter, but the latter cannot be justified unless the former is effectively established.

- 3.4 The combination of institutional arrangements to make a regional electricity market viable and the installation of sufficient transmission capacity to permit a substantial increase in the level of power exchanges will spur a process of coordination and growing competition in the region and will give a decisive impetus to electric power integration in Central America. The development of more open, competitive and sophisticated market mechanisms and the stimulus for the development of new generating projects to serve the regional market will make for a gradual increase in the benefits of energy integration.
- 3.5 Experience and the results of electric energy sector reform programs in the Central American countries make the present project even more necessary. Today, there is a realistic awareness of the difficulties that stand in the way of establishing competitive markets in each country.
- 3.6 The small size of national electricity markets, inexperience with regulatory agencies and antitrust authorities, a shortage of skilled workers in countries in need of institutions of this kind are some of the factors hindering the successful reform of the national electricity sectors in the Central American countries and Panama, particularly with respect to introducing competition in power generation.
- 3.7 One of the objectives of the reforms is to ensure that the private sector takes an increasingly greater role in the sector, particularly in incrementing generating capacity, an aspect that calls for greater amounts of financing. Although this objective has now been achieved to some extent, the few agents that do participate are mainly powerful multinational firms that are clearly tending towards horizontal concentration and participation in regulated and deregulated activities (vertical reintegration) in these companies. These factors are exacerbating the imbalances between regulator and regulated, increase the transaction costs of regulation, adversely affect prices, and reduce the economic benefits anticipated from the reform programs.
- 3.8 As one of the basic objectives of the SIEPAC project is to establish a regional electrical market, to make reforms more sustainable, the project should help mitigate the dominant position that agents have achieved **through** horizontal concentration and vertical integration, facilitate entry of larger power generation projects and technological innovation with the resulting lower costs, and facilitate competition in the power generation industry by permitting more competition.

- 3.9 The cost of the project is estimated at the equivalent of US\$320 million as broken down in the following table by investment category and source of financing:

Table 3.1
Project costs
(in US\$ millions)

Investment categories	Total cost	(%)
1. Engineering and administration	21.2	6.6
2. Direct costs	230.8	72.1
3. Associated costs	1.5	0.5
4. Unallocated	30.4	9.4
5. Financial expenses	36.4	11.4
TOTAL	320.3	100.0

B. Project elements

1. The framework treaty

- 3.10 To establish the regional electricity market, the governments of the six Central American countries approved and ratified a ***Central American electricity market framework treaty*** that came into effect in January 1999 and provides the necessary regional legal skeleton.
- 3.11 The framework treaty establishes the conditions under which the countries will open up their national markets to regional exchanges, with respect to the transmission line and opportunities for participants in the different countries to buy and sell electricity. The treaty establishes the regional electric interconnection commission (CRIE) as regulator of the regional electricity market, which will be responsible for ensuring that the principles of the framework treaty and subsequent regulations are observed by the participants, and the Regional Operator (EOR) that will be responsible for technical operation and administration of the commercial aspects of the regional market. Both regional bodies have been created, the CRIE in April 2000 and the EOR in February 2001.
- 3.12 The framework treaty requires each country to grant a concession to a public or mixed public and private corporation, called the line proprietor or EPL (formerly the grid proprietor or EPR) to build and operate the first regional transmission system **known as** the SIEPAC line, and empowers each government to name a public electric company as a partner in that corporation.

- 3.13 Under the framework treaty, both CRIE and EOR are bodies with legal capacity and legal personality under international public law. Each agency has the legal capacity to act in judicial and extrajudicial proceedings, and to enter into all acts, contracts, and operations that may be necessary or convenient to carry out their mission within and outside Panama and the countries of Central America. As regulatory authority, CRIE is the highest authority in the regional electrical market and in discharging its mission it will work closely with its counterparts, the regulatory agencies, in the other countries of the region.

2. The line proprietor

- 3.14 The EPL was established in February 1999 with the cooperation of the six public electric utility companies designated by their governments with equal **shares**, and suitable mechanisms were established to enable private partners to hold capital in the company as well.
- 3.15 To enable the Spanish company ENDESA to join, the Board of Directors of the EPL and the representatives of ENDESA have been negotiating in advance a shareholders agreement that will need to be approved by the shareholders of EPL. The EPL's Board and ENDESA representatives signed an agreement formally incorporating ENDESA **as** a partner of EPL, including modifications to EPL's social pact. This agreement will be submitted to the shareholders for their consideration.

3. The regional electricity market

- 3.16 The creation and gradual consolidation of the regional electricity market (REM) will **be** achieved by establishing appropriate legal, institutional and technical mechanisms, that include the institutional development of the CRIE and the EOR, the appointment of their heads, and the drafting of market rules.
- 3.17 Based on the guidelines in the framework treaty, the six governments have already approved the general design of the REM, which is a seventh market that coexists with the six national electric power markets or systems, with rules that are independent and contact points at the points in the regional transmission system. The technical and commercial rules governing the REM will be applied to the transactions carried out through the regional transmission system. The EOR, in coordination with the national system operators and market administrators, will be in charge of the technical and commercial operation of the REM. The detailed rules, which must be approved by the CRIE, are being developed with the support of consultants financed under the technical-cooperation program and include three sets of regulations —technical operations, commercial operations and transmission. The transmission regulations will establish incentives, the system for remunerating the owners of the regional transmission system, and the rates **to be paid by** users.

- 3.18 The Regional Transmission Network (RTN) will consist of the SIEPAC line and a number of other lines from participating national electricity grids in addition to a certain percentage of the electricity flows resulting from regional transactions. The framework treaty provides that regional and national transmission networks must be freely accessible to market agents. The Regional Operator (EOR) will be a nonprofit agency and the members of its board of directors will be representatives from various groups of market agents (power generation, distribution, and transmission companies, marketers, and users). As an integrated system, the EOR will have authority over operation of the RTN on an ongoing basis in order to ensure free access to networks and to coordinate maintenance on the transmission lines, regardless of ownership. It will also be responsible for administering regional electricity transactions.
- 3.19 The EPL will be required to make available the SIEPAC line and to operate it (open and close switches) as established in regional regulations in accordance with the instructions of the corresponding OS&M working closely with the EOR. ENDESA like any other of the present and potential future EPL shareholders will have the same rights and obligations prorated to their equity stake.
- 3.20 A Supervisory Committee (SC) will be set up **as** a nonpermanent high-level technical advisory group attached to CRIE to verify the performance of the REM, regional regulation, including its regulations, market agents, and the EOR. In an effort to ensure the independence of its opinions and recommendations, its members will not belong to any government in the region or have any relationship with any company operating in the REM. Based on its analysis and research, the Supervisory Committee will identify actions that need to be done to strengthen the regulations and standards in order to improve the competition in the REM and its efficiency. The Supervisory Committee will meet from time to time i.e. its members will not work full time.

C. Feasibility of the SIEPAC line

- 3.21 The feasibility of the SIEPAC line was examined under various scenarios or **"future"** situations based on changes in demand, fuel prices, construction of new thermal and hydroelectric power plants, levels of coordination between the operations and planning of national electricity systems **as** a result of evolving market trends and structures. The scenarios included various transmission schemes (i.e. 400 kV and 500 kV levels for the line, including doing nothing), **as well as** a wide range of possible outcomes for all contingencies. A decision and risk analysis was performed and it was found that a simple 230 kV line layout for the SIEPAC line was vigorous since it presented a value of zero regrets for all future situations. Given its nature, this study covers all possibilities and, although completed in 1997, its findings are still valid and it does not need to be updated.

IV. SUMMARY OF SPECIAL CONTRACTUAL CLAUSES

- 4.1 The special contractual conditions have been updated, based on the development of the national electric energy markets and regional power exchanges and on the progress already made in the project, particularly the technical recommendations for general design of the market. Annex III presents the original special contractual clauses, glossed with comments on the proposed adjustments.
- A. **Special conditions precedent to the first disbursement of the financing for engineering and administration (category 1 of Annex A) and for concurrent expenses (category 3 of Annex A)**
- 4.2 The first disbursement of the loan for consulting services to prepare the environmental impact assessments and final designs for the works for the SIEPAC PROJECT is contingent upon compliance, to the Bank's satisfaction, in addition to the conditions specified in article 4.01 of the general conditions, the following requisites:
- a. That all loan contracts to complete the total financing of the SIEPAC PROJECT indicated in clauses 1.04 (a) and (b) **as** well as the guarantee contracts, are in effect.
 - b. That each of the participating power companies, the respective government if appropriate, and the with the line proprietor (EPL) have signed an agreement and such subsidiary agreements **as** are necessary for the transfer to EPL of loan proceeds and the local counterpart specified in clauses 1.02 and 1.04 and the obligations which EPL **as** executing agency for the SIEPAC PROJECT is responsible, setting out that (i) the proceeds of the loans granted out of the **FSO** resources should be transferred on the same FSO financial terms and conditions during the execution period specified in clause 3.04 and hereinafter in the financial terms and conditions of the Ordinary Capital, the loans chargeable **to** the Ordinary Capital on the same terms as the latter resources and the loans from the Quincentennial Fund on the same terms and conditions **as** the Fund loans; and (ii) in the case of the participating electric power company or respective government **as** appropriate the counter aval of the EPL to the electric power company.
 - c. That procurement procedures for goods and services supplementing Annexes **B**, **C**, and **D** of this contract which will govern purchases and contracts by the EPL have been adopted and placed in effect.
 - d. That the government or borrower of each of the participating countries has:
 - (i) given the EPL the necessary permit, authorization or concession, **as** pertinent, for the construction and operation of the regional interconnection system; and
 - (ii) established the mechanism, procedures and action plan to obtain legal

possession, rights-of-way or other rights that are necessary relating to the land where the works will be built.

B. Special conditions precedent to disbursement of funding for construction of the line

4.3 The first disbursement of the financing, to supplement the disbursements referred to in clause **3.02**, is conditional on compliance, to the Bank's satisfaction, in addition to the conditions specified in clause **3.02** and article 4.01 of the general conditions, with the following requisites:

- a. The first disbursement of the financing, to supplement the disbursements referred to in clause **3.02**, is conditional on compliance, to the Bank's satisfaction, in addition to the conditions specified in clause **3.02** and article **4.01** of the general conditions, with the following requisites:
 1. The Comisidn Regional de Interconexidn ElCctrica (CRIE) and the Ente Operador Regional (EOR) have been established as separate legal entities with legal capacity under international public law applicable to the Parties, with the functions established in the treaty and agreed upon with the **Bank**, which must be exercised in accordance with the regional regulations of the REM mentioned in subparagraph (xii) of this clause, including in the case of CRIE the authority to establish, regulate, and adjust each year on the basis of REM studies the maximum rates of installed capacity as generator, or demand as distributor of electricity of an REM agent, which represents the maximum permissible level of its direct and indirect interest in REM for: (A) an agent of the REM; and (B) an agent of the **REM** which is a shareholder of the EPL.
 2. The transitory rules for operating the Central American electric interconnection have been proposed by the EOR and approved and placed in effect by the CRIE, for application in the REM.
 3. The **230** kV transmission line between El Salvador and Honduras is operating, enabling power exchanges among the six countries of the region to begin.
 4. That the internal regulations of the CRIE, defining its administrative and technical structure are in effect, as established in the treaty and the design of the REM; and that the CRIE is operating with at least one physical establishment in one of the participating countries and has the necessary financial capacity.
 5. That the internal regulations of the EOR, as the operating authority of the regional transmission system, defining its administrative and technical structure, including the functions of its board of directors, are **in** effect and

ensure its independence, neutrality and transparency in decision making and that the authority is operating with at least one physical establishment in one of the participating countries and has the necessary financial capacity.

6. That the CRIE, on the proposal of the EOR, has issued rules for the operation and maintenance of the regional transmission system.
7. That a Supervisory Committee attached to CRIE has been established on the basis of REM general design.
8. That the CRIE has approved and is applying the rules for operation of the REM, which establish all the principles governing dispatching, the spot market, bilateral contracts and guidelines governing the technical aspects and reliability of the REM. The rules will include:
 - a. Specific benchmarks to ensure that the legally-authorized buyers in one country have the option to purchase their electric power requirements from suppliers located in other countries, if that is the more economically-efficient solution.
 - b. The obligation of keeping separate accounts for each segment of activity, creating separate business units in all Central American electricity companies structured as vertically integrated utilities (VIUs), and the elimination of any cross subsidies between activities.
 - c. The common accounting methods to be adopted in REM operations and the obligation to **furnish** the CRIE with whatever accounting information it requires, including the accounts of the regulated companies.
 - d. The initial maximum percentages of installed capacity for REM agents, representing the maximum permissible level of its direct or indirect interests in the REM as a generator or distributor of electricity for: (A) a REM agent; and (B) a REM agent that holds shares in the EPL.
 - e. Technical and commercial rules for the development of regional generating projects.
9. That the CRIE has approved regulations establishing bases and procedures for remuneration of the RTN and the way in which they will be applied to REM agents, and procedures to calculate charges for connection to and use of the system, including cases in which only agents from the same country are involved. The regulations will ensure that the SIEPAC line pays for itself and there are no cross subsidies between countries.

10. That the EOR Management has formally established the EOR's regional coordination and transactions center with functions determined on the basis of the procedures established in the technical cooperation program.
 11. That designs and bid documents have been prepared for the regional coordination and transactions center, approved by the Bank, and consistent with the protocols and regulations governing the operation of the REM.
 12. That the governments have approved a set of regional regulations formally establishing its concurrence on the characteristics of the REM, within which the regional agencies should operate through the establishment of its basic and irrevocable aspects and guidelines, prepared on the basis of the provisions of the REM treaty and general design.
- b. That the EPL's articles of incorporation are in effect and specify, *inter alia*, that (i) the EPL is created as a private corporation with an majority public interest in which no shareholder, directly or indirectly, holds more than a **15%** share of the company's capital stock or of any class of voting shares; and (ii) mechanisms have been adopted to protect minority shareholders.
 - c. That all the EPL's shareholders have signed an agreement that **has** come into effect amongst all EPL shareholders and the criteria for approving construction of the SIEPAC line in sections, the terms and conditions and financing of the final designs of the line, and the commitments of participating national electric power companies to build the reinforcements required in their systems.

C. Special conditions for project execution

- 4.4** Owing to the complexity of the project, and to ensure uniformity in all equipment, a turnkey contract will be used for the design and construction of the transmission works, even if they are built in sections, to be awarded under an international competitive bid process, in accordance with Bank procedures.
- 4.5** For the Bank to consider a request by the EPL to build a given section, it must be technically and economically justified and demonstrated that at least **85%** of rights-of-way for the proposed section have been obtained.
- 4.6** The borrowers undertakes to ensure that the EPL presents to the Bank, within two years after the SIEPAC line has been completed, the results of the analysis of operations under all project components, to be done in coordination with the CRIE and EOR, comparing them to the study plans and designs. If adverse conditions or major deviations from initial design parameters are detected, the borrower is to ensure that EPL, in coordination with the CRIE and EOR, specifies any corrective measures and the program for their implementation.

- 4.7 Meetings are to be held each year during project execution with participation by the Bank, the EPL, the CRIE, the EOR, and any other participants required under the agenda agreed upon by the parties, to assess the project results obtained during the previous year, based on the initial report, the annual evaluation reports prepared by the Supervisory Committee, and progress reports, and to review the programming of project activities for the following year.
- 4.8 In addition to the annual evaluation meetings mentioned in the preceding paragraph, at the end of the second year after the date of the first disbursement of the loan, the Bank will perform a mid-term evaluation of project execution, the proposals made in studies financed by the project, and the mechanisms proposed to ensure the project's self-sustainability.
- 4.9 Within a period of at least six months before the competitive bidding is opened for the project works, the borrowers shall demonstrate that they have submitted a preliminary version of the national Environmental Impact Assessment of the respective country to the competent environmental authorities for review and, in accordance with national law and the Bank's standards, to the general public for discussion and comments.
- 4.10 Within a period of at least six months before start up of the works, the borrowers shall demonstrate that they have submitted the national Environmental Impact Assessment (EIA) of the respective country including the Environmental Management Plans (EMP) to the competent environmental authorities and, in accordance with national law and the Bank's standards, to the general public. The borrowers **through** the EPL will take such steps as are needed to ensure that the EMPs and other recommendations set out in the Environmental Impact Assessment are included with the bidding conditions. The EMPs are to contain the following components **as** a minimum: (i) plans for creation and/or consolidation of the environmental management capacity of the national electric utilities to monitor the SIEPAC project; (ii) plans to mitigate direct impact; (iii) plans to mitigate indirect impact and impact on protected or environmentally fragile areas; (iv) a contingency and emergency plan; (v) relocation and resettlement plans when necessary; and (vi) an environmental monitoring plan covering the construction and operating stages.

D. Conditions precedent to the bidding on the works

- 4.11 That the EPL has selected and hired a specialized consulting firm for supervision of the works.

V. EXECUTION PLAN

- 5.1 Reformulation of the financing plans for the project and the technical cooperation requires certain changes in the execution plan **as** originally conceived, particularly in aspects relating to disbursements, transfers of funds, audits and supervision of the works.
- 5.2 The borrowers will be the public electric power utilities of each of the six countries, through individual loan contracts guaranteed by the respective governments. The line proprietor (EPL) will be the executing agency for the investment project. The technical-cooperation loan will be executed by the Central American Electrification Council (CEAC).
- 5.3 Each borrower will transfer the resources to the executing units, the EPL, and the CEAC respectively.

A. Disbursement flow and channeling

- 5.4 Requests for disbursements to replenish the revolving fund or to pay suppliers directly or with letters of credit will be submitted to the Bank by the borrowers through the executing agency (EPL) (for the loan) and through the CEAC (for the technical-cooperation funding). The proceeds will be deposited in a special master account, with separate subaccounts for management **of** the funds for each loan, to be opened by the borrowers in the names of EPL and CEAC, as appropriate, in the country in which each of the two executing units are located. The 12 investment loans will be disbursed in the six countries on pari passu basis by contract and by country. The borrowers through the EPL will submit to the Bank each year during project execution the financial statements of the investment project and each loan, audited by an independent firm of public accountants acceptable to the Bank.

B. Procurement

- 5.5 **To** ensure the uniformity of all equipment and minimize maintenance costs, a turnkey contract arrangement will be used for the design and construction of the transmission works, the same procedure that is to be used for the sections of transmission line. The international competitive bidding process will require the prequalification of companies. Although the project is not a complex one, given the nature of the EPL whose technical and administrative capabilities will be very limited, this method of execution is considered the most suitable one since a single contractor for the entire line or for an entire section will reduce considerably the EPL's technical and administrative efforts.

C. Bids

- 5.6 When the goods and services to be acquired or contracted for the project (including shipping and insurance) are financed totally or partially from the loan, the bid procedures and documents or other forms of contracts must permit free competition by suppliers of goods and services from Bank member countries. The bid procedures and specific documents may not contain conditions that impede or restrict the offer of goods or contractual services by contractors from those countries.

D. Consulting services

- 5.7 In the selection and contracting of consulting services financed totally or partially from the loan (a) procedures agreed upon with the Bank will be followed and (b) no stipulations may be made that restrict or impede participation by consultants from the Bank's member countries.
- 5.8 For consulting services financed with the local counterpart, the Bank reserves the right to review and approve the names and curricula of the selected consulting firms or individual consultants, the terms of reference and fees, before the borrower proceeds to contract them. This provision will not apply to contracts financed with suppliers' credits.

E. Procedures for selection and hiring of consultants

- 5.9 It is suggested that the least cost method be used to select consulting services for the technical-cooperation project. This method establishes a "minimum technically acceptable" level for qualification and quality of technical proposals. The technical proposals are first opened and evaluated. Proposals that fail to meet the minimum acceptable level are rejected and only the financial proposals of the remaining bidders are opened. The firm with the lowest price is then selected. With this method it must be borne in mind that only proposals meeting the minimum acceptable level are able to compete in terms of costs. The minimum level will be defined in detail in the invitations to submit bids.
- 5.10 This recommendation is justified by the nature of the prospective program works. In general, these works are complex but for which appropriate standards and acceptable professional practices already exist. Experience has shown that given their order of priority a definite number of technical proposals are often technically acceptable and suitable for the desired works. The methodology recommended shifts to the consultants the burden of formulating sound technical proposals as well as the obligation to make their proposals economical and competitive.
- 5.11 It is recommended that lowest price method be used to engage the consulting services for the detailed engineering designs.

F. Supervision of the works

- 5.12** The studies and the works will be monitored, administered, and supervised by the project team **through** the Bank's Country Offices in each of the six countries in the region. The regional sector specialist for the **SIEPAC** project assigned to the Country Office will also be responsible for coordinating with headquarters and the other Country Offices all matters relating to project execution, particularly disbursements for the loans and technical-cooperation funding and specific activities that need to be carried out in each country. The funding will be used to hire a specialized consulting firm to supervise the works.

G. Audits

- 5.13** The financial statements for the investment and technical-cooperation projects and for each of the loans will be audited annually by an independent firm of auditors acceptable to the **Bank**.

VI. NEXT STEPS

A. Technical-cooperation program

- 6.1 In December 2001, the technical-cooperation project, with the help of professional consulting firms, will enter the stage in which detailed regulations for the regional power market need to be prepared and its regional operator (EOR) and regulatory (CRIE) institutions to be set up and made operational. The outputs are expected to be ready in the fourth quarter of 2002 and the regulations to be in effect in early 2003. From the end of 2003 to mid-2004, once the regional electricity market has been functioning for an initial period, a critical assessment will be made to improve, deepen, and consolidate the regulations approved.
- 6.2 Until the permanent regulations are established, the regional agencies will work on the basis of temporary rules for power interconnection based on existing transmission lines and the new link being built between Honduras and El Salvador, which will come into service in April 2002.
- 6.3 Simultaneously, as part of the EOR organization, the CRCT will be set up, provided that the latter can begin operating in mid-2004. To accomplish this aim, a specialized consultant will be hired in 2002 to prepare the designs and specifications for its equipment. Tenders for the equipment will be let in the first half of 2003, allowing a year for their supply and installation.

B. Investment project

- 6.4 The purchase of the rights of way to the project area is an essential activity that is to be completed in mid-2004. To ensure that these efforts can commence in January 2002, the EPL is taking steps to capitalize the contributions of its partners. Also planned is the hiring of consultants to prepare the final designs and the specifications for the supply and construction of the works. The process of awarding contracts for the works is expected to take about a year, starting in July 2003, and construction to last approximately 30 months—from July 2004 to December 2006. Therefore, it is recommended that the investment loan be disbursed in five years, counted from the date on which all the contracts needed to execute the investment project have entered into force.
- 6.5 Environmental management will be continuous during the project, starting with the preparation of environmental impact studies and the process of consulting the public in 2002 and 2003 prior to construction. Subsequently, the environmental management plan will be monitored during construction, operation and maintenance. Environmental consultants will be contracted using technical-cooperation funds in the first stage and loan proceeds in the second stage.

C. Project start up meeting

- 6.6** In January 2002, the project team and energy sector specialists from the six countries together with members of the executing unit, the managing group, the Programming and Evaluation Committee, CEAC, and the EPL will hold a start up meeting to work out the details of the implementation and monitoring plans of the technical-cooperation program and the investment project. At the meeting, a detailed logical framework of the project, the performance monitoring report, and the execution plan will be prepared.

SIEPAC PROJECT

REFORMULATION OF THE FINANCING PLAN

DEVELOPMENTS IN THE REGIONAL ELECTRICITY MARKET

1. Introduction

- 1.1 All the countries have made progress in implementing or drafting legislation on the new regulatory frameworks for their electric power industries (except for Costa Rica which already had a framework in place). Guatemala, El Salvador, Nicaragua and Panama have already passed their laws, while the Honduran legislative assembly is debating the proposed legislation. Some of the countries also have policy and regulatory agencies, which either existed prior to the reforms or were established under them.¹ Accordingly, all the countries have regulatory and policy agencies for the electric power industry.
- 1.2 These reforms in the subsector, which seek to improve the supply of electricity, generally include the separation of policy, regulatory and business functions, which had previously been combined in the public utilities, and the creation of an explicit regulatory framework. This situation does not apply in **Costa Rica**, since the sector was already organized with separation of functions, although the regulatory agency played a minor role and the ICE a dominant one. To a greater or lesser degree, the reforms include changes in the vertical and horizontal structure of the industry and changes in its ownership structure. Table 1 summarizes the reforms.

2. Structure and ownership

- 2.1 In Guatemala, El Salvador, Nicaragua and Panama, the public utilities that existed prior to the reforms have been separated vertically. Vertical separation is also envisaged in the Honduran bill. The framework treaty on the Central American electricity market signed on **30** December 1996 by the presidents of the six countries establishes that where vertical integration remains, accounts must be kept separately for each activity. El Salvador and Guatemala permit vertical reintegration, requiring separate accounting or the creation of different companies, respectively.

¹ The policy function includes determination of the guiding objectives for the sector in the context of each country's government policy. The regulatory framework refers to the general context in which regulation takes place, including the structure of the industry and the nature of the regulatory agency.

Table 1
Summary of reforms in Central America¹

	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica	Panama
I. Structure and ownership						
1. Vertical separation of public utilities	Yes	Yes	Yes	Yes	No	Yes
2. Horizontal breakdown of the public utility	Yes	Yes	Yes	Yes	No	Yes
3. Private capital permitted	G, T, D	G, T, D	G, T, D	G, D	G, T, D	G, D
4. Sale of assets	G, D	G, D	D	G, D	No	G, D
5. Vertical integration permitted	Yes	Yes	No	No	ICE	No
6. Horizontal integration permitted	Yes	Yes	Yes	No ²	ICE	No ³
II. Policy determination						
1. Agency responsible	MEM	DGE	GE	CNE	MINAE	CPE
2. Electric sector planning	MEM	UT (T)	ENEE	CNE	ICE	ETESA
III. Regulation and competition						
1. Regulatory agency	CNEE/MEM	SIGET	CNE/SER CNEE/SER	INE	ARESE P	ERSP
2. Independent			No	Yes	Yes	Yes
3. Minimum demand, unregulated consumers (kW)	100	0	250	2,000	NA	500
<p>1. Based on the laws passed by Guatemala, El Salvador, Nicaragua and Panama and the Honduran bill.</p> <p>2. Dominant position concentration $\geq 25\%$. However, 100% of distribution was sold to a single company.</p> <p>3. Distribution ≤ 50. Generating $\leq 25\%$.</p> <p>4. G = Generation: T = Transmission: and D = Distribution</p>						

2.2 Horizontal separation will take place in all the countries with the entry of new players. However, in Costa Rica, the public utility will remain integrated horizontally. Distribution has been completely privatized in El Salvador, Guatemala, Nicaragua and Panama. Using different mechanisms, all countries have opened up generating, which demands the largest investments, to the private sector. Generating has been completely privatized in Panama and partly so in El Salvador and Guatemala. Nicaragua has not yet begun the privatization process. Guatemala and El Salvador place no limits on horizontal reintegration.

3. Policy making

3.1 All the countries have established an institution responsible for defining energy policy.

4. Regulation and competition

- 4.1 In Guatemala and Honduras, the regulatory agencies, which only have responsibility for electric power, report to ministries. In other countries, the regulatory agencies have greater autonomy, since they do not. In Costa Rica, El Salvador and Panama, regulatory agencies exist for the different sectors, while in Nicaragua they are responsible for the whole energy sector.

5. Interconnections

- 5.1 Costa Rica and Honduras make the public electric utility exclusively responsible for international trade in electricity. In all the other countries, private generating companies are permitted to sell to agents in other countries, although Honduras stipulates that the generating companies can only export after domestic needs have been covered.
- 5.2 **As** can be seen, all the reforms are intended to create conditions to favor private participation in the sector. However, in some cases there are obstacles to achieving the equality of conditions that are sought with the creation of a regional energy market (REM). For example, some countries will allow consumers with the largest demand the option of seeking supplies on the REM; in others this will not be openly possible, since the markets are captives of the vertically integrated public utility.

SIEPAC PROJECT
REFORMULATION OF THE FINANCING PLAN
PROGRESS IN PROJECT EXECUTION, 1995-2001

Despite the difficulties in gaining access to the financing approved by the Bank's Board of Executive Directors for the investment project and technical-cooperation activities, substantial progress has been made in project execution, including the following:

- a. Preparation and approval of technical, economic, financial and environmental feasibility studies that led the governments to decide to develop a regional electricity market and the associated transmission infrastructure. The studies were performed under operations ATN/5171 and ATN/5259 and allowed progress to be made, to the point where the Bank approved the financing in March 1997.
- b. The policy decisions were confirmed through the signature and subsequent ratification by the Central American governments of a framework treaty on the Central American electricity market, which establishes commitments and rights related to the operation of that market. The treaty was signed in December 1996 and all the national congresses had ratified it by January 1999.
- c. **As** a result of the approval of the Bank loans and in compliance with the framework treaty, in January 1999 the Central American countries through their public electric utilities established the Empresa Propietaria de la Linea de Transmisión (EPL) [transmission line proprietor] **as** a corporation registered in the Mercantile Register of Panama. The company now has six partners holding equal capital and is developing an agenda with them to start work on the design of the regional transmission line and the purchase of rights-of-way.
- d. In preparation for the technical-cooperation program, the organizational structure defined in the treaty was established in February 1999, which consisted **of** appointing the members of the board of directors and the programming and evaluation committee and starting up the project executing unit, which the six countries agreed would be located in Costa Rica.
- e. The bodies established under the framework treaty have begun to operate and government representatives have been appointed to their boards. The Board of Commissioners of the Regional Electric Interconnection Commission (CRIE) was established in March 2000 and the Board of Directors of the regional operating agency (EOR) was established in February 2001. The CRIE signed a mutual cooperation agreement with the **SIEPAC** project in January 2001 and is about to sign a similar one with the EOR.

- f. Under the framework treaty, an electric interconnection committee operated from August 1999 to December 2000, before the EOR was established, coordinating the electric systems of the six countries and supporting the SIEPAC project. The committee promoted an increase in regional electric power exchanges since 1999. It was dissolved when the EOR **was** formally established in February 2001.
- g. The main work under the nonreimbursable technical-cooperation project began in April 1999. Individual consultants were contracted for the executing unit and the consortium that acts **as** principal consultant was contracted, which prepared the general design of the regional energy market (REM), a proposal for the review and adjustment of the technical-cooperation project to bring it into line with current conditions on the national electric markets and the general design of the REM, and terms of reference to contract the services of other consulting firms to prepare the detailed regulations for the REM and related computer tools.
- h. The technical-cooperation project prepared a proposal for the general design of the regional market which was approved by the project's GD in May 2000, after several months of discussion. The design will be used as the basis for preparing detailed regulations in the near future.
- i. The project has completed the prequalification and qualification of consulting companies interested in preparing the detailed regulations and determining the computer tools that will be required and the consulting contracts will be signed soon.
- j. A Norwegian consulting firm prepared complementary studies on institutional, financial and legal feasibility between 1998 y 1999, to ensure the smooth operation of the EPL of the SIEPAC line and the EOR. It produced two reports that were studied and approved by the countries.
- k. To determine the reinforcements that will have to be made to transmission systems in the countries for good operation of the regional line, a consulting firm, contracted under ATN/5171, has prepared detailed electrical studies of the Central American system and a preliminary design for the SIEPAC line and substations, which are currently in the final stage.

**CENTRAL AMERICAN ELECTRIC INTERCONNECTION SYSTEM (SIEPAC)
(CA-0035) (1001/OC-RG AND SPQ-2)
LOGICAL FRAMEWORK OF THE PROGRAM**

Objectives	Verifiable indicators	Means of verification	Assumptions
Goal Augment the supply of electricity in Central America and Panama. Reliable, quality service is supplied on a sustainable basis at efficiency prices. Coverage of service in the region is expanded.	<ul style="list-style-type: none"> Power not delivered is down by 50% from 1.5 days/year to 0.75 days/year in 2010. Cover of electricity service in the region expands from 72% to 82% between 2001 and 2010. 	National and regional electricity data.	
Purpose Create and put in place a competitive wholesale electricity market. Raise funding in the private sector to pay for expansion of generation and distribution capacity in the region.	<ul style="list-style-type: none"> Firm international transactions are conducted on the basis of regional electricity market (REM) regulations in amounts of 1500 GWh in 2005, 3000 GWh in 2007, and 4000 GWh in 2009. At least one regional generation project with capacity exceeding 300 MW comes on stream by 2009. Installed generating capacity provided by private operators will increase from 50% in 2001, to 64% in 2008 and 70% to 2011. 	Statistical reports published by EOR.	<ul style="list-style-type: none"> Technical and legal barriers and obstacles to international energy sales are reduced and removed. The countries strengthen their sector reform programs to promote consistency between market structures (vertical and horizontal structures, individual ownership, etc.) and technological developments and constraints.
Components Established institutional framework Established regulatory framework in effect SIEPAC line constructed and functioning	<ul style="list-style-type: none"> CRIE, EOR, and CV have the necessary staff to discharge their functions and reliable and sustainable financing plans. MER (operating, trade, and transmission) regulations in place through CRIE resolutions (August 2003). 	Regulations published and put into effect pursuant to CRIE resolutions. Periodic reports on REM performance prepared by CV. On site inspection of SIEPAC line and CRCT.	<ul style="list-style-type: none"> Governments and state counterpart institutions (system operators and regulators and electricity market administrators) are actively involved in forming regional institutions and in supervision and approval of the detailed regulatory framework.

	<ul style="list-style-type: none"> • EOR has CRCT properly equipped and functioning (August 2004). • Population in project area consulted on EIAs, which are approved by national authorities and released to the public (January 2004). • 1830 km of 230-kV line interconnected through 16 substations in the six countries of the region (December 2006). 		<ul style="list-style-type: none"> • Governments support regional institutions pursuant to terms of Central American Electricity Market Framework Treaty. • Private investors and operators are interested in developing projects in the region and have the financial capacity to do so.
Activities Project budget (see Table 1)	Budget lines of activity (see table 1)	Project monitoring, disbursement, audit, and supervision reports.	<ul style="list-style-type: none"> • Design and execution of program are satisfactory and the rights ones. • Countries will have the counterpart resources. • <i>Details of terms and arrangements obtained</i>