

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

NICARAGUA

EXPANSION AND STRENGTHENING OF NICARAGUA'S ELECTRICITY TRANSMISSION SYSTEM

(NI-L1091)

LOAN PROPOSAL

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CONTENTS

PROJECT SUMMARY

I.	DESCRIPTION AND RESULTS MONITORING	1
A.	Background, problem to be addressed, and rationale	1
B.	Objectives, components, and cost	8
C.	Key results indicators	10
II.	FINANCING STRUCTURE AND MAIN RISKS	10
A.	Financing instruments	10
B.	Environmental and social safeguard risks	11
C.	Fiduciary risks	12
D.	Other project risks	12
III.	IMPLEMENTATION AND MANAGEMENT PLAN	15
A.	Summary of implementation arrangements	15
B.	Summary of arrangements for monitoring results	16

ANNEXES	
Annex I	Development Effectiveness Matrix (DEM) – Summary
Annex II	Results Matrix
Annex III	Fiduciary Agreements and Requirements

ELECTRONIC LINKS	
REQUIRED	
1.	Multiyear execution plan
2.	Monitoring and evaluation plan
3.	Environmental and social management report (ESMR)
4.	Procurement plan
OPTIONAL	
1.	Project economic analysis
2.	Financial viability of ENATREL. Evaluation and projection of financial indicators. Country strategy indicator
3.	Financial viability of ENATREL. Evaluation and projection of financial indicators. Contracts indicators
4.	Technical report on proposed projects
5.	Analysis of contribution to regional integration
6.	Analysis of compliance with the Operational Policy on Public Utilities
7.	Patterns of transmission investments
8.	Project Operations Manual
9.	Safeguard policy filter

ABBREVIATIONS

CIF	Climate Investment Fund
CNDC	Centro Nacional de Despacho de Carga [National Load Dispatch Center]
EIRR	Economic internal rate of return
ENATREL	Empresa Nacional de Transmisión Eléctrica [National Electrical Transmission Company]
ENEL	Empresa Nicaragüense de Electricidad [Nicaraguan Electricity Company]
ENPV	Economic net present value
EOR	Ente Operador Regional [Regional Operator]
ESMR	Environmental and Social Management Report
GCI-9	Ninth General Capital Increase, or Ninth General Increase in the Resources of the Inter-American Development Bank
INE	Instituto Nicaragüense de Energía [Nicaraguan Energy Institute]
INIDE	Instituto Nacional de Información de Desarrollo [National Development Information Institute]
MHCP	Ministry of Finance and Public Credit
MW	Megawatt
MWh	Megawatt hour
PEU	Project execution unit
PNESER	Programa Nacional de Electrificación Sostenible y Energía Renovable [National Sustainable Electrification and Renewable Energy Program]
SIEPAC	Sistema de Interconexión Eléctrica de los Países de América Central [Central American Electric Interconnection System]
SIGFA	Sistema Integrado de Gestión Financiera y Auditoría [Integrated Financial Management and Audit System]
SIGFAPRO	Gestión Financiera y Administrativa [Integrated Financial and Administrative Management System]
SIN	Sistema Interconectado Nacional [National Interconnected System]

PROJECT SUMMARY

NICARAGUA

EXPANSION AND STRENGTHENING OF NICARAGUA'S ELECTRICITY TRANSMISSION SYSTEM (NI-L1091)

Financial Terms and Conditions					
Borrower: Republic of Nicaragua			OC		FSO
Executing agency: Empresa Nacional de Transmisión Eléctrica [National Electrical Transmission Company] (ENATREL)			Amortization period:	30 years	40 years
			Disbursement period:	5 years	5 years
Source	Amount (US\$)	%	Grace period:	6 years	40 years
IDB: Ordinary Capital (OC):	24,000,000	55.8%	Inspection and supervision fee:	(b)	N/A
IDB: Fund for Special Operations (FSO):	16,000,000	37.2%	Interest rate:	SCF Fixed ^(a)	0.25%
Local contribution:	3,041,800	7%	Credit fee:	(b)	N/A
Total cost of program:	43,041,800	100%	Currency:	U.S. dollars	U.S. dollars
Project at a Glance					
<p>Project objective: The general objective of the project is to promote an increase in the population's welfare by strengthening the transmission infrastructure in order to connect new clients, improve the quality of supply, and move forward on optimization of the regional infrastructure. The specific objectives of the program include: (i) ensuring the continuous supply of electricity in the areas benefitted by the expansion of electricity coverage under the National Sustainable Electrification and Renewable Energy Program (PNESER); (ii) increasing load transmission capacity to meet electricity demand and carry the power generated in the expansion area under the PNESER program; and (iii) optimizing the load capacity of the regional transmission line on the segments located in Nicaragua.</p>					
<p>Special contractual conditions precedent to the first disbursement of the loan proceeds: (i) a resource transfer agreement has entered into force between the borrower and the executing agency defining the terms of the transfer and execution obligations (see paragraph 3.1); (ii) the project execution unit (PEU) has at least a procurement specialist, a financial specialist, a general coordinator, an environmental and social specialist, and an electrical engineer (see paragraph 3.2); and (iii) ENATREL has approved the project Operations Manual (see paragraph 3.3).</p>					
<p>Special contractual conditions for execution: (i) ENATREL has complied with the environmental and social obligations included in the environmental and social management report (see paragraph 2.7); (ii) ENATREL maintains the financial indicators shown in paragraph 2.12; and (iii) prior to awarding each works contract, the executing agency has demonstrated that it has legal possession, easements, and other necessary rights (see paragraph 2.11).</p>					
Exceptions to Bank policies: None.					
Project qualifies as: ^(c) SV [X] PE [X] CC [X] CI [X]					

^(a) The borrower will pay interest on the outstanding balances of this portion of the Ordinary Capital loan at a LIBOR-based rate. Whenever the balance owed reaches 25% of the approved net amount, or US\$3 million, whichever is greater, the base rate will be set on the basis of this balance.

^(b) The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable policies.

^(c) SV (Small and Vulnerable Countries), PE (Poverty Reduction and Equity Enhancement), CC (Climate Change, Sustainable Energy, and Environmental Sustainability), CI (Regional Cooperation and Integration).

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem to be addressed, and rationale

- 1.1 According to the Living Standards Measurement Survey of the National Development Information Institute (INIDE), 29.6% of Nicaragua's population was living below the poverty line, and 8.3% below the extreme poverty line, in 2014. The incidence of poverty is higher in rural than in urban areas, with 50.1% of the rural population living below the poverty line, and 16.3% below the extreme poverty line. The central region has the country's highest incidence of poverty, with 44.4% of the population below the poverty line and 13.9% in extreme poverty; followed by the Caribbean coastal region, with 39% and 11.5%, respectively.
- 1.2 According to the recently approved [Energy Sector Framework Document](#) (document GN-2830) and other sources, access to electricity service has a positive impact on the well-being of households and communities, based on multiple factors such as increases in women's employment of between 9% and 9.5%¹ and increases in family income of as much as 28%.² In addition, there is evidence that a reduction in the cost of unserved energy in beneficiary areas has a positive effect on poverty levels in connected regions.³ Moreover, the ability to maintain ongoing international trade in electricity would allow the country to optimize the use of its natural resources. The current problems in Nicaragua's National Transmission System thus block potential for electrification and regional integration.
- 1.3 The country has made significant progress in electricity coverage, which increased from 73.7% in 2012 to 80.4% in 2014.⁴ The objective is to reach 90% coverage by 2020. This progress has been made through the National Sustainable Electrification and Renewable Energy Program (PNESER), which with an investment of US\$442 million—US\$87.5 million of which is financed by the Bank⁵—is promoting the socioeconomic development of the country's urban and rural areas by expanding access. The PNESER program promotes user standards to reduce losses in the system, promotes generation projects with renewable energy, supports the implementation of a project to replace streetlights to improve energy efficiency, and seeks to improve isolated electrical systems.

¹ Dinkelman, Taryn. "The effects of rural electrification on employment: New evidence from South Africa." *American Economic Review* 101 (December 2011): 3078–3108.

² Khandker, Shahidur; Barnes, Douglas; Samad, Hussain. "Welfare impacts of rural electrification: A panel data analysis from Vietnam." *Economic Development and Cultural Change*, Vol. 61, No. 3 (April 2013), pp. 659-692.

³ Oseni, Musiliu. "Power outages and the costs of unsupplied electricity: Evidence from backup generation among firms in Africa." Judge Business School, University of Cambridge, CB2 1AG, Cambridge, UK.

⁴ Electricity coverage recorded in 2014 for the departments located in the program target area is below the national average: Madriz 64.8%; Nueva Segovia 63.9%; Jinotega 49.6%; North Atlantic Autonomous Region 43.1%. Source: Report of the Ministry of Energy and Mines and ENATREL for the PNESER program.

⁵ PNESER I (2342/BL-NI); II (2342/BL-NI-4); and III (2342/BL-NI-5).

- 1.4 The transmission system that supplies the areas covered by the PNESER program needs to be expanded and strengthened, to meet these coverage targets and carry power as the generation system quickly expands.⁶
- 1.5 To increase the efficiency of the electricity system in all Central American countries in terms of cost and reliability, the Central American Electric Interconnection System (SIEPAC) line was built, and institutions created, to manage regional exchanges. All SIEPAC member countries must guarantee their capacity to transfer 300 MW with their neighboring countries. At this point, Nicaragua's backbone transmission grid has restrictions that limit its ability to transfer power.
- 1.6 **The electricity sector in Nicaragua.** The sector is characterized by a significant share of renewable sources in power generation (i.e., hydroelectric, wind, sugar cane bagasse), with a 54.6% share in the National Interconnected System, known by the acronym SIN, in 2014. The difference is made up by thermal energy using heating oil and diesel as fuels. In 2014, 98.8% of the country's electrical generation was concentrated in the SIN, with the remainder spread among small, isolated systems with lower population density. In 2014, the transmission system consisted of 2,287 km of national lines and 305.6 km of SIEPAC lines.
- 1.7 The roles Nicaragua's electricity sector institutions are well-defined. The Ministry of Energy and Mines is responsible for policies design, the Nicaraguan Energy Institute (INE) has regulatory authority, and the National Load Dispatch Center (CNDC) is the utility responsible for administration of the electricity market and operation of the SIN.
- 1.8 Private participation in the industrial organization of the electricity sector is high. In 2014, 91.7% of power was produced at privately owned plants. The private companies, Empresa Distribuidora de Electricidad del Norte [Electricity Distribution Company of the North] (DISNORTE) and Empresa Distribuidora de Electricidad del Sur [Electricity Distribution Company of the South] (DISSUR) account for 98.9% of national energy sales. The government participates in generation through the Empresa Nicaragüense de Electricidad [Nicaraguan Electricity Company] (ENEL), primarily with hydropower, and manages the entire transmission infrastructure through the Empresa Nacional de Transmisión Eléctrica [National Electrical Transmission Company] (ENATREL).
- 1.9 The program has an impact on 16 municipios; 15 of them are located in the northern part of the central region and one is located in the northern part of the Caribbean coast region.⁷ The most recent poverty measurements available at the

⁶ The system's expansion in terms of generation, transmission, and distribution has not precisely followed the planning basis used to define the components of the PNESER program—a situation inherent to any electricity system—leading to imbalances in the PNESER transmission component, as well as in the transmission system in general, including the portion adapted to the regional system. The different projects under this program are meant to address these requirements.

⁷ Central Region: Jinotega Department (municipios: Jinotega, La Concordia, Santa María de Pantasma, San Rafael del Norte, and San Sebastián de Yalí); Madriz Department (municipios: San Juan de Río Coco); Matagalpa Department (municipios: El Cuá, Rancho Grande); Nueva Segovia Department (municipios: Ciudad Antigua, Jalapa, El Jícaro, Murra, Quilali, San Fernando, Wiwili de Nueva Segovia). Caribbean Coast Region: North Atlantic Autonomous Region (municipio: Waslala).

municipal level⁸ indicate that ten of the municipios that will benefit from this program have extreme poverty levels that exceed 50% of the population, putting them among the poorest 25% of municipios in the country.⁹

- 1.10 **Analysis of the problem, constraints, and needs of the transmission system.** According to the rapid assessment gap analysis of Nicaragua's energy needs,¹⁰ growth in the demand for electricity over the next decade will require an increase in installed capacity of an additional 896 MW to 1,038.5 MW by 2026. This demand must of necessity be accompanied by investment in transmission infrastructure to extend and expand the power transmission and distribution lines. Currently, Nicaragua's transmission system does not have optimum conditions in terms of physical infrastructure and represents one of the main problems facing the country, as it limits access to uninterrupted power that is affordable and cost-effective. This restricts access to electricity for more than 1.5 million inhabitants,¹¹ primarily in rural areas.
- 1.11 **Causal factors or principal determinants of the problem.** Notable among the specific problems in the transmission system is the existence of points on the grid where the transformers are overloaded, in some cases at levels that accelerate the degradation of their physical parameters. In addition, transmission lines are not operating to standard, and the systems have high outage rates in terms of both quantity and magnitude. Although ENATREL has undertaken an extensive program of investments since 2008 to improve the transmission system, the grid still has overload points and segments due to the limited attention paid in earlier years. In addition, all SIEPAC countries must guarantee their capacity to transfer 300 MW to their neighboring countries. At this point, Nicaragua's backbone grid has restrictions that limit its capacity to transfer power. According to the regional utility Ente Operador Regional (EOR), during the second half of 2014 the SIEPAC transmission capacity between Honduras and Nicaragua was 200 MW for import and 210 MW for export, while the trade capacity between Nicaragua and Costa Rica was 210 MW for export and 150 MW for import.
- 1.12 **Inadequate transmission grid for the municipios of the North.** The transmission grid for the municipios of the North consists of the Santa Clara substation, which is the last substation on the grid, the Yalagüina substation to the south, and a 50 km 69 kV transmission line connecting them. This transmission grid has a series of problems: (i) the Santa Clara substation and the transmission line has been operating for 35 years, and is so deteriorated that the outage rate of the Yalagüina – Santa Clara transmission line reached 42 outages per 100 km during the period 2007-2013, exceeding the national average of 25.1; (ii) the capacity of the line and the substation is insufficient for current and future loads; the estimated total unserved energy in 2013 was 156.1 MWh; and (iii) the Santa Clara substation is located very far from the new points of demand, which

⁸ Eighth National Population Census and Fourth Housing Census, 2005, based on the unmet basic needs methodology. Map of municipal extreme poverty.

⁹ It is anticipated that new estimates updated to 2014 will be published before the end of 2015.

¹⁰ NPUD, IDB. Sustainable Energy for All. Rapid assessment gap analysis, Nicaragua. 2013.

¹¹ Most of this population depends on inefficient/nonmodern energy that is harmful to their health, such as firewood, which represents 87.9% of final consumption of primary energy in the residential sector. Source: NPUD, IDB. Sustainable Energy for All. Rapid assessment gap analysis, Nicaragua. 2013.

limits the ability to extend the region's distribution circuits; an estimated 3,990 households in the region do not receive electricity services.

- 1.13 **Deterioration and inadequacy of the transmission line supplying power to the municipios of El Cuá, Rancho Grande, and Waslala.** The power supplied to the communities located in the municipios of El Cuá, Rancho Grande, and Waslala runs through the Tuma substation, which in turn receives power from the San Ramón substation located to the south. The 30.8 km transmission line connecting the two substations was built in 1979 and configured to support a load typical of rural demand, with few conductors and wooden posts that have reached the end of their useful life. The line's transmission capacity needs to be increased, to improve service quality and allow new connections. In addition, the higher capacity line will allow the planned new renewable energy projects with a capacity of 22.5 MW to begin operating. During the period 2007-2013, this line had an outage rate¹² of 26.0 per 100 km, exceeding the national average of 25.1 for 69 kV lines. In 2013 this line and its associated substations experienced outages 19 times, for a total of 72.1 hours, failing to supply 105.2 MWh of power to users.
- 1.14 **Inadequate distribution grids in the municipios of El Cuá, Rancho Grande, and Waslala.** Currently the communities of Yaoska, Rancho Grande, and Waslala are supplied from the El Tuma substation through 14.4/24.9 kV single-phase distribution circuits running for 70 km. This length exceeds the minimum technical/economic standards¹³ for this type of line, which creates supply quality problems and impedes the expansion of the grid to new connections. This situation is critical in the municipio of Waslala, located at the farthest point from the El Tuma substation, impeding the connection to 46 adjacent communities.
- 1.15 **No backup distribution circuits in the Department of Jinotega.** The power in the distribution circuits supplying the Jinotega Department is provided by the Centroamérica Plant substation, located 5 km northwest of Jinotega, the department's main city. The service area of this substation's distribution circuits has increased in recent years, causing power losses on the distribution grids and creating voltage problems in this area's electricity service. In addition, the long distances and the saturation of the distribution lines does not allow the grids to be expanded to include new users. Total power losses in the region's ten distribution grids reached 41,411 MWh, equal to 28.9% of the power supplied.
- 1.16 **Restrictions on SIEPAC's transmission capacity.** The SIEPAC regional transmission line (1,790 km) entered into full operation in October 2014. It was designed to transport 300 MW among the countries of the region. However, the line has still not reached operating conditions for maximum capacity because deficiencies in the national grids produce a diversion of power that takes up some of the regional line's transmission capacity. This necessitates the construction of additional infrastructure on some segments of the national lines, including those in Nicaragua. According to EOR, in the second half of 2014, SIEPAC's capacity for power transmission between Honduras and Nicaragua for

¹² The outage rate is an indicator that allows comparisons of the occurrence of outages in a standardized way for the same voltage level. It is expressed as follows = (number of outages/km of line) x every 100 km.

¹³ The technical-economic standards indicate that a distribution circuit should be no longer than 40 to 50 km to avoid excessive voltage variations and high failure probabilities, at a reasonable cost.

importing or exporting power was 200 MW and 210 MW, respectively, while the trade capacity between Nicaragua and Costa Rica was reduced to 210 MW for export and 150 MW for import. This limitation has a substantial economic impact, in that it reduces the volume of power that can be transferred on the Regional Electricity Market. A series of electrical infrastructure projects to strengthen the national grids was identified for achieving full operability of the SIEPAC line. Two of the projects identified were due to: (i) the overload on the Los Brasiles – Acahualinca – Managua transmission line; and (ii) failure to complete the 230 kV electricity ring in Managua.

- 1.17 **Overload on the Los Brasiles – Acahualinca – Managua transmission line.** The city of Managua and the surrounding area represent the country's principal center of energy consumption. In 2014 maximum demand was 638.8 MW, and 305 MW of that demand, or 48% of the country's demand, was in the Managua area. Any deficiency in these grids has implications for the entire system, including the SIEPAC regional transmission line. One of the transmission lines supplying this region runs from the Los Brasiles substation, passes through the Acahualinca substation, and connects to the Managua substation. This 138 kV line is located in the extreme Northeast of Managua and runs for 13.5 km parallel to Lake Managua shoreline. Currently, due to the configuration of the system that supplies Managua and its linkage with the SIEPAC, if an attempt were made to transfer 300 MW¹⁴ through the regional transmission line, the Los Brasiles – Acahualinca transmission line would exceed its thermal limit,¹⁵ making the proposed transfer impossible.
- 1.18 **Failure to complete the 230 kV electrical ring in Managua.** The “230 kV Masaya - San Benito New substation – Los Brasiles Ring” project seeks stability of the SIN through the construction of 230 kV transmission lines forming a ring in the Managua region. This project has not been completed due to a lack of funds.¹⁶ Thus, currently, if an attempt were made to transmit 300 MW over the regional line, overloads might be created in the transformers at the Los Brasiles substation. These eventualities could in turn produce a cascade effect throughout the system, and potentially a general blackout in Nicaragua.
- 1.19 **Proposed solutions.** To increase the well-being of the population in 16 municipios in northern Nicaragua, the program proposes a series of investments to remedy the constraints posed by the current transmission system situation for the expansion of quality electricity service. The investments are divided into two groups: (i) improvement of the transmission infrastructure to support increased comprehensive coverage; and (ii) improvements in the national transmission system to support the capacity of the SIEPAC regional system.¹⁷

¹⁴ The regional regulator, the “Regional Electrical Interconnection Commission,” establishes 300 MW as the minimum operating capacity for power exchanges between any two countries. Thus, it tasks EOR with conducting short-, medium-, and long-term planning studies to identify the strengthening efforts needed and the related investment plan. Multiple studies indicate that the Los Brasiles – Acahualinca transmission line is a priority for reaching 300 MW of transfer capacity.

¹⁵ Exceeding this thermal limit not only affects the quality and reliability of the system, but there is a potential risk of permanent damage to the line and to the substations supplying it.

¹⁶ When the Managua ring was under construction, the project was segmented into sections so as to move ahead with the financing available, which left one section yet to be executed.

¹⁷ Joskow, Paul L. “Patterns of transmission investments,” MIT. 2005.

- 1.20 **Sector knowledge.** The Bank has had extensive knowledge of the Nicaraguan electricity sector since 1973, when it supported a first renewable energy program. The Bank has built on support for investments in electricity infrastructure with extensive collaboration on reform processes to promote institution-strengthening. In 1998, under loan 1017/SF-NI, the Bank was involved in amending the Electricity Act to transform the sector and promote private investment. The Electricity Sector Support Program I, II, and III (1933/BL-NI, 1933/BL-NI-1, and 1933/BL-NI-2) supported generation with renewable energy, the transmission area, and completion of a pilot program to normalize service in settlements. The National Transmission Investment for Integration with the SIEPAC Project (loan 1877/BL-NI) financed works to strengthen Nicaragua's electricity transmission system and its adaptation for integration with the Central American electricity network and market. Expansion of electricity coverage, reduction of losses in unregulated settlements, implementation of energy efficiency projects, service in isolated areas, and transmission strengthening efforts, have been addressed with the active participation of the Bank through the PNESER program. The Bank is supporting policy actions in the areas of financial sustainability, transparency of results in operation, a sustainable energy matrix, promotion of renewable energy, private investment, energy efficiency, and promotion of regional integration of the electricity sector through a programmatic policy-based loan with three operations: the first two operations have disbursed a total of US\$110 million and fulfilled all of the policy conditions (loan 3068/BL-NI in 2013 and 3493/BL-NI in 2015); the third operation has not yet been programmed.
- 1.21 The lessons learned as the result of the Bank's work in the sector include: (i) the benefit of studies to provide precise technical information in advance, to facilitate the environmental assessment of each project; (ii) the need to classify project areas according to the nature of land ownership, in order to identify appropriate strategies for clearing the right of way; and (iii) the formation of a project execution unit (PEU) that maintains a clear link with the executing agency's management and decision-making area. This program has incorporated the lessons learned through early coordination with ENATREL to ensure completion of the chain of technical and environmental studies, identifying the target area and establishing a project Operations Manual that defines a PEU supported by ENATREL's management and operational structure.
- 1.22 **The Bank's country strategy.** This operation is consistent with the Bank's country strategy with Nicaragua 2012-2017 (document GN-2683), which establishes the energy sector as a priority and identifies three essential areas for Bank support: (i) diversification of the energy matrix through the promotion of renewable energies; (ii) increased electricity coverage; and (iii) strengthening of regional integration, supporting regulatory harmonization and the necessary investments in infrastructure.¹⁸

¹⁸ The country strategy in the energy sector includes a medium-term program financed by several different cooperation agencies, in the same way as the PNESER program. The definition of a program with those characteristics is planned for 2016 and would be financed under the "Program to Increase the Utilization of Renewable Energy Sources" of the Climate Investment Fund (CIF). The investment plan for Nicaragua presented and endorsed by the CIF includes the Bank-financed works planned in this operation, as a supplement to CIF financing, under the component to improve the electricity transmission infrastructure. The implementation of the projects under this operation is not dependent on additional financing.

- 1.23 This operation will help to improve sector management and has a direct impact on the country strategy Results Matrix indicators. The country strategy indicators related to the strategic objective of strengthening the sector framework to ensure financial sustainability and attract private investment have shown satisfactory progress since the base year, with firm prospects of meeting the targets for 2016. Three of the four indicators evaluated as of 2014 have achieved or exceeded the established value. The value of ENEL's EBITDA margin is the only indicator that did not achieve the established value. ENEL has substantially improved its financial management; however, the 2014 drought reduced its revenue, impacting its performance for the year.
- 1.24 **Strategic alignment.** The program will contribute to the lending program priority targets of the Ninth General Capital Increase (GCI-9) (document AB-2764) for: (i) support for the development of small and vulnerable countries; (ii) financing for poverty reduction and equity enhancement operations through financing of investments to reduce barriers to the expansion of electricity grids in rural areas with a high incidence of poverty (see paragraph 1.9); (iii) support for climate change initiatives, sustainable energy, and environmental sustainability through support for the connection of new renewable energy projects, reduced use of highly polluting, nonmodern energy sources, and increased efficiency from reduction of power losses in the transmission system; and (iv) support for regional cooperation and integration, meeting the national subsidiarity criterion of document GN-2733 through strengthening of national transmission lines to allow full availability of the transmission capacity of the SIEPAC regional transmission line ([optional electronic link 5](#)). It will also contribute to the regional goals of infrastructure for competitiveness and social welfare and the outputs for: (i) kilometers of electricity transmission and distribution lines installed or upgraded; and (ii) percentage of power generation capacity from low-carbon sources over total generation capacity funded by IDB, as defined in the Results Matrix. The program is also aligned with the IDB Infrastructure Strategy, "Sustainable Infrastructure for Competitiveness and Inclusive Growth" (document GN-2710-5), in terms of its two strategic principles as it promotes access to infrastructure services, supports infrastructure for regional integration, and supports the construction and maintenance of a socially and environmentally sustainable infrastructure to help improve quality of life.
- 1.25 **Consistency with Bank policies.** The program is aligned with Operational Policy OP-708 on Public Utilities (document GN-2716-6) ([optional electronic link 6](#)) as it relates to the electricity subsector, in that it satisfies: (i) the financial sustainability condition, seeking to improve ENATREL's financial indicators by recovering operating and maintenance costs through user charges (see paragraph 2.12); (ii) the economic evaluation condition, including projects that will yield an economic and financial return (see paragraph 2.15); and (iii) sector technical and operational sustainability, supporting Nicaraguan government policy measures that contribute to improvements in the transmission system; (iv) promotion of access and social sustainability, strengthening the networks for the incorporation of new users; (v) promotion of competition and private sector participation, facilitating the connection of renewable energy projects; and (vi) efficiency enhancement, reducing technical losses in transmission lines and substations and contributing to the sufficient supply of electricity by meeting increasing demand and improving service quality.

B. Objectives, components, and cost

- 1.26 **General objective.** The general objective of the project is to promote an increase in the population's welfare by strengthening the transmission infrastructure in order to connect new clients, improve the quality of supply, and move forward on optimization of the regional infrastructure. The specific objectives of the program include: (i) ensuring the continuous supply of electricity in the areas benefitted by the expansion of electricity coverage under the National Sustainable Electrification and Renewable Energy Program (PNESER); (ii) increasing load transmission capacity to meet electricity demand and carry the power generated in the expansion area under the PNESER program; and (iii) optimizing the load capacity of the regional transmission line on the segments located in Nicaragua.
- 1.27 **Component I. Improvement of the transmission infrastructure to support increased comprehensive coverage (US\$34.6 million).** Financing will be provided to construct and commission 101.3 km of new 138 kV transmission lines, construct three new substations, and expand two substations in the transmission grids of the sixteen municipios participating in the project. These investments will facilitate the implementation of projects to expand electricity coverage, improve service quality for existing users, and facilitate the connection of new renewable energy projects to the SIN ([optional electronic link 4](#)). Specifically, this component will finance the following actions:
- a. **Construction of the Waslala substation (El Cuá), La Dalia – Waslala 138 kV transmission line, and related works.** This project includes the construction of a new substation in Waslala with a transformation capacity of 25/30 megavolt amperes (MVA), a voltage level of 138/24.9kV, and construction of a new 48.3 km, 138 kV transmission line from the La Dalia substation to the new Waslala substation (El Cuá), and the construction of a new 138 kV line bay for the La Dalia substation. The location of the new Waslala substation and improvement of the transmission line to supply it will strengthen the delivery of electric power to the municipios of El Cuá, Rancho Grande, and Waslala. The expansion of the transmission grid that supplies power to the region will make it possible to use the existing distribution grid more efficiently, improving service quality for approximately 6,750 existing clients, and ensure the connection and quality of power supplied to 2,750 new users in 46 rural communities benefitted by the PNESER program. In addition, increased load capacity will make it possible to utilize the region's hydro potential, where in future the private sector is expected to develop five small hydroelectric plants with total installed power capacity of 22.5 MW.
 - b. **Construction of the Santa Clara substation, Ocotol – Santa Clara 138 kV transmission line, and related works.** This project includes the construction of the new Santa Clara substation with a transformation capacity of 20/25 MVA, a voltage level of 138/24.9 kV, expansion of the Ocotol substation by adding a new 138 kV line bay, and construction of a new 47.3 km, 138 kV transmission line between the Ocotol substation and the new Santa Clara substation. This project will renovate the transmission infrastructure of the northern municipios. Expansion of the capacity of the Santa Clara substation and the new transmission line will improve the quality of the power supply, reducing untimely outages of the substation and losses in the system. This will benefit more than 26,868 current clients in Nueva Segovia Department. In addition, the new Santa Clara substation, located

next to the current substation,¹⁹ will allow for the installation of short and thus more efficient distribution circuits, ensuring expansion of the distribution grids and the quality of the power supply for connecting 3,990 new clients under the PNESER program.

- c. **Construction of the Jinotega substation, 138 kV double circuit transmission line, and related works.** This project consists of the construction of a new Jinotega substation with a voltage level of 138/24.9 kV and the construction of a 5.7 km, 138 kV double circuit transmission line that will connect to the Centroamérica Plant – Sébaco transmission line. Bringing this project on line will make it possible to improve the quality of the power supplied to 26,868 users in the city of Jinotega and surrounding communities by reducing losses and outages. In addition, the substation's location will facilitate access to distribution circuits for communities that are not currently connected.

1.28 **Component II. Improvements in the national transmission system to support the capacity of the regional system (US\$6.0 million).** Financing will be provided to increase the capacity of the Los Brasiles – Acahualinca and Acahualinca – Managua lines and complete phase two of the 65.5 km San Benito – Los Brasiles transmission line with a voltage level of 138 kV and 230 kV, respectively. This will make it possible to recover the 300 MW transmission capacity of the SIEPAC regional transmission line, supporting Nicaragua's performance of its obligations in the Regional Electricity Market ([optional electronic link 4](#)). Specifically, this component will finance the following actions:

- a. **Expansion of capacity of the Los Brasiles – Acahualinca – Managua transmission line.** This project consists of replacing the existing conductor on the 13.5 km of the transmission line that runs from the Los Brasiles substation, passes through the Acahualinca substation, and ends at the Managua substation, as well as relocating a segment of the existing transmission line. The increased load capacity of these segments of the transmission line will increase the SIN's backup capacity in view of possible transfers of 300 MW on the regional transmission line, and will reduce the possibility of forced outages of the important Managua circuit.
- b. **Phase two of the San Benito – Los Brasiles transmission line.** This project consists of constructing the transmission line to close the 230 kV ring that provides power to the city of Managua. The identified works are as follows: (i) construction of 9 km of 230 kV transmission line between the Santa María crossing and tower 112 in Campusano; and (ii) construction of the second circuit on the existing towers with a length of 43 km of 230 kV transmission line from tower 112 in Campusano to the Los Brasiles substation. These works will close the 230 kV ring between the San Benito – Ticuantepe (SIEPAC substation) – Los Brasiles – San Benito substations, increasing the reliability of the SIN and the regional electricity system. This work will reduce the risks of general shutdowns due to overloads at the Los Brasiles substation, which is one of the most important in the SIN.

1.29 **Program administration and management.** This includes funds for contracting services related to: (i) program administration, including operational and

¹⁹ The new Santa Clara substation will completely replace the existing substation.

incremental personnel expenses of the PEU; (ii) independent external financial audits; (iii) evaluations; and (iv) technical advisory support.

- 1.30 The costs and sources of financing of the program's components are given in Table 1 below.

Table 1: Program Cost and Financing (US\$000s)

Investment category	IDB	ENATREL	Total
1. Engineering and administration	500.0	1,000.0	1,500.0
2. Direct costs ²⁰	38,764.9	1,910.2	40,675.1
2.1. Transmission to support increased coverage	32,999.8	1,626.1	34,625.9
2.2. Transmission to support capacity of the regional system	5,765.1	284.1	6,049.2
3. Finance charges	735.1	131.6	866.7
Total	40,000.0	3,041.8	43,041.8

C. Key results indicators

- 1.31 The program has a Results Matrix that presents outcome indicators and targets associated with its objectives and components. The selected outcome indicators will make it possible to achieve the results, as follows: (i) ensure a continuous, reliable, and cost-effective electric power supply in the areas benefitted by the expansion of electricity coverage under the PNESER program; (ii) increase the MW load transmission capacity to meet the demand for electricity and carry the power generated from renewable energies in the area of expanded electricity coverage under the PNESER program; and (iii) optimize the power load capacity of the SIEPAC regional transmission line on the segments located in Nicaragua. The outcomes and targets have been formulated and projected over five years (2016-2020). In addition, five output indicators have been used to monitor each component during execution (see Annex II).

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 The total cost of the program is US\$43.04 million. Of that amount, the Bank will finance US\$40 million—60% with Ordinary Capital (OC) resources and 40% with resources of the Fund for Special Operations (FSO)—and the counterpart contribution will be US\$3.04 million. The program is financed as a specific investment loan. The loan proceeds will be disbursed over a period of five years, running from the effective date of the loan contract, as shown in Table 2:

Table 2: Disbursements Schedule (US\$000)

Source	2016	2017	2018	2019	2020	Total
IDB	224.1	11,820.0	12,713.7	10,248.8	4,993.4	40,000.0
ENATREL	257.0	816.0	840.0	700.0	428.9	3,041.8
Total	481.1	12,636.0	13,553.8	10,948.8	5,422.2	43,041.8

²⁰ Direct costs are: materials, equipment, labor, installation, and commissioning.

B. Environmental and social safeguard risks

- 2.2 The operation is classified as category “B” under the Bank’s Environment and Safeguards Compliance Policy (Operational Policy OP-703).
- 2.3 Improved access to electricity service is expected to have a positive social impact on the quality of life and welfare of approximately 62,000 users. The positive impacts generated by the project favor the development of the local and regional economy, making it possible to promote economic activities with the supply of electricity needed to meet demand in the beneficiary area. The program has already conducted the public consultation process for all the transmission lines, and the second round of public consultation is pending for the La Dalia – Waslala/El Cuá transmission line; it is now under way and will be completed before construction work begins on this transmission line.
- 2.4 The direct adverse impacts and risks that the project would generate are those that typically occur in any similar transmission line and substation work. These are considered to be of low to medium magnitude, short in duration, located in the area immediately surrounding the easement and construction sites, and can be managed using standard procedures. Investments will not be made in ecologically sensitive areas, in critical natural habitats, or close to any registered archeological site.
- 2.5 The perceptions of families in residential areas regarding the electromagnetic field and noise will be periodically monitored by ENATREL at the most sensitive sites. Although there is no explicit community expression regarding this subject, the purpose of the measure is for ENATREL to continue performing this good practice established by the SIEPAC program in Central America.
- 2.6 In the case of the La Dalia – Waslala/El Cuá transmission line and substation, the line cuts across the route of migratory birds, specifically in the Yaosca River segment, and collisions are expected with the transmission line’s overhead ground wire. To mitigate this risk, bird flight diverters will be introduced, and their effectiveness monitored.²¹ This good practice has been established by SIEPAC, and, thus far, monitoring in five countries (Guatemala, Honduras, El Salvador, and Costa Rica) has shown that they are 50% effective. The implementation of these devices will be a mandatory requirement to be included in the contract with the contractor for construction of this transmission line.
- 2.7 The natural risks existing in the various regions of the country are considered medium for the project. They are: earthquakes, volcanos, landslides, and flooding, as well as droughts that increase the occurrence of forest fires. They will be managed by including the measures necessary to reduce the vulnerability of these works in the design and construction of the transmission lines and substations. The [environmental and social management report \(ESMR\)](#) contains more detail on all of the project’s impacts and risks and how they will be managed, as well as the special contractual conditions for execution. As a special contractual condition for execution, the executing agency will have complied with all the environmental and social obligations included in the ESMR.

²¹ Bird flight diverters are devices that increase the visibility of electrical transmission installations and prevent or reduce the risk of bird collisions. The bird flight diverters to be installed on the transmission lines will be the spiral type, which are spiral polypropylene devices that are 35 cm in diameter and one meter long, usually yellow or red, or the color that can best provide contrasts in the hours with less light.

The conditions established in the ESMR are applicable at different times during program execution, as follows: (i) conditions precedent to the competitive bidding process for each work; (ii) specific conditions precedent to the start of each work; and (iii) conditions during the life of the loan.

- 2.8 ENATREL has limited capacity in terms of sufficient human resources to effectively implement and monitor the execution and completion of the project's social management plans and measures. During execution, there will be the additional personnel necessary, identified in agreement with the Bank, to implement the various management plans in that area. ENATREL will monitor and supervise projects over a period of at least three years.

C. Fiduciary risks

- 2.9 Potential risks in procurement management involve the executing agency personnel's ability to adequately implement the Bank's procurement policies. Although good practices resulted with the implementation of the earlier projects, there could be changes within the organization that require new training sessions. This risk can be mitigated by retaining, insofar as possible, the PEU staff who have been successfully executing the earlier projects, or selecting the PEU staff according to the job description for each position and with ongoing training programs for the PEU on the Bank's procurement policies.
- 2.10 With regard to financial management, despite the experience of ENATREL's staff, in recent months a decline has been noted in the quality of financial management and the control environment, creating a risk that the outcome indicator targets provided in the program will not be met. The team believes that this risk can be mitigated through specific training for key personnel and through closer supervision during the first year of execution.

D. Other project risks

- 2.11 **Public management and governance.** The identified risks relate to actions that could lead to delays prior to the start of execution and during execution: (i) delay or postponement of legislative approval of agreements, which will be mitigated through ongoing monitoring of the agreement approval process through the support of the Ministry of Finance and Public Credit (MHCP); (ii) delay in easement negotiations, which will be managed through the executing agency's ongoing coordination with local leaders, mayor's offices, and political secretaries in the affected regions (as a special contractual condition for execution, prior to awarding each works contract, the executing agency will have demonstrated that it has legal possession, easements, and other necessary rights to commence the work); and (iii) possible changes in the decision to support efforts to deepen regional electrical integration, which will be mitigated through ongoing monitoring of regional discussions and support for the participation of Nicaraguan authorities in the Regional Electricity Market's coordination bodies.
- 2.12 **Financial viability.** The evaluation of the program's financial viability was based on the state of ENATREL's financial indicators, operating cash flow margin,²² internally generated funds net of debt service,²³ and debt service coverage.²⁴ To

²² Required operating cash flow margin of 30%; the margin verified in 2014 was 28.7%.

²³ The net internally generated funds over investments requirement is 35%; the percentage verified in 2014 was -70.3%.

²⁴ Required debt service coverage ratio of 1.5; the ratio verified in 2014 was 0.23.

ensure the program's financial viability, an indicative projection was made for ENATREL for the period 2015-2020, constructing an investment scenario averaging 85% of year 2014 with annual growth of 11% in transmission usage charges. The financial indicators agreed upon with ENATREL²⁵ and the borrower will continue to be monitored, so that appropriate action can be taken to ensure that ENATREL's operating income is sufficient to cover its normal operating and maintenance expenses and its debt service, and allow it to make a substantial contribution to the investment plan. Thus: (i) the contribution of net internally generated funds should be increased proportionally from the level recorded in 2015 to 35% in 2019, and continue at that level in subsequent years; (ii) the operating cash flow margin, defined as the amount remaining after operating and maintenance costs are covered, will be at least 30%; and (iii) the debt service coverage ratio should increase proportionally from the level recorded in 2015 to 1.3 in 2019, continue at 1.5 in 2020, and remain at that level in subsequent years. The targets set for these indicators will be applied broadly to other lending operations in execution involving ENATREL. The monitoring of these indicators will be a special contractual condition for execution and will be verified annually. In the event of deviations in the indicators pointing to deterioration in the company's financial position, the borrower, acting through the executing agency, will submit an action plan to the Bank clearly identifying the causes of the deviations and the management or financial measures to be adopted, the responsibilities of the executing agency and the borrower, and the performance schedule, in order to allow recovery of the financial sustainability conditions.

- 2.13 **Technical viability.** The technical viability of these projects is assured in the preparation of designs and the approval process for construction. The preparation of designs for the program's projects adheres to the technical, regulatory, and socioenvironmental specifications in effect in the sector. This process helps to mitigate risks associated with social strife in the service areas of the projects to be financed. The development of these projects is an integral part of ENATREL's planning for expansion of the National Transmission System ([optional electronic link 4](#)).
- 2.14 **Institutional viability.** ENATREL has extensive experience executing projects to expand and strengthen the country's transmission system, such as National Transmission Investments for Integration with the SIEPAC Project (loan 1877/BL-NI) and the Electricity Sector Support Program (loans 1933/BL-NI, 1933/BL-NI-1, and 1933/BL-NI-2). In addition, it is the executing agency responsible for coordination of the largest program being executed in the electricity sector, the National Sustainable Electrification and Renewable Energy Program (PNESER) (loans 2342/BL-NI, 2342/BL-NI-4, and 2342/BL-NI-5), which addresses the sector's needs across the board.²⁶ ENATREL has proven to be an executing agency with high management capacity, completing execution of the first two programs mentioned with satisfactory results in 2012 and 2015, respectively, and it is currently executing the PNESER program.

²⁵ The Bank has been monitoring these ENATREL indicators under the operations of the Electricity Sector Support Program (1933/BL-NI, 1933/BL-NI-1, and 1933/BL-NI-2).

²⁶ The PNESER program has seven components affecting: rural electrification, normalization of grids, expansion of isolated systems, preinvestment studies, energy efficiency, strengthening of the transmission system, and sustainability of isolated systems.

- 2.15 **Economic viability.** A cost-benefit analysis was performed for each of the five program projects. It analyzed their direct and indirect impacts, including the potential externalities generated, using a discount rate of 12%. All the projects evaluated show a positive economic net present value (ENPV) and an economic internal rate of return (EIRR) between 15% and 35%, with robust results in response to variations in the modeling assumptions. In terms of users, the projects included in the program affect 62,465 clients (nearly 328,500 people), between existing clients (54,332) and new clients (8,133).
- 2.16 The economic benefits derived from the program's projects are represented by the net release of resources by new clients served, through the replacement of other alternative sources of energy by electricity, and reduced power outages in the with-project scenario (compared to the without-project scenario).²⁷ Income is the differential flow of income generated by the additional power that can be transmitted with the projects, valued at current transmission user charges. This additional power corresponds to the power generated to satisfy the potential demand of all users in the area (both existing and new users).
- 2.17 The economic and financial costs included in the analysis are the investment and associated operating and maintenance costs, both adjusted by their respective account factor. In addition, some cases include as an economic cost the verified increase in losses with increased demand served in the scenario with a project (meaning losses due to voltage level, valued according to the voltage level adjusted by the account factor). Table 3 summarizes the specific results of the program's projects:

Table 3: Results of Cost-Benefit Analysis

Project	Users benefited		Rate of growth in demand*	ENPV (US\$000)	EIRR
	New	Existing			
Project 1. Construction of Waslala substation (El Cuá), La Dalia – Waslala 138 kV transmission line, and related works	2,750	6,750	4.2%	21,356.3	24%
Project 2. Construction of Santa Clara substation, Ocotol – Santa Clara 138 kV transmission line, and related works	3,990	22,100	3.8%	15,317.7	26%
Project 3. Construction of Jinotega substation, 138 kV double circuit transmission line, and related works	1,391	25,477	3.8%	107,532.6	35%
Project 4. Expansion of capacity on the Los Brasiles – Acahualinca – Managua transmission line	-	-	4.1%	776.1	27%
Project 5. Phase two of San Benito – Los Brasiles transmission line	-	-	4.4%	5,188.3	15%

* Rate of growth in demand estimated by ENATREL.

- 2.18 The sensitivity analyses performed on the projects measured the effect on ENPV of positive and negative variations in the rate of growth in demand, in outage

²⁷ See, for example, "Rural electrification and development in the Philippines: Measuring the social and economic benefits" (ESMAP, 2002); Peru: "National survey of rural household energy use" (ESMAP, 2010); "Policy brief: Cost-benefit analysis of rural electrification" (NORPLAN, 2012).

cost, and in investment cost. Table 4 summarizes some of the most significant results. For more details see [cost-benefit analysis](#).

Table 4: Results of Sensitivity Analysis

	Project 1	Project 2	Project 3	Project 4	Project 5
Rate of growth in demand					
6% increase	111%	+54%	+69%	+34%	+115%
2% decrease	-110%	-32%	-38%	-48%	-104%
Outage cost²⁸					
20% increase	+39%	+46%	+26%	+54%	+59%
20% decrease	-39%	-46%	-26%	-54%	-59%
Investment cost					
15% increase	-11%	-15%	-1%	-15%	-18%
30% decrease	-22%	-30%	-2%	-31%	-36%

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 The borrower will be the Republic of Nicaragua, and the executing agency will be Empresa Nacional de Transmisión Eléctrica [National Electrical Transmission Company] (ENATREL). ENATREL is a state-owned enterprise established by Law 583. As a decentralized agency, it has separate legal status. ENATREL will execute the program through the ENATREL project execution unit (PEU). The borrower, acting through the Ministry of Finance and Public Credit (MHCP), will enter into a resource transfer agreement with ENATREL, establishing the terms of that transfer as well as ENATREL's execution obligations under the loan contract. **The entry into force of this agreement will be a special contractual condition precedent to the first disbursement of the Bank loan proceeds.**
- 3.2 ENATREL will execute the program through a PEU with the same composition as is being used for the loans now in execution. **As a special contractual condition precedent to the first disbursement of the loan proceeds, the PEU will have personnel with the qualifications previously agreed upon with the Bank, including at least: a general coordinator, a procurement specialist, a financial specialist, an environmental and social specialist, and an electrical engineer.** ENATREL's Engineering and Projects Office will be responsible for execution, acting through the PEU. The PEU will be supported by ENATREL's organizational structure: the administrative and financial directorate, procurement unit, environmental management unit, and legal counsel.
- 3.3 **Program Operations Manual.** The program has procedures clearly established in the program Operations Manual, including an extensive system for monitoring, supervision, and evaluation of its actions and outcomes. **The submission of an updated version of the program Operations Manual duly approved by ENATREL, and its entry into force, with the Bank's prior no objection, will be a special contractual condition precedent to the first disbursement of the loan proceeds.**

²⁸ This value is established as the average estimated cost for each user of unserved energy. Following the region's standards, this analysis used US\$800/MWh for users not connected to the grid, and US\$1,500/MWh for those already connected.

- 3.4 **Procurement plan.** A procurement plan has been agreed upon for the first 12 months of execution. The executing agency will update the procurement plan annually, at the same time as the annual evaluations and before the end of the calendar year, or whenever there are material changes. The different types of procurements of goods, works, and consulting services will be conducted in accordance with policy documents GN-2349-9 and GN-2350-9, respectively.
- 3.5 **Disbursements and advances of funds.** Loan disbursements will be made via the advance of funds mechanism according to the program's projected liquidity needs based on the annual work plan and procurement plan. The scheduling of cash requirements will have a moving horizon of 12 months, and advances will cover the needs of six months of execution.
- 3.6 **Retroactive financing.** The Bank may retroactively finance, as part of the loan proceeds, eligible expenditures incurred by the borrower prior to the loan approval date in order to pay direct costs and engineering and administration costs of up to US\$400,000, equal to 1% of the loan amount, provided that requirements substantially similar to those of the loan contract have been met. Such expenditures must have been incurred on or after 18 September 2015, the project profile approval date, but will not under any circumstances include expenditures incurred more than 18 months prior to the loan approval date.
- 3.7 **Audits.** External audit services for the program and for the financial statements of the executing agency will be provided by a firm of external auditors acceptable to the Bank, engaged on the basis of terms of references agreed upon with the executing agency. The external audits may be financed with the loan proceeds and will be delivered to the Bank within 120 days after the close of each calendar year during the original or extended disbursement period, and 120 days after the date of the last disbursement.
- 3.8 **Exchange rate.** To prevent exchange losses, use of the monetization exchange rate for foreign exchange into córdobas is recommended for purposes of documenting advances of funds disbursed.

B. Summary of arrangements for monitoring results

- 3.9 **Monitoring arrangements.** The Bank's team will conduct six-monthly technical visits to the executing agency, to review program progress made and make adjustments based on execution. Fiduciary supervision visits will be made once a year. External accounting and operational audits of the program are planned, to validate the use of loan funds and the operational processes and internal controls to be implemented at the executing agency. The information gathered will be reviewed every six months, and the monitoring and progress report will be prepared once a year (see [monitoring and evaluation plan](#)).
- 3.10 **Program evaluation arrangements.** Evaluation of the program includes a midterm and a final evaluation financed by the executing agency with loan proceeds. The midterm evaluation will be commissioned by the executing agency within two months after 50% of the loan proceeds have been committed. The final evaluation will include an ex post cost-benefit analysis and will be commissioned by the executing agency within two months after 95% of the loan proceeds have been disbursed. The final evaluation will determine the extent to which the Results Matrix targets have been met, i.e., looking at conditions before and after implementation of the program. The six-monthly and annual reports will be

delivered by the executing agency according to the program's monitoring and evaluation plan. In addition, a workshop will be conducted on preparation of the final report and the ex post cost-benefit analysis to confirm the operation's assumptions.

Development Effectiveness Matrix				
Summary				
I. Strategic Alignment				
1. IDB Strategic Development Objectives		Aligned		
Lending Program	-Lending to small and vulnerable countries -Lending for poverty reduction and equity enhancement -Lending to support climate change initiatives, renewable energy and environmental sustainability -Lending to support regional cooperation and integration			
Regional Development Goals	-Percent of households with electricity			
Bank Output Contribution (as defined in Results Framework of IDB-9)	-Km of electricity transmission and distribution lines installed or upgraded -Percentage of power generation capacity from low-carbon sources over total generation capacity funded by IDB			
2. Country Strategy Development Objectives		Aligned		
Country Strategy Results Matrix	GN-2683	Change the energy matrix by promoting electricity generation from renewable sources and improve service reliability.		
Country Program Results Matrix	GN-2805	The intervention is included in the 2015 Operational Program.		
Relevance of this project to country development challenges (If not aligned to country strategy or country program)				
II. Development Outcomes - Evaluability		Highly Evaluable	Weight	Maximum Score
		9.0		10
3. Evidence-based Assessment & Solution		9.6	33.33%	10
3.1 Program Diagnosis		3.0		
3.2 Proposed Interventions or Solutions		3.6		
3.3 Results Matrix Quality		3.0		
4. Ex ante Economic Analysis		10.0	33.33%	10
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis		4.0		
4.2 Identified and Quantified Benefits		1.5		
4.3 Identified and Quantified Costs		1.5		
4.4 Reasonable Assumptions		1.5		
4.5 Sensitivity Analysis		1.5		
5. Monitoring and Evaluation		7.5	33.33%	10
5.1 Monitoring Mechanisms		2.5		
5.2 Evaluation Plan		5.0		
III. Risks & Mitigation Monitoring Matrix				
Overall risks rate = magnitude of risks*likelihood		Medium		
Identified risks have been rated for magnitude and likelihood		Yes		
Mitigation measures have been identified for major risks		Yes		
Mitigation measures have indicators for tracking their implementation		Yes		
Environmental & social risk classification		B		
IV. IDB's Role - Additionality				
The project relies on the use of country systems				
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting. Procurement: Information System.		
Non-Fiduciary				
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:				
Gender Equality				
Labor				
Environment				
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project				
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan				

The diagnosis adequately describes the causal factors of deficiencies in Nicaragua's transmission system and their relative importance. These deficiencies include the deterioration and the end of service life of its components, the lack of capacity to properly transport electricity in the context of a rapid growth of electricity generation systems and distribution networks. This leads to energy losses and a low quality of service, in addition to limiting the expansion of the electricity coverage and transmission of load committed to the SIEPAC. To address this situation, the proposes interventions in the energy transmission infrastructure of Nicaragua. Specifically, actions that increase and ensure substation capacity and transmission lines to ensure reliability of energy supply in the local service and in the regional market.

The results matrix is well formulated. The economic analysis presented is based on a cost-benefit assessment, which quantifies the social economic benefits resulting from avoiding deficit and from users' willingness to pay, as well as system reliability which translates into the social economic cost of energy not supplied (ENS). Different scenarios have been established according to the nature of the intervention based on the main expected results, detailing the assumptions for the calculation of benefits. The results showed positive values and acceptable internal rates of return. Sensitivity analysis is well developed and the project shows results that are robust to changes in the modeling assumptions. A high sensitivity to the demand decrease rates is present, however, a slowdown occurrence of the same is unlikely. The intervention presents a low sensitivity to investment costs, mainly because benefits are achieved in a short period and kept in time.

The operation is classified with a medium risk. No high risks were identified. Medium risks with high impact refer to the possibility of changes in the decision to support efforts to deepen regional electricity integration, natural disasters, and other contingencies. These have low probabilities of occurrence. All risks include mitigation measures.

RESULTS MATRIX

Project objective	The general objective of the project is to promote an increase in the population's welfare by strengthening the transmission infrastructure in order to connect new clients, improve the quality of supply, and move forward on optimization of the regional infrastructure. The specific objectives of the program include: (i) ensuring the continuous supply of electricity in the areas benefitted by the expansion of electricity coverage under the National Sustainable Electrification and Renewable Energy Program (PNESER); (ii) increasing load transmission capacity to meet electricity demand and carry the power generated in the expansion area under the PNESER program; and (iii) optimizing the load capacity of the regional transmission line on the segments located in Nicaragua.
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Outcome	Baseline	Target	Observations/Mean of verification
Ensure a continuous, reliable, and cost-effective electric power supply in the areas benefitted by the expansion of electricity coverage under the PNESER program.			
Outcome indicator			
Unserved energy ¹ in GWh in the program target areas. ²	66	1	The unserved energy measurements will be verified through statistical and technical reports from the National Load Dispatch Center (CNDC).

Outcome	Baseline	Target	Observations/Mean of verification
Increase the MW load transmission capacity to meet the demand for electricity and carry the power generated from renewable energies in the area of expanded electricity coverage under the PNESER program.			
Outcome indicator			
Load transmission capacity in MW to meet the demand for electricity in the program target areas. ³	11	27	Load transmission capacity will be verified through statistical and technical reports from the CNDC.
Load transmission capacity in MW to handle the connection of new hydroelectric generation plants.	0	22	Load transmission capacity will be verified through statistical and technical reports from the CNDC.

¹ Unserved energy refers to the amount of energy not delivered to users due to an event in the transmission system, which in turn causes restrictions on the availability of system assets, preventing the transmission of power.

² The program target areas are defined as: Central Region: Jinotega Department (municipios: Jinotega, La Concordia, Santa María de Pantasma, San Rafael del Norte, and San Sebastián de Yalí); Madriz Department (municipios: San Juan de Río Coco); Matagalpa Department (municipios: El Cuá, Rancho Grande); Nueva Segovia Department (municipios: Ciudad Antigua, Jalapa, El Jicaró, Murra, Quilali, San Fernando, Wiwili de Nueva Segovia). Caribbean Coast Region: Northern Atlantic Autonomous Region Department (municipio: Waslala).

³ Refers to the capacity to meet demand for electricity by expanding service coverage.

Outcome	Baseline	Target	Observations/Mean of verification					
Optimize the power load capacity of the SIEPAC regional transmission line on the segments located in Nicaragua.								
Outcome indicator								
Increased maximum regional transfer capacity in MW between control areas. ⁴	80	300	The target assumes that, in addition to strengthening efforts included under this program, all SIN reinforcements are built. Report of the regional utility Ente Operador Regional (EOR). Transfer capacity will be verified through statistical and technical reports from the EOR.					
Component 1. Improvement of the physical transmission infrastructure to guarantee and increase the supply of continuous electric power, in order to electricity demand and carry the power generated in the program target areas.								
Outputs	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Final target	Observations/ Means of verification
1. Transmission system on the Waslala – La Dalia segment in operation. ⁵	0				1		1	Technical report of the CNDC.
Milestones								
Construction, assembly, and commissioning of Waslala substation (unit).	0	0.2	0.05	0.69	0.06	0	1	Technical/environmental supervision reports. Final certificate of acceptance.
Supply, assembly, and construction of transmission line (km). ⁶	0	4.83	7.24	31.4	4.83	0	48.3	Technical/environmental supervision reports. Final certificate of acceptance.
2. Santa Clara – Ocotal segment transmission system in operation. ⁷	0				1	0	1	Technical report from the CNDC
Milestones								
Construction, assembly, and commissioning of the Santa Clara substation (unit).	0	0.10	0.15	0.69	0.06	0	1	Technical/environmental supervision reports. Final certificate of acceptance.

⁴ The expanded areas of control refer to the transmission grid controlled by the CNDC, which also includes the substations in neighboring countries reached by the regional interconnection lines.

⁵ The system in operation includes the Waslala substation with a transformation capacity of 25/30 MVA, power transported on the 138 kV transmission line, and the new 138 kV line bay for the La Dalia substation in operation.

⁶ Includes the construction, assembly, and commissioning of the outlet bay on the 138 kV line from the La Dalia substation.

⁷ The operating system includes the Santa Clara substation with a transformation capacity of 138/24.9 kV, power transported on the 138 kV transmission line, and the new 138 kV line bay for the Ocotal substation in operation.

Supply, assembly, and construction of the transmission line (km). ⁸	0	11.83	0	0	35.48	0	47.3	Technical/environmental supervision reports. Final certificate of acceptance.
3. Jinotega substation segment transmission system – Centroamérica Plant transmission line in operation.⁹	0					1	1	Technical report from the CNDC.
Milestones								
Construction, assembly, and commissioning of the Jinotega substation (unit).	0	0.10	0.13	0.04	0.35	0.38	1	Technical/environmental supervision reports. Final certificate of acceptance.
Supply, assembly, and construction of the transmission line (km).	0	0	0	0	0	6	6	Technical/environmental supervision reports. Final certificate of acceptance.
Component 2. Improvement of the physical transmission infrastructure to optimize the load capacity of the regional transmission line on the segments located in Nicaragua.								
Outputs	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Final target	Observations/Mean of Verification
4. Los Brasiles – Acahualinca – Managua segment transmission line (in km) with expanded capacity, in operation.¹⁰	0	-	1.35	6.35	5.81	-	13.5	Technical report from the CNDC.
5. San Benito - Los Brasiles segment transmission line (in km), in operation.¹¹	0	-	-	12.12	35.03	4.84	52	Technical report from the CNDC.

⁸ Includes the construction, assembly, and commissioning of the output bay on the 138 kV line from the Ocotal substation.

⁹ The system in operation includes the Jinotega substation with a voltage level of 138/24.9 kV in operation, and the connection and transfer of load from the 138 kV double circuit transmission line to the Centroamérica Plant – Sébaco transmission line.

¹⁰ Capacity is expanded by replacing the existing conductor with a conductor that allows operation at greater load capacity in the event of 300 MW transfers on the regional transmission line. Operability also means less likelihood of forced outages of the important Managua circuit.

¹¹ The operation consists of increasing the reliability of the SIN and the Regional Electricity System, closing the 230 kV ring between the San Benito – Masaya – Ticuantepe (SIEPAC substation) – Los Brasiles – San Benito substations and the reduction of overloads at the Los Brasiles substation.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country: Nicaragua

Project number: NI-L1091

Project name: Expansion and Strengthening of Nicaragua's Electricity Transmission System

Executing agency: Empresa Nacional de Transmisión Eléctrica [National Electrical Transmission Company] (ENATREL)

Fiduciary team: Santiago Castillo and Juan Carlos Lazo (FMP/CNI)

I. EXECUTIVE SUMMARY

- 1.1 The executing agency for this operation will be ENATREL, which will be in charge of the execution and technical and financial supervision of the project.
- 1.2 The country's financial administration system, known as the Integrated Financial Management and Audit System (SIGFA), is adequate and reliable. Both this system and its projects module, the Integrated Financial and Administrative Management System (SIGFAPRO) have been validated by the Bank. The country procurement system is being improved; for this reason, it is important to continue efforts to promote several actions to make procurement compatible with international best practices and consistent with Bank policies. ENATREL has experience executing Bank-financed projects, including loans 2342/BL-NI, 1787/BL-NI, and 1933/BL-NI.
- 1.3 In the area of financial management, ENATREL has experience administering external funds. The results of the institutional capacity assessment reveal a low level of fiduciary risk. Its cumulative and proven experience includes the use of country systems. To mitigate risks at ENATREL, it will be necessary to contract additional personnel with experience in Bank operations. In addition, specific training sessions on Bank tools should be provided, to strengthen the institution's performance and ensure that the operation is managed according to the modality of ex post review of procurements and disbursements.
- 1.4 The amount of this operation is US\$43,041,800 (IDB US\$40,000,000 plus a local contribution of US\$3,041,800).

II. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

- 2.1 ENATREL is a state-owned enterprise in the energy sector established by Law 583 of 16 November 2006 as a decentralized entity with technical and administrative autonomy and its own assets and the ability to contract obligations.

- 2.2 In the area of procurement, ENATREL personnel have experience on projects with IDB financing. Institutionally, procurement is handled by personnel using the Procurement Plan Execution System (SEPA). Provision has been made for training on procurement processes consistent with Bank procedures.
- 2.3 In the area of financial management, ENATREL uses the SIGFA consisting of the budget, cash management, accounting, and reports subsystems, with the support of the projects module (SIGFAPRO). The Bank is currently supporting Nicaraguan government efforts to modernize the SIGFA financial administration system, to include: (i) the MHCP's own application for recording and accounting for public resources of the Financial Administration System; (ii) the functionalities necessary for administration according to its own characteristics and administrative autonomy; (iii) budgeting using a results-based management approach; (iv) administrative management of institutions based on complete transactional cycles; and (v) international accounting standards and automatic generation of public finance statistics. In the event that the SIGFA is instituted during this operation's execution period, migration of the operation's records to the new system will be evaluated.

III. FIDUCIARY RISK ASSESSMENT AND MITIGATION MEASURES

- 3.1 The executing agency's technical and fiduciary capacities will be strengthened by: (i) contracting a procurement specialist (contracting must have the Bank's no objection to ensure consistency with appropriate qualifications for program execution); financial management will be handled by the institutional financial specialist designated by the executing agency for this operation; (ii) training sessions on financial and procurement management for personnel responsible for program execution; and (iii) updating of the computer application to facilitate monitoring of procurement processes and contract administration, so that project reports can be produced.

IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE CONTRACT

- 4.1 In order to streamline contract negotiation by the project team and, principally, the Legal Department, the agreements and requirements to be considered in the Special Provisions are included below: (a) prior to the first disbursement of the Bank loan proceeds: (i) the project execution unit (PEU) must have at least: a general coordinator; and a financial specialist designated from among ENATREL personnel, a procurement specialist (contracted in accordance with the terms of reference agreed upon with the Bank), an environmental specialist, and an electrical engineer; and (ii) the approved project Operations Manual must be submitted, to the Bank's satisfaction; (b) exchange rate: to prevent exchange losses, use of the monetization exchange rate for foreign exchange into córdobas is recommended; (c) delivery of the audited financial statements (AFS) for the program and for the executing agency within 120 days after the close of each calendar year during the original or extended disbursement period and within 120 days after the date of the last disbursement; (d) the percentage of supporting documentation required to access a new advance will be 80%, and the period for

utilization of those funds will be six months; and (e) no payments will be made to third parties within the territory of the Republic of Nicaragua on behalf of the borrower.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

- 5.1 The Fiduciary Agreements and Requirements for procurement establish the provisions applicable for execution of all planned procurements under the program.

A. Procurement execution

- 5.2 **Procurement of works, goods, and nonconsulting services.** Contracts for works, goods, and nonconsulting services generated under the program and subject to international competitive bidding (ICB) will be executed using the standard bidding documents (SBDs) issued by the Bank. Procurements subject to national competitive bidding (NCB) will be executed using the country bidding documents agreed upon with the Bank. The Project Team Leader is responsible for reviewing the technical specifications for procurement during the preparation of selection processes.

- 5.3 **Procurement of information technology systems.** The procurement of equipment and technologies required for execution of this project will be executed using the SBDs issued by the Bank, and bidding subject to NCB will be executed using country bidding documents agreed upon with the Bank.

- 5.4 **Turnkey procurement (supply and install).** Not applicable.

- 5.5 **Procurement with community participation.** Not applicable.

B. Selection and contracting of consultants

- 5.6 Contracts for consulting services generated under the program will be executed using the standard request for proposals (RFP) issued by or agreed upon with the Bank. The Project Team Leader is responsible for reviewing the terms of reference for the contracting of consulting services.

- 5.7 **Selection of individual consultants.** There will be cases in which the contracting of individual consultants may be announced through local or international notices for the purpose of forming a short list of qualified individuals.

- 5.8 **Training.** The procurement of training services required for project execution will be conducted using the SBDs issued by the Bank, and bidding subject to NCB will be executed using country bidding documents agreed upon with the Bank.

C. Use of the country procurement system

- 5.9 The country procurement subsystem approved by the Bank, SISCAE, will be used to publish notices of requests for expressions of interest and/or bid solicitations for all procurement and contracting procedures. Any system or subsystem that is

subsequently approved will be applicable to the operation. The operation's procurement plan and its updates will indicate which contracts are to be executed using the approved country systems.

- 5.10 **Strengthening measures.** Training will be conducted on procurement at ENATREL. Project funds will also be used to contract a procurement specialist to strengthen ENATREL.
- 5.11 **Recurrent expenditures.** Not applicable.
- 5.12 **Commercial practices.** Not applicable.
- 5.13 **Retroactive financing.** The Bank may retroactively finance, as part of the loan proceeds, eligible expenditures incurred by the borrower prior to the loan approval date in order to pay direct costs and engineering and administration costs of up to US\$400,000, equal to 1% of the loan amount, provided that requirements substantially similar to those of the loan contract have been met. Such expenditures must have been incurred on or after 18 September 2015, the project profile approval date, but will not under any circumstances include expenditures incurred more than 18 months prior to the loan approval date.
- 5.14 **Domestic preference.** Not applicable.
- 5.15 **Other project execution arrangements.** As part of the project's operating expenses, ENATREL is expected to use IDB funds to purchase updates of the technical standards. ENATREL agrees to use its own funds to purchase the land and easements required for the project.

D. Threshold amounts for ICB and international short list (US\$000)

Method	ICB works	ICB goods and nonconsulting services	International short list for consulting services
Threshold amount	> 1,500	> 150	> 200

E. Main procurements

Activity	Selection method	Estimated date of solicitation/ invitation	Estimated amount US\$
Goods			
Provision of goods and related services, Santa Clara substation and Ocotal – Santa Clara 138 kV line.	ICB	2nd half 2016	14,117,000
Provision of goods and related services, Waslala (El Cuá) substation and La Dalia – Waslala 138 kV transmission line.	ICB	1st half 2016	13,767,000
Provision of goods and related services, Jinotega substation and 138 kV transmission line.	ICB	1st half 2017	6,742,000

Activity	Selection method	Estimated date of solicitation/ invitation	Estimated amount US\$
Provision of goods and related services, Los Brasiles – Acahualinca – Managua 138 kV.	ICB	1st half 2017	685,000
Provision of goods and related services, phase two of Los Brasiles – San Benito 230 kV line.	ICB	1st half 2017	5,000,000
Firms			
Financial and compliance audit	AF-200	2nd half 2016	200,000
Environmental supervision and audit	QCBS	2nd half 2016	150,000
Individuals			
Program midterm evaluation	NICQ	2nd half 2017	25,000
Program final evaluation	NICQ	1st half 2020	25,000

* To access the 18 month procurement plan, click [here](#).

- 5.16 **Procurement supervision.** The procurement supervision method will be as stated in the procurement plan and determined for each selection process. Ex post reviews will be conducted every six months in accordance with the project supervision plan. Reports on ex post review will include at least one physical inspection visit, chosen from among the procurement processes subject to ex post review. No less than 10% of the contracts reviewed must be inspected physically.

Threshold for ex post review for ENATREL		
Works	Goods and nonconsulting services	Consulting services
US\$150,000.00	US\$25,000.00	US\$0

Note: The thresholds established for ex post review are based on the executing agency's fiduciary capacity for execution and may be modified by the Bank to the extent that such capacity changes.

F. Special provisions

- 5.17 **Measures for reducing the likelihood of corruption.** Implement an institutional code of ethics and conduct for the procurement division, primarily on the subject of conflict of interest.
- 5.18 **Other special procedures.** Not applicable.

G. Records and files

- 5.19 The documentation required for fiduciary management (procurement and finances) will keep files and records in order under security level conditions at the executing agency's office, using the report formats defined for the project in compliance with procedures that have been agreed upon and described in the project Operations Manual.

VI. AGREEMENTS AND REQUIREMENTS FOR FINANCIAL MANAGEMENT

- 6.1 **Programming and budget.** The public sector uses as its country system the provisions of the Financial Administration and Budget System Law and the provisions of the National Public Investment System, following the approval cycle of the General Budget of the Republic. The executing agency will manage the budgetary appropriations necessary to have sufficient budgetary credits to cover each year's execution commitments. It must use the SIGFAPRO as the financial/accounting system acceptable to the Bank. If there are any changes that improve the SIGAF's SIGFA/SIGFAPRO project management module, which is currently being modernized, the executing agency is expected to immediately migrate to using the system with that improvement.
- 6.2 **Disbursements and cash flow.** The IDB will make disbursements to the executing agency through the general treasury account with a financial control subaccount. Disbursements will be made according to the actual liquidity needs of the program (financial planning). The disbursement request will be submitted to the Bank along with an expense schedule based on activities in the annual work plan (AWP) for a period of up to six months. Supporting document will be required for at least 80% of disbursements, for a new advance of funds, which must be aligned with the program execution plan, AWP, and the procurement plan. Cash flows may consider the payment of interest during the execution period using funds from the loan according to the amount established in the program budget (sole annex).
- 6.3 **Accounting and financial reports.** The financial statements for the program and for the executing agency must be issued in accordance with international accounting standards and the Financial Management Guide for IDB-financed Projects (OP-273-6). They must be audited annually by a Bank-eligible independent firm. The SIGFA/SIGFAPRO system will be used for financial/accounting record-keeping. This system offers transparency and specific control in budgetary execution.
- 6.4 **Internal control and internal audit.** ENATREL's control, communication, and information environment and/or activities and the monitoring of activities are governed by the country's standards (Technical Standards for Internal Control). The executing agency has an acceptable internal control system, with manuals and defined procedures. It has an Internal Audit Unit (IAU) which is expected to include review of execution of the components responsible for program execution in its annual planning, insofar as it is able to do so. However, in recent operations deterioration has been noted in terms of quality and compliance with Bank policies, which led to the early closure of operations 1933/BL-NI and 1933/BL-NI-2. It is important to point out that this did not compromise the project objectives, nor was this related to prohibited practices, although deviations from good practices did occur in the area of internal control. The Bank will conduct annual training/update sessions with the personnel responsible for financial matters to ensure compliance with the above-mentioned standards and policies.
- 6.5 **External control and reports.** The executing agency will engage the services of a Bank-eligible independent audit firm, following the procedures established by the

Bank. The program's external audit reports and ex post review of procurement processes and disbursement requests, as well as the AFS for the executing agency, must be delivered within 120 days after the close of each fiscal year during the disbursement phase, and 120 calendar days after the end of the original or extended disbursement period, reflecting International Audit Standards. The annual audited financial statements will be prepared in accordance with the guidelines for financial and external audit reports on Bank-financed projects.

A. Financial supervision plan

- 6.6 The executing agency will use audited and unaudited financial reports for financial monitoring of the program. The Bank will conduct the following activities: (i) prior to the start of execution, a launch workshop will be held to train personnel responsible for program execution, consistent with the policy instruments for fiduciary management; (ii) financial accounting visits will be conducted to verify progress made in program execution and compliance in the application of internal control measures, emphasizing analysis of financial execution processes, quality and timing of accounting entries, and suitability of supporting documentation; and (iii) disbursement requests will be subject to ex post review, and verification will be the responsibility of the auditor and Bank staff.
- 6.7 **Execution mechanism.** The executing agency will manage its advance of funds through the Institutional Financial Unit, which will generate payment processes and commitments chargeable to the operation.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/15

Nicaragua. Loan ____/BL-NI to the Republic of Nicaragua
Expansion and Reinforcement of Nicaragua's Electricity
Transmission System

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Nicaragua, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a project for the expansion and reinforcement of Nicaragua's electricity transmission system. Such financing will be for the amount of up to US\$24,000,000 from the resources of the Single Currency Facility of the Bank's Ordinary Capital, corresponds to a parallel loan within the framework of the multilateral debt relief and concessional finance reform of the Bank, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ____ 2015)

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/15

Nicaragua. Loan ____/BL-NI to the Republic of Nicaragua
Expansion and Reinforcement of Nicaragua's Electricity
Transmission System

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Nicaragua, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a project for the expansion and reinforcement of Nicaragua's electricity transmission system. Such financing will be for the amount of up to US\$16,000,000 from the resources of the Bank's Fund for Special Operations, corresponds to a parallel loan within the framework of the multilateral debt relief and concessional finance reform of the Bank, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ____ 2015)