

HAITI

PLAN OF OPERATIONS

**SUPPORT FOR THE PROGRAM TO REHABILITATE THE ELECTRIC
POWER DISTRIBUTION SYSTEM IN PORT-AU-PRINCE**

(HA-T1040)

This document was prepared by the project team consisting of: Marcelino Madrigal (RE2/FI2), Carlos Trujillo (RE2/FI2), Néstor Roa (RE2/FI2), Maristela Aldana (LEG), Barbara Szaszkiewicz (RE2/OD3), and Viviane Saint Dic (COF/CHA). Yolanda Galaz (RE2/FI2) assisted in document production.

CONTENTS

EXECUTIVE SUMMARY

I.	FRAME OF REFERENCE	1
A.	Haiti's electricity sector.....	1
B.	Program strategy	2
II.	THE PROGRAM.....	4
A.	Objectives	4
B.	Description	4
C.	Cost and financing	6
III.	PROGRAM EXECUTION	7
A.	Beneficiary and executing agency.....	7
B.	Execution mechanism and project management	7
C.	Procurement.....	7
D.	Monitoring and evaluation.....	7
IV.	SPECIAL CONSIDERATIONS AND ACTION PLAN	8
V.	VIABILITY AND RISKS.....	9
A.	Institutional, socioeconomic, and financial viability.....	9
B.	Environmental and social viability.....	9
C.	Benefits and risks	9

ANNEXES

Annex I Itemized budget

APPENDICES

Proposed resolution

BASIC SOCIOECONOMIC DATA

For basic socioeconomic data, including public debt information, please refer to the following address:

<http://www.iadb.org/RES/index.cfm?fuseaction=externallinks.countrydata>

INFORMATION AVAILABLE IN THE RE2/FI2 TECHNICAL FILES

PREPARATION:

Diagnóstico económico-financiero de Électricité d'Haïti, Informe final [Financial diagnostic assessment of Électricité d'Haïti, final report]

Transition Strategy for Re-engagement (document GN-2212-2)

Haiti. Bank's Transition Strategy 2005-2006 (document GN-2212-7)

Energy Sector Thematic Group: Electricity Subsector: Stratégie pour la remise en état du sous-secteur Énergie Électrique [Recovery strategy for the electric power subsector]

Proposition de protocole d'accord pour une sortie de crise du secteur de l'électricité [Proposed memorandum of understanding for ending the electricity sector crisis]

EXECUTION:

Terms of Reference

Procurement

ABBREVIATIONS

EDH	Électricité d'Haïti
ICF	Interim Cooperation Framework
MTPTC	Ministry of Public Works, Transportation, and Communications

SUPPORT FOR THE PROGRAM TO REHABILITATE THE ELECTRIC POWER DISTRIBUTION SYSTEM IN PORT-AU-PRINCE

(HA-T1040)

EXECUTIVE SUMMARY

Beneficiary:	Électricité d'Haïti (EDH)	
Executing agency:	Électricité d'Haïti	
Financing:	IDB: (FSO)	US\$250,000
	Local:	<u>US\$ 28,000</u>
	Total:	US\$278,000
Objectives:	Prepare a plan to enhance the management and quality of electricity services and rehabilitate EDH'S power grid in Port-au-Prince, so as to improve the financial profile of electric power distribution at EDH and maintain service continuity.	
Terms:	Execution period:	8 months
	Disbursement period	12 months
Special contractual clauses:	The hiring of a technical coordinator (paragraph 3.5) will be a condition precedent to the first disbursement.	
Exceptions to Bank policy:	None.	
Procurement:	Consultants will be selected and hired in accordance with applicable Bank policies as described in document GN-2350-6.	
Environmental and social review:	The Committee on Environment and Social Impact reviewed the project at meeting 03/06 on 20 January 2006, and the plan of operations was amended as agreed (paragraph 5.2).	

Benefits:	This technical-cooperation project is in preparation for loan operation HA-L1014, which is aimed at rehabilitating the electric power distribution system in Port-au-Prince so as to maintain a continuous power supply for residents of the Haitian capital and to help reverse the financial decline of EDH.
Coordination with other institutions:	All activities in Haiti's electricity sector are coordinated with the energy sector donor coordination forum, chaired by the Ministry of Public Works, Transportation, and Communications (MTPTC). Activities in relation to power distribution in Port-au-Prince will be closely coordinated with the World Bank, as was the preparation of this operation.

I. FRAME OF REFERENCE

A. Haiti's electricity sector

- 1.1 Haiti's electricity sector is served primarily by the State-owned Électricité d'Haïti (EDH) across its four segments of generation, transmission, distribution, and trading. Established in 1971, EDH is an autonomous agency of the central government charged with electricity service planning, operation, and delivery in Haiti. The Ministry of Public Works, Transportation, and Communications (MTPTC) is the sector policy-making and regulatory agency.
- 1.2 Haiti's electricity sector has not been spared from the country's economic and social woes in recent years. Electricity coverage in Haiti is among the smallest in the world. Fewer than one million of the country's 8.5 million residents have limited access to electricity, a coverage rate of only 10%. Even those with access do not have a uninterrupted power supply, and few zones in Port-au-Prince or elsewhere in Haiti have service around the clock.
- 1.3 In its 20 years of existence, EDH has experienced an acute case of the same problems faced by all State-owned companies in Latin America and the Caribbean in the era prior to energy sector reforms. The company is technically bankrupt and collects revenues for only 50% of the energy it produces or purchases from third-party producers. It relies on direct transfers from the Ministry of Economic Affairs and Finance to supplement its revenues and maintain current levels of service—which, the state of the company aside, worsens the government's current account deficit. EDH also has extensive problems with customer service and a number of energy trading processes. Its employees lack technical skills and motivation, creating a vicious circle that has further compromised service quality and nonpayment.
- 1.4 Demand for electricity in Haiti is essentially unknown. Demand in the Port-au-Prince area is estimated at 150 MW per day. Electricity for the area is supplied by EDH through 60 MW of effective capacity, which can climb as high as 100 MW when water levels rise at the Péligre hydroelectric power plant. Electricity generation, transmission, and distribution systems in the Port-au-Prince area are isolated from other systems serving the rest of Haiti.
- 1.5 EDH has similar management and financial problems in these other isolated systems, with the exception of Jacmel province. The bill collection rate in Jacmel is now up to 98% and power is available 24 hours a day after a program was carried out there to enhance service quality and improve management and customer relations. There is ample evidence that consumers' willingness to pay for electricity is strongly correlated to the quality of the power supply and customer service provided by the power utility. In the lower socioeconomic strata, ability to pay does

not necessarily have a direct bearing on the challenge of turning nonpaying users into satisfied customers.¹

- 1.6 The primary objective for the sector is to develop a program that will help the democratically elected government lay the foundation for future development, with a particular focus on reducing extreme poverty and improving economic conditions in Haiti. To this end, the Interim Cooperation Framework (ICF) was established to bring international organizations and development banks together with the transitional government to develop such a program. The program has four main pillars: (i) strengthening political governance and national dialogue, (ii) strengthening institutions for economic development, (iii) promoting economic recovery, and (iv) improving access to basic services. Based on these pillars are specific short- and medium-term plans for more than 20 sectors of the economy, including basic infrastructure, communications, water, and electricity. Thematic groups or donor coordination forums have been established in each sector to bring the international community and the government together to design sector-specific strategies.

B. Program strategy

- 1.7 Under the ICF—to which the Bank is signatory—the energy sector donor coordination forum developed a short/medium-term strategy and a long-term roadmap for the sector in its four segments of generation, transmission, distribution, and trading. The donor community is actively supporting the short-term plans under the ICF to ensure reliable public services at the current levels. Meanwhile, the electricity sector is seeking to better its own financial situation and, in the process, the government's as well. In 2005 the government transferred more than US\$47 million to cover the sector's operating deficit, just slightly less than it spent on debt service.
- 1.8 The short-term strategy set by the donor community and the government was laid out in the Memorandum of Understanding for Ending the Electricity Sector Crisis. It lists the government's commitments, which may be grouped into the following categories: (i) actions to make decision-making more transparent in the electricity sector, (ii) institutional strengthening and governance in the electricity sector, (iii) normalization of contractual commitments with energy producers, (iv) specific commitments related to rate adjustments, and (v) security for all donor community activities in the sector. The donor community, meanwhile, developed a minimal investment program for the sector that will help to ensure reliable public services at the current levels while bettering the sector's financial profile. Specifically, the donor community's actions are aimed at: (i) maintaining EDH's power generation plants, which have been out of service in both Port-au-Prince and the rest of the

¹ Final report on "Workshop on Meeting the Needs of the Urban Poor: The Case of Electrification," Salvador, Brazil, September 2005. ESMA, AID, IDB, EdF, and Coelba.

country; (ii) rehabilitating distribution networks and helping to reduce power losses and improve bill collection; (iii) helping to improve EDH's information and asset inventory systems, and helping to rebuild its accounting and financial reporting systems; and (iv) other technical assistance activities.

- 1.9 ICF participants stressed the need to bolster efforts in the energy sector at the International Conference on Haiti, held in Montreal in June 2005. The Bank responded by beginning to work with the energy sector donor coordination forum on emergency measures for the sector. These initial efforts are in line with the Bank's country strategy with Haiti (document GN-2212-2-E and its update, GN-2212-7-E), which identifies improving utility services and basic infrastructure—including in the transportation and electricity sectors—as a major focus of the Bank's activities.
- 1.10 Other international organizations and donors participating in the short-term strategy include the World Bank, the Canadian International Development Agency, the United States Agency for International Development, the European Commission, the French Development Agency, and the International Monetary Fund. The short-term actions include a program to revitalize power distribution networks in Port-au-Prince in close collaboration with a program to reduce power losses through better business management, service quality, and customer service. These soft measures will be accompanied by an optimized maintenance plan for distribution networks and effective technological solutions for metering.
- 1.11 The program to be designed will seek to enhance the financial profile of electric power distribution in Port-au-Prince by meeting minimal rehabilitation needs and implementing an incentive-based program for zone-by-zone reductions in technical and nontechnical power losses. The program will provide crosscutting solutions for technology and institution-strengthening throughout EDH, and establish specific programs to provide solutions in each zone of Port-au-Prince. The program should be results-driven. Meeting indicator targets in terms of reduced power losses and a better financial profile of electric power distribution at EDH will be prerequisites for continuing the program in subsequent zones of Port-au-Prince. In addition to providing solutions targeted to each of the different socioeconomic profiles of Port-au-Prince residents, this will also help to establish a results-driven mechanism for replicating the successes in Jacmel province with the parallel, coordinated participation of various donors.

II. THE PROGRAM

A. Objectives

- 2.1 The program objective is to prepare a plan to enhance the management and quality of electricity services and rehabilitate EDH's power grid in Port-au-Prince, so as to improve the financial profile of electric power distribution at EDH and maintain service continuity. The plan to be developed under this technical-cooperation operation will be financed under loan HA-L1014, which is expected to be submitted to the Board of Executive Directors in the third quarter of this year.

B. Description

- 2.2 The program design under this technical-cooperation project will be done in two parts. First, the existing maintenance plan for the Port-au-Prince power distribution grid will be optimized to determine the best minimum actions for each area and to determine crosscutting needs. Second, an action plan will be developed for each zone of Port-au-Prince. These detailed plans will identify needed improvements in metering, facilities, and business management for each zone.
- 2.3 **Component I: Crosscutting plan for optimal rehabilitation of the power grid and development of the management system for improved customer service.** The objective of this component is to optimize the current rehabilitation (maintenance) plan for the distribution system in Port-au-Prince. The existing plan has the following weaknesses: (i) it is not based on a structured, efficient maintenance work plan; (ii) it relies on visual inspection to determine needed repairs to equipment such as utility poles, transformers, and insulators; and (iii) it does not incorporate a financially or strategically sound approach to loss reduction or a parallel plan for improving customer service.
- 2.4 The optimized rehabilitation plan will include an investment plan for the entire Port-au-Prince distribution grid that describes crosscutting and zone-specific needs. The following crosscutting infrastructure needs will be identified: (i) repairs to major medium-voltage circuits; (ii) maintenance needs in the major substations serving circuits in Port-au-Prince; and (iii) crosscutting needs for equipment to support trading activity, such as computerized business management systems, main metering, and equipment for utility fleets. The following zone-specific needs will also be identified: (i) utility poles in need of replacement; (ii) transformers in need of replacement; (iii) insulators and other support equipment in need of replacement; and (iv) zone-specific metering needs, based on geographic and socioeconomic conditions. Due to the nature of the distribution grid in Port-au-Prince, the zones are expected to be based on the medium-voltage distribution circuits (currently sixteen 12.5-kilovolt circuits).

- 2.5 An estimate will be made of the reduction of technical losses based on the optimized plan, and the economic and financial viability of the entire program will be determined. Overall and zone-specific targets will be set for loss reduction and improved customer service. The targets are to be met by implementing the management system for improved customer service. The components of this management system will be established, as will specific features to be addressed in implementing the system in each zone. Features to be covered by the plan include the following: (i) administrative and staffing structure to support the system; (ii) major customer service procedures, such as those for connecting new customers, handling of complaints, and turning nonpaying users into regular customers; and (iii) targets and system indicators for each procedure, and strategies for motivating staff to adopt the new management system. The plan should reflect the successful aspects of the experience in Jacmel province.
- 2.6 **Component II: Detailed plan and zone-by-zone implementation scheme.** Once the optimized crosscutting and zone-specific rehabilitation needs for the Port-au-Prince power grid have been established, and the new management system for improved customer service established in broad terms, the detailed plan and zone-by-zone implementation scheme will be developed. The following features will be described for each zone: (i) in addition to the rehabilitation needs identified under component 1, specific metering equipment needed for the zone; (ii) needed improvements to connection equipment at or inside residences, as required in the zone; and (iii) equipment armoring, wiring, and other needs.
- 2.7 The management system for improved customer service will be customized for each zone through (i) a customer communication strategy, (ii) a business strategy for enhancing customer service, targeted to customer socioeconomic conditions, and (iii) a specific strategy for turning nonpaying users into regular customers. Thus, the program should provide solutions for technology, business management, and customer relations based on the geographical and socioeconomic features specific to the zone. All these activities should reflect successful experiences in Haiti and elsewhere in improving service in areas at the low end of the socioeconomic spectrum.
- 2.8 The action plan for coordinated efforts to meet investment and management needs in each zone will be developed by setting a baseline for indicators and targets to be used to determine whether program objectives are met in each zone. These indicators should be essentially the same from one zone to another, with adjustments in baselines and targets based on specific conditions in each zone. The indicators will fall into three main categories: (i) loss indicators, (ii) service quality indicators, and (iii) financial indicators. Specific indicators will include: (i) technical and nontechnical losses per zone, (ii) bill collection rates, (iii) hours of available power supply in each zone, and (iv) increase in billing per zone. The indicators should be simple, understandable and effective, so that targets are easy to understand and manage for both EDH staff and the public communication strategy.

C. Cost and financing

- 2.9 The estimated total cost of the technical-cooperation project to be supported by the Bank is US\$278,000, broken down as follows: US\$250,000 from the Fund for Special Operations (FSO) and US\$28,000 in local counterpart resources in kind. A consulting firm and an individual consultant are to be engaged. The consulting firm will conduct the program to reoptimize the maintenance plan and develop the implementation strategy and management system for improved customer service (estimated cost: US\$175,790). The individual consultant will serve as project technical coordinator (estimated cost: US\$50,200).

Cost table
(in U.S. dollars)

Description	IDB (FSO)	EDH	Total
1. Consulting services and per diems	225,990		225,990
Consulting firm with expertise in engineering and management of electricity distribution and trading processes	175,790		175,790
Fees	139,590		139,590
Travel and per diems	36,200		36,200
Technical coordinator	50,200		50,200
Fees	40,200		40,200
Travel and per diems	10,000		10,000
2. Audits	7,000		7,000
3. Contingencies	17,010		17,010
4. Local counterpart		28,000	28,000
4.1 Professional and technical personnel		15,000	15,000
4.2 Administrative and office expenses		13,000	13,000
Total	250,000	28,000	278,000
%	90	10	100

III. PROGRAM EXECUTION

A. Beneficiary and executing agency

- 3.1 The beneficiary and executing agency of this technical-cooperation project will be Électricité d'Haïti (EDH). The General Manager of EDH will be responsible for program execution. A technical coordinator will be designated as liaison between Bank Headquarters and the Country Office. This technical coordinator will assist in hiring the consulting firm, general work supervision, and preparing the loan proposal to finance the resulting program. The hiring of the technical coordinator will be a condition precedent to the first disbursement.

B. Execution mechanism and project management

- 3.2 The project technical coordinator will: (i) coordinate project relations with EDH senior management, the consulting firm, and Bank specialists; (ii) serve as liaison with the Country Office in Haiti for project execution; (iii) coordinate with specialists at Headquarters in preparing documents for the loan proposal; and (iv) submit regular project progress reports to EDH and the Bank.

C. Procurement

- 3.3 Consultants will be selected and hired in accordance with applicable Bank policies (document GN-2350-6). EDH will commission the consulting services needed for project execution by taking into account the qualifications and experience required of consultants under the terms of reference in the project's technical files.
- 3.4 EDH will establish and maintain effective accounting, financial, and internal control systems that allow for tracking of the source and use of program funds in accordance with Bank policies. The accounting system will be set up to provide the necessary documentation, verification of transactions, and timely financial reporting. A revolving fund of up to 10% of the Bank's contribution will be established.

D. Monitoring and evaluation

- 3.5 EDH will be responsible for the supervision of consulting services and determine whether work complies with the Bank-approved terms of reference and the agreed deadlines. The program technical coordinator will support EDH in these responsibilities. Consultants will provide work plans, reporting as requested by the technical coordinator. They will also deliver a midterm report and final report for the operation.

IV. SPECIAL CONSIDERATIONS AND ACTION PLAN

- 4.1 This project will be carefully coordinated with the other members of the energy sector donor coordination forum, especially the World Bank, in conjunction with which the program to improve the electric power distribution system in Port-au-Prince is being prepared. The two institutions have conducted a joint identification mission that revealed the following essential features of the future program: (i) a zone-specific, results-driven mechanism to be used in Port-au-Prince; (ii) simple, effective indicators for all activities in each zone, so as to tap limited resources and potentially attract new donors; and (iii) any crosscutting needs identified (e.g. a metering system) to be incorporated into the operations of both institutions in a coordinated manner. Based on these principles, the World Bank has already begun—with the help of a consultant—to develop the rehabilitation plan for one of the zones to be targeted by its program.

V. VIABILITY AND RISKS

A. Institutional, socioeconomic, and financial viability

- 5.1 While the ICF and energy sector donor coordination forum have achieved sufficient coordination in support of the short- and long-term strategies for the electricity sector, and various MTPTC and EDH officials have been collaborating extensively, a technical coordinator will be needed because the operation will produce a nontraditional plan for investment in maintenance and will include measures for customer service management—both novel concepts for EDH.

B. Environmental and social viability

- 5.2 The outcome of this technical-cooperation project will be a strategy and inputs for a proposed loan operation—preferably results-driven—to reduce energy losses at EDH, which currently stand at 50%. These activities aimed at energy efficiency and savings will have a positive medium-term effect on the environment. Electric power service will be improved for the 10% of the population that currently has it, and current levels of service (which in no part of the city is available around the clock) will be maintained. The resulting program will not cover the construction of new works, but only the maintenance of existing facilities. Thus, all environmental and social impacts of the resulting operation are expected to be positive. This technical-cooperation project will identify EDH's practices for the handling of electrical materials for maintenance purposes, particularly dielectric oils. International industrial practices will be recommended, where applicable, for EDH to adopt for work under the loan operation potentially resulting from this technical-cooperation project.

C. Benefits and risks

- 5.3 The direct beneficiary of the operation will be EDH and its electric power consumers. The operation will prepare a loan with potential positive outcomes to put the company on the path to financial recovery, while maintaining coverage at the current limited level. This program is complemented by other programs of the international community that involve medium- and long-term actions to ensure that new governments continue moving toward sector recovery, and to launch a far-reaching investment program to expand service coverage. The program's main risk is that the security situation may deteriorate and prevent the missions needed to execute the technical-cooperation project. Now that Haiti has a newly elected government and is enjoying renewed international support, conditions are right for the security situation to improve.

Support for the Program to Rehabilitate the Electric Power Distribution System in Port-au-Prince (HA-T1040)

Itemized Budget (in U.S. dollars)

Description	in U.S. dollars			
	Unit (month/mission)	Unit cost	Subtotal	Total
1. Consulting services and per diems				
A. Consulting firm with expertise in engineering and management of electricity distribution and trading processes			175,790	225,990
Fees			84,600	
Distribution engineering and trading expert and project manager	3	8,500	25,500	
Expert in customer service management systems	3	7,700	23,100	
Distribution and project evaluation specialist	3	6,000	18,000	
Management processes specialist	3	6,000	18,000	
Overhead (65% of fees)			54,990	
Travel and per diems, six team missions			36,200	
Distribution engineering and trading expert and project manager	5	9,000	9,000	
Expert in customer service management systems	5	9,000	9,000	
Distribution and project evaluation specialist	4	10,400	10,400	
Management processes specialist	3	7,800	7,800	
B. Technical Coordinator			50,200	
Fees	6	6,700	40,200	
Travel and per diems	5	2,000	10,000	
2. Audits		7,000	7,000	7,000
2. Contingencies			17,010	17,010
3. Local counterpart			28,000	28,000
2.1 Professional and technical personnel			15,000	
2.2 Administrative and office costs			13,000	
Total				278,000

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-__/_

Haiti. Nonreimbursable Technical Cooperation ATN/___-___-HA. Support for the Program to Rehabilitate the Electric Power Distribution System in Port-au-Prince

The Board of Executive Directors

RESOLVES:

1. That the President of the Inter-American Development Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such agreements as may be necessary and to take such additional measures as may be pertinent for the execution of the plan of operations referred to in Document AT- _____ with respect to a non-reimbursable technical cooperation to support the program to rehabilitate the electric power distribution system in Port-au-Prince.

2. That up to the amount of US\$250,000 or its equivalent in other currencies shall be authorized for the purpose of this resolution, chargeable to the net income of the Fund for Special Operations.

3. That the above-mentioned amounts are to be provided on a nonreimbursable basis.

(Adopted on _____, 200_)

LEG/OPR/RGII/IDBDOCS#721225
HA-T1040