

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

HAITI

REHABILITATION OF PELIGRE TRANSMISSION LINE

(HA-L1100 AND HA-G1030)

GRANT PROPOSAL

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ABBREVIATIONS

B/C	Benefit/Cost Ratio
CBA	Cost Benefit Analysis
EA	Executing Agency
EDH	Electricité d'Haiti
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMR	Environmental and Social Management Report
GoH	Government of Haiti
IDB	Inter-American Development Bank
IHSI	Statistics and Data Processing Institute of Haiti
INE/ENE	Energy Division of the Infrastructure and Environment Sector
IPP	Independent Power Producers
KfW	German Bank Kreditanstalt für Wiederaufbau
Km	Kilometers
Kv	Kilovolt
KWh	Kilowatt hour
M	Meters
M&E	Monitoring and Evaluation
MEF	Ministry of Economy and Finance
MTPTC	Ministry of Public Works, Transportation and Communications
MVA	Megavolt Ampere
MWh	Megawatt hour
NPV	Net Present Value
OC	Ordinary Capital
OFID	OPEC Fund for International Development
PAP	Port-au-Prince
PBG	Policy Based Grant
PHP	Peligre Hydroelectric Plant
PPA	Power Purchase Agreements
RAP	Resettlement Action Plan
UCP	Project Coordination Unit
USG	Government of United States
UTP	Project Technical Unit
WB	World Bank

ANNEXES	
ANNEX I	Development Effectiveness Matrix (Summary)
ANNEX II	Results Framework
ANNEX III	Fiduciary Arrangements

ELECTRONIC LINKS	
REQUIRED	
1.	Pluriannual Execution Plan (PEP) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39165218
2.	Monitoring & Evaluation Arrangements http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39165837
3.	Environmental and Social Management Report (ESMR) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39165043
4.	Procurement Plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39165165
OPTIONAL	
5.	Visualization of design alternatives http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39165061
6.	Routing of the line and underground cable http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39165055
7.	Economic Analysis http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39165099
8.	Haiti Action Plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39164817
9.	PUP Compliance Policy Analysis http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39200879
10.	Safeguard Screening Form for Screening and Classification of projects http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39201440
11.	Energy Sector Interventions http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39239088
12.	ENE Operations Status http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39195515

PROJECT SUMMARY
HAITI
REHABILITATION OF PELIGRE TRANSMISSION LINE
(HA-L1100 AND HA-G1030)

Financial Terms and Conditions				
Beneficiary: Republic of Haiti			Flexible Financing Facility	
Executing Agency: Ministry of Public Works, Transportation and Communications (MTPTC) and with the participation of Electricité d’Haïti (EDH)			Amortization Period:	N/A
			Disbursement Period:	4 Years
Source	Amount	%	Grace period:	N/A
IDB Grant Facility	7,700,000.00	32%	Interest Rate:	N/A
Haiti Reconstruction Fund (HRF)	16,000,000.00	68%		
Total	23,700,000.00	100%	Currency Approval:	USD
Project at a Glance				
<p>Project Objective/Description: The general objective of the Program is to improve the performance of the Peligre transmission line and provide reliable supply and secure power. The specific objectives of the Program are: (i) to rehabilitate the capacity of the 115-kilovolt (kV) transmission line from Peligre to Tabarre/Nouveau Delmas; (ii) to reduce transmission losses and power outages; and (iii) minimize environmental and social impacts. The operation will finance the following components: subcomponents (a) investment in the Peligre-Nouveau Delmas transmission line, engineering, design and construction; (b) resettlement and social related impact management; and supervision, administration and management. The main beneficiaries will be the population of Haiti, principally located in the <i>Port-au-Prince</i> area.</p>				
<p>Special contractual conditions to be fulfilled by the Beneficiary to the satisfaction of the Bank (¶ 3.4). Special execution conditions. (i) Conditions prior to the award of the Peligre transmission line rehabilitation works’ contract of Component I - Subcomponent (a): (1) signature of an inter-institutional agreement between MTPTC and EDH defining the responsibilities of each participant in the Program; (2) submission by MTPTC of the manual of operations of the Program; and (3) evidence of entry into effect of a legal document (e.g. executive order) defining the right of way and easement rights for the Peligre transmission line; (ii) Conditions prior to the order to proceed to begin the works of Component I: (1) all permits, licenses and authorizations, as well as ownership rights or clearance of the right-of-way that are necessary for the execution of the works, have been secured; (2) present a copy of the final ESMP and Resettlement Action Plan (RAP); and (3) present a copy of the Peligre transmission line rehabilitation works’ contract for Component I and a copy of the supervision arrangements, which shall include environmental and social specifications as set forth in the ESMP and RAP; and (iii) Condition prior to the start of operation of rehabilitated transmission line: provide a copy of the approved new operation manual for the Peligre transmission line (including its non-dismantled parts replaced by underground line). Environmental and social clauses: the Beneficiary shall comply with the environmental, social, health and safety and labor requirements set forth in section 6.2 of the ESMR. Special maintenance and operation clauses: at the request of the Bank and up to five years after the last disbursement date: (1) provide evidence that EDH is performing an adequate maintenance and operation of the facilities financed by the Program and that EDH has allocated adequate resources to that effect; and (2) present, to the Bank, maintenance reports on the condition of the works and goods financed by the Bank.</p>				
Exceptions to Bank policy: NONE				
Project qualifies for: SEQ <input type="checkbox"/> PTI <input type="checkbox"/> Sector <input type="checkbox"/> Geographic <input type="checkbox"/> Headcount <input type="checkbox"/>				

I. DESCRIPTION AND RESULTS MONITORING

A. Background, Problem Addressed, Rationale

- 1.1 **Background.** The power system in Haiti is divided into four major geographic regions: the metropolitan area of Port-au-Prince, the Greater South, the Greater North, and the Western Center regions. The Greater North region includes the *Nord-Ouest*, *Nord*, *Nord-Est* and *Artibonite* provinces. The Greater South includes the *Grand Anse*, *Sud*, *Sud-est* and part of *Ouest* provinces. The Western Center includes the *Centre* and part of *Ouest* provinces. The Port-au-Prince (PAP) metropolitan area includes most of the *Ouest* province. There are 9 isolated networks: the 115/69 kilovolts (kV) network that serves the PAP metropolitan area, and the 23/12.5 kV networks that serve areas around Cap Haitien, Gonaives, Les Cayes, Jacmel, Port-de-Paix, Petit Goave, Aquin, Fort-Liberté and Arcahaie.
- 1.2 The most important source of energy in Haiti is the Peligre Hydroelectric Plant (PHP) with a 54-megawatt (MW) capacity. Recent additions in generation capacity include the 10-MW diesel station at the Caracol Industrial Park; the 6-MW diesel plant commissioned at Fort Liberté (2012) and the E-Power diesel station¹ 34-MW. In 2013, the total installed capacity was 310-MW of which about 80% were diesel engines burning gas oil and heavy fuel oil. About 60% of the firm capacity is provided by independent power producers (IPPs) that sell their energy to the main utility, *Electricité d’Haïti* (EDH) under long term power purchase agreements (PPAs). The transmission lines and substations are also in poor condition and load shedding is frequent.
- 1.3 **Energy sector organization.** The power sector’s governance is still weak, characterized by an insufficient regulatory framework, a remaining fragmentation among the main institutions governing the sector as well as low operational and technical capacity for policy making and regulation. The Ministry of Public Works, Transportation and Communications (MTPTC) is formally responsible for energy sector oversight, policy making and regulation. The Office of Mines and Energy (*Bureau des Mines et de l’Energie* or BME), an autonomous legal entity under the authority of the MTPTC, has a broad objective of preparing, defining, and implementing the policy for the development of energy and mineral resources and is responsible mainly for providing a better scientific understanding of the geology of the country, surveying and assessing these resources, and regulating and controlling the exploration and exploitation of these resources, including awarding concession contracts and permits. BME focuses mainly on mining, petroleum products, and energy for cooking.
- 1.4 MTPTC has a broad area of responsibility in the infrastructure sector and has specialized departments for public works, transport and communications. For energy matters, the Ministry has relied in the past on an Energy Sector Management Unit (*Unité de Gestion du Secteur de l’énergie*), which was replaced in April 2012 by an Energy Cell and BME.

¹ All references to diesel stations or plants or generators in this document should be interpreted as references to thermoelectric generation plants that use internal combustion diesel engines as a prime mover, which can burn diesel oil, heavy fuel oil or other liquid fuels.

This organization provides limited operational and technical capacity for effective sector guidance and supervision.

- 1.5 Electricité d'Haïti (EDH), the state-owned monopoly for the provision of electricity in Haiti, was established in 1971, together with the commissioning of the first units of the PHP.² According to its statutes, EDH has a separate legal personality and responds to the MTPTC. It has a legal monopoly and exclusive responsibility for generation, transmission, distribution and commercial activities for electricity service at national level. However, private participation is possible under the existing laws. EDH can and has purchased electricity from independent power producers (IPPs) and the Law on the Modernization of Public Enterprises of 1996 allows private participation in EDH through management and concession contracts and capitalization schemes.
- 1.6 **Tariff structure.** The electricity tariff schedule has not changed since August 2009 and the current average tariff of about 29 US¢/per Kilowatt hour (kWh) (15 US¢/kWh for a residential consumer with a monthly consumption of 100 kWh and 35 US¢/kWh for an industrial consumer) for 11 hours per day. Service in PAP is not affordable for most consumers in a country with the lowest income per capita in the region. Many consumers simply do not have the capacity to pay or are not willing to pay these prices for a poor service. EDH has lost most of its large industrial consumers, which prefer to disconnect from the grid and operate with their own power supply.
- 1.7 **Problem to be addressed.** The main problem in Haiti's transmission sector is outdated performance and lack of reliable and secure power of the main transmission line (Peligre transmission line) that serves cities in the central region, including the area from Peligre to the metropolitan area of Port-au-Prince (PAP). The Peligre transmission line is a 115-kiloVolt (kV) bi-tern that covers a distance of approximately 55-kilometers (km) between PHP and the substation Nouveau Delmas in Port-au-Prince. The Peligre transmission line is supported by 194 towers, some with solid bases such as concrete and others with lattice steel towers. Most of the towers are in robust and solid shape. A few of them require repairs/reinforcement. The bases are protected by stone walls and embankments. A protection wire on the top connects the towers. The maximum capacity per circuit is 72-Mega-Volt Ampere (MVA). The most important deficiency is the physical state of the Peligre transmission line infrastructure (which is over 40 years old), followed by the lack of reliability and quality of its service (average of 11 hours of electricity per day) and the high level of overhead transmission losses of the line (around 4%). The diagnosis below presents the main causes that have been identified and are presented in their order of importance.
- 1.8 **Obsolete transmission infrastructure.** The Peligre transmission line has been in operation for over 40 years, with approximately 40% of its elements in a salty environment. Conductors, insulation and ground wires have reached their useful life, therefore becoming obsolete and inefficient. In addition, the area of Morne-a-Cabrit has witnessed the intensive exploitation of construction material, which has weakened the

² PHP became the major source of electricity supply to the metropolitan area of Port-au-Prince until the early 1980's, when EDH relied on diesel generation plants to meet demand growth.

foundations of five towers, requiring special works to recover and reinforce the foundations.

- 1.9 **Reliability and quality of electricity service.** Electricity coverage is low and available data is inconsistent. According to a survey on the living conditions of households completed in 2003 by the Statistics and Data Processing Institute of Haiti (IHSI) electricity coverage was 92% in the PAP metropolitan area for houses that are connected to the EDH network; 23% in other urban areas; 11% in rural areas and 32% at the national level.³ IHSI estimation of the population and households in 2009, distributed by regions and urban and rural areas, indicates that the rural areas account for 53% of the population and the PAP metropolitan Area for about 28%. Reliable figures are currently unavailable regarding the actual electricity coverage following the 2010 earthquake.
- 1.10 **High level of power losses.** Peligre overhead transmission losses oscillate around 4%. The main cause of such losses are delays in the necessary investments to upgrade and rehabilitate the transmission line that forces the transmission line to operate at full capacity.
- 1.11 **Transmission line vulnerability in the PAP area.** 100% of the electricity consumed in PAP comes through the Peligre transmission line and the 69-kV surrounding network. With low availability of generation capacity, reduced generation capacity of PHP (currently under rehabilitation) and poor reliability of the transmission and distribution grids, chronic electricity shortage in Haiti is frequent (average of 11 hours of electricity service per day in the PAP metropolitan Area). With this configuration, the reliability of the PAP area is heavily dependent on the availability of the transmission line and is vulnerable to systemic failures in the network.
- 1.12 **Increased demand unmet.** The demographic explosion of the Port-au-Prince metropolitan area for the past 25 years, accelerated by the January 12th, 2010 earthquake, has increased the demand for space. In terms of maneuverability, the line was designed when there was only one substation next to the power plant and one next to the load. Operations were simple. With the load growth, one more substation was added, and another is under construction, requiring operational flexibility to manage the grid. Interrupters and other equipment are needed for the transmission line to achieve the required operational flexibility.
- 1.13 **Rationale.** In view of the aforementioned factors, the following needs were identified: (i) invest in the rehabilitation of the Peligre transmission line from Peligre to Nouveau Delmas⁴; (ii) continue with the effort to reduce power outages and losses; and (iii) mitigate environmental and social impacts that will be triggered by the rehabilitation works. These identified needs are areas of major focus of the present operation which will consist of replacing, restoring, upgrading, insulating and grounding the Peligre transmission line and performing associated auxiliary activities. In addition, the rehabilitation of the Peligre transmission line⁵ is crucial for the entire PHP rehabilitation to avoid major blackouts, further energy losses and maximize the usage, reliability and

³ 2013 Energy Sector White Paper II, F. Lecaros & M. Dussan, November 30th, 2013.

security of all energy that will be produced when the PHP rehabilitation is complete (scheduled for 2017).⁶

- 1.14 **Country's sector strategy.** In the Action Plan for the National Recovery and Development of Haiti of March 2010, the Government of Haiti (GoH) established that reconstruction of the electricity sector should be part of an overall development plan to make it: (i) efficient and financially viable; (ii) operate as an open, transparent market; (iii) increase energy transmission capacity; (iv) promote renewable energy; and (v) attract sufficient capital to meet the rising demand while providing affordable, high-quality electricity service. Accordingly, the following general areas of action have been identified for the sector's recovery: (i) complete short-term repair work in order to ensure a minimum of service to the population; (ii) increase the supply of electricity services and respond to development needs, while improving the management of EDH in order for it to achieve financial balance; and (iii) update the electricity sector's legal and regulatory framework.
- 1.15 **Taking stock of the Bank's energy programs in Haiti.** The Bank has been deploying an integral and comprehensive strategy of support to the energy sector.⁷ Since 2006, US\$129.5 million were invested to support both infrastructure development and policy reform. Of these, US\$59 million has supported the development and implementation of an energy sector framework that contributed to modernize and increase the efficiency and reliability of energy through three separate programmatic policy-based grant operations (PBGs) (HA-L1065; HA-L1073 and HA-L1083) whose main achievements were: (i) annual disclosure of key financial information; (ii) approval of an energy policy by the Haitian cabinet; (iii) submission to Parliament of Draft Law on Electricity Theft; (iv) improvement of EDH financial and operational capacity; and (v) critical documents to improve EDH's PPAs, including a model PPA template. The remaining US\$70.5 million supported the generation and distribution sub-sectors. Specifically, US\$32.5 million have been provided to increase the production of clean, renewable energy through the rehabilitation of the PHP (currently at 30% of execution stage). With regard to the distribution subsector, the construction of Tabarre substation and the rehabilitation of the three most important circuits are underway in the Petion-ville area and procurement for eight other circuits has launched. (see [EOL#11](#)). In addition, in 2013, IDB together with the international donor community led the preparation of the White Paper II to discuss

⁴ The effectiveness of the selected intervention (in this case rehabilitation of the Peligre transmission line) is based on existing evaluations of interventions in the Latin American and Caribbean Region where the applicability of the intervention can be reproduced. This condition is met in several countries of Latin America, Asia and Africa. One such project financed by the Bank includes Phase I and Phase II of the Paraguay Power Transmission Program. In addition, the rehabilitation of the Peligre transmission line will reduce both transmission losses and power outages. The most relevant case is Chile, which reduced such losses by more than 15% between 1985 and 2007 (*Reducing Technical and Non-Technical Losses in the Power Sector*, World Bank, 2009).

⁵ Formulaire de Note Conceptuelle de Projet; Soumission de Nouveau Projet pour le Financement par le Fonds de Reconstruction d'Haïti; Gouvernement d'Haïti Janvier 2013.

⁶ The Peligre transmission line was originally included in the budget of the Peligre hydroelectric plant (PHP) rehabilitation (HA-L1032). Due to cost overruns of the PHP rehabilitation (HA-L1038), the Peligre transmission line component was removed from the PHP financing and is now being financed and processed through the co-financing secured by HRF, which is in turn further complemented by resources from the IDB Grant Facility.

⁷ Please see ([ENE Operations Status EOL# 12](#))

policy options for the electricity sector, support infrastructure reconstruction efforts post-earthquake and engage in key initiatives to increase supply and reliability of the electricity system. A second Memorandum of Understanding is currently in the process of being discussed between the IDB, the GoH and the World Bank to implement the main decisions stemming from the White Paper II.⁸ Most recent changes that are currently underway and attest of the GoH to continue the energy sector reform include: (i) the monitoring by IDB of EDH commercial and operational performance through six-months targets compliance; and (ii) the creation of four distribution zones to provide better service in underserved areas in the country (i.e. North, Artibonite, West and South regions), including the recent launching of a bidding process to concession out the North-West (Port-de-Paix) and South-East (Jacmel) areas as small scale concession pilot projects. Post-2014, the Bank is envisioned to continue supporting generation investments through the preparation of a jointly led IDB-WB wind program (to be connected to the Peligre transmission line) as well as specific investment activities to increase electricity coverage in rural areas.

- 1.16 Main lessons learned from IDB-financed operations in the energy sector and that have been incorporated into the design of this operation are as follows: (i) IDB, in coordination with MTPTC and EDH, carried out the international public bidding process to design the Peligre transmission line and select the best design alternative (instead of including such bidding process within Component I) in order to be more efficient and timely in the implementation of the Program, and which would otherwise have fallen under the responsibility of MTPTC and EDH and impact the timeline of the Program's execution once approved by the IDB Board of Executive Directors; (ii) close coordination with MTPTC and EDH to minimize the resettlement impact in urban areas, which currently involves the displacement of only 13 households; (iii) inclusion of an 18% contingency for rehabilitation works and resettlement included in the budget for this Program in order to mitigate cost overruns; and (iv) the creation of a good management team, fully dedicated to the execution of the Program. Technical design and environmental and social studies to prepare the Program were financed by the IDB through the Technical Assistance Feasibility for Artibonite 4C (HA-T1150) which included such scope of work.
- 1.17 **IDB's country strategy/programming objectives.** The proposed operation is consistent with the IDB's country strategy with Haiti (document GN-2646) as of November 2011, which identifies one of the pillars of the IDB's activities as "improving conditions for supply of goods and services and basic infrastructure, including the electricity sector". The operation is also consistent with the GoH's priority of upgrading and improving the infrastructure of the electricity sector. The Program will contribute to the lending program priorities of the Ninth General Increase in the Resources of the Inter-American Development Bank (AB-2764) (GCI-9) through: (i) supporting small and vulnerable countries; and (ii) lending to support climate change, renewable energy and environmental sustainability by improving the reliability and the electricity security of the transmission line. It will also contribute to the regional development goals of

⁸ A first memorandum of understanding was signed in 2011 (between the GoH, the United States Government (USG) and IDB) and included a number of activities that had been proposed in the 2010 White Paper I. Both documents were key in setting the regulatory and policy framework for the IDB PBGs series and in structuring the policy triggers under the PBGs.

increasing the percentage of households with electricity and the output indicator related to “km of electricity transmission line rehabilitated” as defined in the Result Framework.

- 1.18 **Consistency with IDB policies.** The Program meets the IDB’s Public Utility Policy (PUP, GN-2716-6) conditions of: (i) economic evaluation, by taking into consideration a technical assessment of the Peligre transmission line investment (see corresponding [electronic link #7](#) for economic analysis annex and section 2.13 below); and (ii) financial sustainability given that: (i) capital costs for the Program are totally funded through this grant; (ii) O&M costs are marginal and covered by EDH monthly revenue (see footnote 18); and (iii) subsidy received by EDH from MEF was reduced from US\$134 million in fiscal year 2012/2013 to US\$119.5 million in fiscal year 2013/2014 (result of EDH increasing its billing rate and reducing losses) and which is also a consequence of the implementation of a 2012 Memorandum of Understanding (still enforceable) that provides for transparent and incremental decrease of financial support from MEF to EDH.⁹ In addition, the selection, execution, operation, and maintenance of the Program’s activities comply with the scope of environmental and social sustainability of the PUP and are also aligned with the PUP’s objectives related to: (i) expand the capacity to provide greater access; and (ii) improve the quality of the existing service.

B. Objective, Components and Cost

- 1.19 The general objective of the Program is to improve the performance of the Peligre transmission line and provide reliable supply and secure power. The specific objectives of the Program are: (i) to rehabilitate the capacity of the 115-kV transmission line from Peligre to Tabarre/Nouveau Delmas; (ii) to reduce transmission losses and power outages; and (iii) minimize environmental and social impacts. The operation will finance the following:
- 1.20 **Component I - Subcomponent (a): Investment in the Peligre-Nouveau Delmas transmission Line -engineering design and construction (US\$21.08 million).** This subcomponent includes investment to rehabilitate and improve the capacity of the transmission line as follows: (i) above-ground rehabilitation of the capacity of the transmission line (115-kV) from the PHP to the area of tower 152 east of Rivière Grise, with the replacement of aerial conductors, isolators and fittings and replacement of the ground wire for improved communications capacity; and (ii) construction of an underground transmission line, covering a distance of 10-km approximately, from the area of tower 152 to Nouveau Delmas, through the new Tabarre substation. Specifically, the Peligre transmission line will consist in the rehabilitation of two circuits (above ground and underground) with an estimated transfer capacity of 160-MVA¹⁰ for both circuits operating together, thereby allowing up to 80-MW of generation capacity to be transmitted in the event that one of the circuits breaks down or is not operational (n-1 reliability requirement as demanded by EDH).

⁹ See electronic [link# 9](#) and <http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39205064>.

¹⁰ The rehabilitation of the Peligre transmission line with a rated transmission capacity of 160-MVA, that expands the current transmission capacity from 144 -MVA, will also allow for additional generation capacity, such as the 30-MV wind farm project currently under preparation and to be financed by IDB and the WB.

1.21 This subcomponent will also finance the repair and/or reinforcement of the Morne-a-Cabri towers as well as light upgrading of associated substations to ensure stable connections¹¹. Definition of specifications, parameters and basic requirements, procurement of goods, services and equipment, and construction according to the requirements established in the bidding documents will also be financed through this subcomponent, including pre-investment activities (if any) during the engineering, construction and repair phases.¹² Figure 1 below represents the current design of the Peligre transmission line (100% aerial) from Nouveau Delmas (PAP area) to Peligre (central region). Figure 2 represents the selected alternative showing that the Peligre transmission line will be underground from Nouveau Delmas to the area of tower P152 and then above ground from the above point to Peligre.

Figure 1. Peligre Transmission Line Current Design

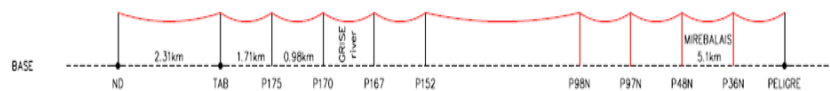
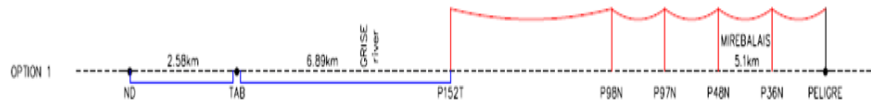


Figure 2. Peligre Transmission Line Rehabilitation Proposed Design



1.22 **Component I - Subcomponent (b): Resettlement and social-related impact management (US\$1.02 million).**¹³ This will finance all costs associated with land acquisition (including their management and communication), and compensation and/or housing for those affected people by the Peligre transmission line rehabilitation (please see ESMR and required [electronic link #3](#) and environmental and social safeguards risks section below). During the preparation of the Program, particular emphasis was given to select a transmission line design that would minimize the number of persons that would need to be resettled. The final alternative chosen will only involve the resettlement of 13 households¹⁴ (vs. 383 households if the line was to be rehabilitated 100% above ground).

1.23 **Supervision, administration and management of the project (US\$1.59 million).** The Program will finance administration, management, monitoring, evaluation and audit. It will also include institutional strengthening of the “*Unité de Coordination du*

¹¹ Substation works financed under this operation (and also included in the budget) will include the required and necessary civil works and electromechanical equipment at the connecting substations.

¹² Operation and maintenance costs will continue to be assumed by EDH and are expected to be significantly lower given the increased efficiency and reliability deriving from the upgrade of the Peligre transmission line (see [electronic link# 7](#) for economic analysis).

¹³ Total resettlement budget includes the following: (i) displacement of small industrial site; (ii) compensation for loss of revenues due to impacts to agriculture land; (iii) compensation for loss of revenues for small businesses (approximately 120) affected by the Peligre transmission line works; (iv) management of resettlement process and related consultations; and (v) 18% contingency.

¹⁴ The GoH will relocate the 13 households in accordance with OP-710, either through purchase of new housing or equivalent monetary compensation.

Programme” or Program Coordination Unit (UCP) and the “*Unité Technique du Programme*” or Program Technical Unit (UTP) (see section 3.1 below); contracting of additional personnel for execution; financing for works supervision as well as social and environmental activities in order to minimize risk factors and ensure completion of the Program on time and on budget.

C. Key Results Indicators

- 1.24 The Program has a Result Framework (Annex II) for evaluation purposes. The expected outcomes are: (i) rehabilitated power transmission capacity from Peligre Hydroelectric Plant to PAP; (ii) Peligre overhead line transmission losses reduced; (iii) power outages reduced on the Peligre transmission line; and (iv) minimized environmental and social impacts.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing Instruments

- 2.1 The estimated cost for the Program is US\$23.7 million to be financed by: (i) the Bank, through a US\$7.7 million from the IDB Grant Facility (representing 32% of the financing) and (ii) grant resources from the Haiti Reconstruction Fund (HRF) for an amount of US\$16 million (representing 68 % of the financing).

Table 1. Costs of the Program (US\$)

COMPONENTS	FINANCING		TOTAL (US\$)	TOTAL %
	HRF	IDB		
Component I - Subcomponent (a): Peligre Transmission Line Investment				
Supplies and installation of conductors & equipment	2,486,611	790,664	3,277,275	14%
Repairs on towers, supplies and erection of complete towers	360,868	114,745	475,612	2%
Civil works	358,127	113,873	472,000	2%
Geotechnical works	990,160	314,840	1,305,000	6%
Underground links	7,603,778	2,417,761	10,021,540	42%
Substations works	239,004	75,996	315,000	1%
Other (work site mobilization)	1,520,773	483,558	2,004,331	8%
Contingencies	2,440,678	776,059	3,216,736	14%
Subtotal	16,000,000	5,087,495	21,087,495	89%
Component I - Subcomponent (b): Resettlements and social related impact management				
Land acquisition and housing construction costs		864,812	864,812	3.6%
Contingencies		155,666	155,666	0.4%
Subtotal		1,020,478	1,020,478	4%
Supervision works		1,000,000	1,000,000	4%
Administration and management		592,028	592,028	3%
Subtotal supervision, administration and management		1,592,028	1,592,028	7%
TOTAL	16,000,000	7,700,000	23,700,000	100%

B. Environmental and Social Risks

- 2.2 Key potential environmental impacts of the Program are essentially those related to the standard impacts from civil works (vibration and noise, impacts on traffic during construction and waste management, amongst others). These impacts are mostly local and short-term and effective measures to mitigate such impacts are readily available.
- 2.3 An estimate of more than 2,000 persons is currently living within the transmission line 20 meters (m) wide corridor. Constructions were made either under the line or very close to it. Many of them do not comply with minimum distance to the line and towers, related both to safety and maintenance. Since resettling the people living under or close to the line, per OP-710, is complex and expensive, some portions of the transmission line were identified as segments that would need to be buried underground taking into consideration safety, legal as well as social and environmental aspects. After careful review of several alternatives, the final design selected thus favored rerouting above ground cables to underground cables to avoid the need to displace so many persons in urban populated areas. Thus a 10-km segment of underground cable from Nouveau Delmas to the area of tower 152 in Croix-des-Bouquets (east of Rivière Grise) will be built in order to reduce resettlement and displacement. Remaining impacts are expected to be mostly temporary. Specific environmental and social contractual conditions are presented in 3.4.
- 2.4 Based on the above, potential social impacts are thus considered limited and manageable. Therefore, the Project has been classified as “Category B” under the Environmental and Safeguards Compliance Policy (OP-703).
- 2.5 During the preparation of the Program, the Bank conducted a scoping Environmental and Social Impact Assessment. A final Environmental and Social Impact Assessment (ESIA) and a Preliminary Resettlement Plan are currently under preparation and will include the outcomes from the public consultation exercise that was carried out on November 1 and 2nd, 2014 in several distinct municipalities of Haiti (in accordance with Bank policies and procedures). The Program is thus considered having met the requirements under “OP-710”. The final Environmental and Social Management Report (ESMR) (see [electronic link #3](#)) will be finalized when the ESIA and the Preliminary Resettlement Plan are completed and available. The IDB will monitor the environmental and social development of funded works, including regular visits to the works.

C. Fiduciary and Procurement Risks

- 2.6 **Fiduciary risk.** The most recent evaluation of the public financial management systems in Haiti (PEFA assessment¹⁵) was conducted in 2011 and published in February 2012. It concludes that the fiduciary system in use at the time of analysis does not entirely comply

¹⁵ Rapport d’Evaluation des Capacités de Gestion; Entité évaluée : UCP-EDH Novembre - Décembre 2011; J&A, Cabinet d’ Experts Comptables. December 2011.

with the characteristics required for the implementation of projects financed by the Bank. As a result, fiduciary risk has been assessed as medium to high impact and severity. Internal financial management systems, external control mechanisms and inadequacy of project financial monitoring, as evidenced by this recent diagnostic, would require further improvements to conform to levels consistent with fiduciary management of Bank funded projects.

- 2.7 To mitigate these weaknesses the Bank will continue to: (i) rely on special project execution units for the execution of all projects; (ii) implement special fiduciary arrangements for the implementation of its projects; (iii) conduct close operation supervision of project execution units; and (iv) have IDB staff related to this operation certified in procurement processes in order to be able to provide better support and guidance. External control will be performed for all Bank operations by independent audit firms, acceptable to the Bank and in accordance with the Bank's financial reporting and audit guide.
- 2.8 **Institutional risk.** Capacity of UCP and UTP to adequately execute project has been determined to present medium risk. The following weaknesses have been identified: (i) the UCP operation manual does not provide enough guidelines for delegation of authority to project stakeholders; (ii) inappropriate number of staff members to manage all donor funding projects; (iii) high staff turnover due to the lack of competitiveness in the compensation package; (iv) lack of monitoring in the reception and payment of goods and services procured; (v) weaknesses in the operating manual in regards to budget management and processes to update accounting manual; and (vi) lack of a financial tool to control and administrate fixed assets.
- 2.9 Mitigation measures contemplated to compensate such weaknesses include: (i) clearly define roles of responsibilities of the UCP project team with appropriate level of authorities to effectively implement the new Program; (ii) ensure that the Program is adequately staffed to avoid overstressing UCP staff on multiple donor funded project; (iii) put in place a staff retention policy by offering a competitive package and creating an environment for work/life; (iv) put in place a contract management system to track quality of goods and services received as defined in contracts' deliverables, included defining roles and responsibilities of those involved in the procurement process (from acquisition to payments of goods and services); (v) update the operating manuals to strengthen the financial management systems; and (vi) implement updating of procedures for the administration of fixed assets and implementation of a financial tool for the management of fixed assets.
- 2.10 **Procurement risk.** Even though the present operation will be based on a reduced number of procurement processes, the scope and level of risk related to these large contracts, coupled with the weaknesses identified in the UCP and UTP's functioning, as listed above, represents a level of risk in the area of procurement which is ranked as medium to high. The following risks are identified: (i) poor planning capacity which can seriously impact the duration of the project; (ii) low level of absorption capacity in procurement; (iii) lack of capacity in contract management; (iv) insufficient contract administration systems; and (v) deficient archiving system.

- 2.11 Mitigation measures that will be implemented include: (i) organizing a workshop with the EDH's technical and fiduciary team facilitated by the IDB Project team at the early stages of the project preparation related to planning methodologies and linked to contract execution monitoring tools; (ii) engagement of additional experts to support procurement activities; (iii) holding of quarterly meetings throughout the execution of the project to discuss progress and issues which may occur during the execution of works; (iv) verifications from external auditors throughout the execution of the project to identify whether the major activities related to contract administration are being implemented (control over submission and validity of guarantees, record keeping on reception and payment of goods, proper management of inventory, for works contracts and payments based on progress reports submitted); and (v) training on archiving methods through the Bank Procurement Unit's Technical assistance program, with the support of the Bank's Archiving specialist.
- 2.12 All procurement activities will be supervised on an ex-ante basis and following Bank's Procurement Policies: Policies for the Procurement of Goods and Works Financed by the Bank (GN-2349-9) of March 2011; and the Policies for the Selection and Contracting of Consultants (GN-2350-9) of March 2011 and the *Special Procurement Provisions for Haiti (GN-2654)*, as applicable. In addition, prior to any procurement being initiated for this Program, EDH will be required to prepare and submit to the Bank a draft General Procurement Notice for publication on the IDB's website and United Nations Development Business (UNDB). No exceptions to the procurement policies are anticipated and no direct contracting is envisioned.

D. Other key considerations

- 2.13 **Economic viability.** The economic evaluation of the whole Program has an economic rate of return (ERR) of 21.5%, a benefit cost (B/C) ratio of 2.44 and a net present value of US\$38.8 million (discounted at 12%). The economic evaluation used the cost-benefit methodology with and without the project. Assumptions include: (i) power production transmitted; (ii) reliability of transmission line; (iii) risk of major failure of the transmission line; and (iv) cost of power produced with thermal units and cost of unserved energy. A sensitivity analysis was done assuming: (i) 20% variation in investment cost; (ii) decrease in the value of unserved energy from US\$400/MWh to US\$300/MWh; and (iii) a delay of 5 years in the commissioning of the additional renewable power plant and hence benefits associated to it (i.e. sales of incremental energy). The sensitivity analysis was satisfactory.¹⁶
- 2.14 **Technical viability.** During the preparation of the Program, the Bank conducted a technical analysis (along with the environmental and social analysis) that looked at more than five possible alternatives/routes (and with a combination of above and underground cables) as well as alternatives, costs, environmental and social considerations for each possible route, including maintenance and operation costs.¹⁷ Given the current generation

¹⁶ See electronic link #7.

¹⁷ In order to ensure that the Peligre transmission line will be appropriately and properly operated and maintained, guaranties and training for EDH personnel are envisioned to be included in the bidding documents to this effect.

capacity mainly related to the 54-MW PHP, the technical alternatives for the 115-kV transmission line were focused on options for transporting energy from Peligre to Tabarre/Nouveau Delmas. The selected alternative (see figure 2 above), based on the studies performed, was chosen based on the following parameters: (i) minimal resettlement impact; and (ii) allocated budget. As a result, the alternative selected minimizes the social and environmental impacts (only 13 households to be relocated) and includes an underground section for the most heavily populated areas, while staying within the US\$23.7 million allocated budget.

- 2.15 Works for the rehabilitation of the Peligre transmission line are expected to initiate in 2016 following an international public bidding process. Costs have been estimated at US\$23.7 million for an estimated capacity of 160-MVA for both circuits. Contingencies of 18% for rehabilitation works and resettlement have been incorporated in the overall budget. Technical viability was analyzed with support from an international firm, in accordance with international standards. The budget for the works was reviewed, and the following was verified: (i) reasonability of the direct and indirect construction costs; (ii) equipment quantities and transmission line lengths; and (iii) the proposed resettlement and social measures. Also, rehabilitation of the transmission line was confirmed to constitute the critical path once PHP is fully rehabilitated in 2017. Continued monitoring during supervision of the works as well as monitoring by the Bank will mitigate construction risks.
- 2.16 Lastly, the Program was also designed to address and correct the structural risks of the towers in the Morne-a-Cabrit area caused by informal quarries around and below them. These towers have a significant risk of falling due to possible instability of the foundations. A technical solution to reinforce the foundations rather than stopping the mining in that area was chosen, and will be implemented by the winning consortium (expected to be awarded in 2015). Given the uncertainty of the scope of solutions needed, additional costs not envisioned during preparation, are possible. Otherwise, the technical feasibility of the project is assured.
- 2.17 A technical study performed by a first rate, independent consulting firm determined the optimal design for the rehabilitation of the line and will include such design in the international public bidding documents. The approval process for the engineering, procurement and construction contractor, performed *ex-ante*, will also act as an additional mitigant and assure a high quality selection.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of Implementation Arrangements

- 3.1 The beneficiary will be the GoH and the executing agency will be the MTPTC with the participation of EDH. The rehabilitation of Peligre transmission line will use the following execution mechanism mainly composed of: (i) the UCP which reports to the MTPTC and is responsible for fiduciary aspects of the Program; and (ii) the UTP which reports to EDH and is responsible for technical aspects. The MTPTC, acting through the UCP, will be responsible for the following, amongst others: (i) procure works, goods and services for the Peligre transmission line rehabilitation in compliance with Bank policies; (ii) facilitate the activities of the consultants and suppliers of goods and services for a

good execution of the Program; (iii) undertake the Program’s accounting and financial management; and (iv) manage all Program’s procurement information. In addition, technical responsibilities of UTP include: (i) provide the UCP with corresponding technical inputs for the preparation of the bidding documents; (ii) undertake technical supervision of consulting services financed by the Program; (iii) secure the commissioning of the goods acquired for the Program; and (iv) monitor the Program’s main indicators and provide the necessary information to MTPTC for the preparation of the progress reports.

3.2 **Financial management and disbursement.** Financial management will be carried out in accordance with OP-273-2 (see Annex III). Disbursements will be based on cash flow plans that will be sized according to the Program execution liquidity needs and with a rolling twelve-months (12) planning horizon. Disbursements for investment costs pertaining to Component I – Subcomponent (a) will be made via direct payment to suppliers for payments to be made in a currency other than the local currency (Gourdes). Other costs will be covered with advance of funds equivalent to four months of operations and will be subject to ex-post supervision. The grant proceeds are scheduled to be disbursed over a period of four years from the effective date of the grant agreement (conservative disbursement approach chosen based on Haiti’s disbursement track record and what the Project Team considers technically feasible given that Haiti will hold elections in 2015). The table below presents the tentative disbursement schedule:

Table 2. Tentative Disbursement Schedule (US\$)

Source	Year 1	Year 2	Year 3	Year 4	Total
HRF	1,600,000	4,000,000	4,000,000	6,400,000	16,000,000.00
IDB	770,000	1,925,000	1,925,000	3,080,000	7,700,000.00
Total (US\$)	2,370,000	5,925,000	5,925,000	9,480,000	23,700,000.00

3.3 **External audits.** Financial statements will be subject to annual audits. An external audit firm acceptable to IDB will be hired based on the procedures set forth in document AF-200 and on terms of reference agreed upon between the UCP and the Bank. The audit firm will also perform disbursements ex-post reviews.

3.4 **Special contractual conditions for the Grant Agreement to be fulfilled by the Beneficiary to the satisfaction of the Bank. Special execution conditions.** (i) Conditions prior to the award of the Peligre transmission line rehabilitation works’ contract of Component I - Subcomponent (a): (1) signature of an inter-institutional agreement between MTPTC and EDH defining the responsibilities of each participant in the Program; (2) submission by MTPTC of the manual of operations of the Program; and (3) evidence of entry into effect of a legal document (e.g. executive order) defining the right of way and easement rights for the Peligre transmission line; (ii) Conditions prior to the order to proceed to begin the works of Component I: (1) all permits, licenses and authorizations, as well as ownership rights or clearance of the right-of-way that are necessary for the execution of the works, have been secured; (2) present a copy of the final ESMP and Resettlement Action Plan (RAP); and (3) present a copy of the Peligre transmission line rehabilitation works’ contract for Component I and a copy of the supervision arrangements, which shall include environmental and social specifications as set forth in the ESMP and RAP; and (iii) Condition prior to the start of operation of

rehabilitated transmission line: provide a copy of the approved new operation manual for the Peligre transmission line (including its non-dismantled parts replaced by underground line). **Environmental and social clauses**: the Beneficiary shall comply with the environmental, social, health and safety and labor requirements set forth in section 6.2 of the ESMR. **Special maintenance and operation clauses**: at the request of the Bank and up to five years after the last disbursement date: (1) provide evidence that EDH is performing an adequate maintenance and operation of the facilities financed by the Program and that EDH has allocated adequate resources to that effect; and (2) present, to the Bank, maintenance reports on the condition of the works and goods financed by the Bank.

B. Summary of Arrangements for Monitoring Results

- 3.5 **Monitoring.** The Beneficiary and IDB have agreed to use the Result Framework and the activities defined in the Performance Monitoring Report as the principal elements for monitoring and evaluating the Program. MTPTC, with the support of EDH, will be responsible for compiling all required and necessary information (including adequate maintenance of the Peligre transmission line¹⁸) and the Bank will be responsible for verifying that such monitoring information is in compliance (please see Annex III).
- 3.6 **Evaluation.** The evaluation of the Program will consist of a midterm evaluation (once 50% of resources are disbursed) and a final evaluation (95% disbursed) financed by the Program. Upon completion of the Program, an ex-post cost benefit analysis will be conducted to determine the socio-economic benefits (please see corresponding link #2 M&E).

¹⁸ Given how critical it is to assure that the facilities financed by the Bank as well as the facilities that directly impact the transmission line's performance (such as the substations) are well maintained and operated according to international standards, a contractual clause will require the Beneficiary to inform the Bank on the operation and maintenance performed and the availability of funding to assure these activities (see paragraph 3.4 above regarding the operation and maintenance clause).

Development Effectiveness Matrix			
Summary			
<i>I. Strategic Alignment</i>			
1. IDB Strategic Development Objectives		Aligned	
Lending Program	(i) Lending to small and vulnerable countries; and (ii) Lending to support climate change initiatives, renewable energy and environmental sustainability.		
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.		
2. Country Strategy Development Objectives		Aligned	
Country Strategy Results Matrix	GN-2646	Expand the coverage of electricity and energy services in urban and rural areas	
Country Program Results Matrix	GN-2756-2	The intervention is not included in the 2014 Operational Program	
Relevance of this project to country development challenges (If not aligned to country strategy or country program)			
<i>II. Development Outcomes - Evaluability</i>		Highly Evaluable	Weight
		9.0	Maximum Score
			10
3. Evidence-based Assessment & Solution		9.8	33.33%
3.1 Program Diagnosis		3.0	
3.2 Proposed Interventions or Solutions		4.0	
3.3 Results Matrix Quality		2.8	
4. Ex ante Economic Analysis		10.0	33.33%
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		7.1	33.33%
5.1 Monitoring Mechanisms		2.5	
5.2 Evaluation Plan		4.6	
<i>III. Risks & Mitigation Monitoring Matrix</i>			
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	
<i>IV. IDB's Role - Additionality</i>			
The project relies on the use of country systems			
Fiduciary (VPC/PDP Criteria)			
Non-Fiduciary			
The IDB's involvement promotes 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 Project is evaluable.

The main problem to be addressed is the outdated performance and the lack of reliable and secure power of the 55 km transmission line from Peligre to Port-Au-Prince, which provides all power to the capital of Haiti. This, in turn is due to obsolete transmission infrastructure and to an increased demand for limited space which limits system expansions, and which results in high technical losses. The intervention is clearly linked to the identified problems and challenges and focusses on urgent investments associated with the line rehabilitation (above ground and underground), and the repair and/or reinforcement of towers.

The program logic is simple and straight-forward: 112-kV transmission line cable rehabilitated above ground and underground (Main Products) → Rehabilitated power transmission capacity from Péligre Hydroelectric Plant to PAP, Overhead line transmission losses reduced, Power outages reduced.

An economic analysis is included. The Monitoring and Evaluation plan proposes a final evaluation that will consist of an updated ex-post cost benefit analysis of the program which will provide a qualitative and quantitative review of the outputs and outcomes obtained.

RESULTS FRAMEWORK**REHABILITATION OF PELIGRE TRANSMISSION LINE**

Project Objective The general objective of the Program is to improve the performance of the Peligre transmission line and provide reliable supply and secure power.

Outcome	Indicators	Unit	Base Level (2015)	2016	2017	2018	Final Target Level 2019	Comments/Means of verification
Rehabilitated power transmission capacity from Peligre Hydroelectric Plant to PAP.	Maximum transmission capacity from Peligre to PAP.	MVA	40	-	-	160	160	The line to be built will rehabilitate transmission capacity with 2 circuits of 80-MVA each (160-MVA). Means of verification: EDH reports.
Peligre overhead transmission line losses reduced.	Total power losses corresponding to the transmitted energy on the Peligre transmission line.	%	4%	-	-	3%	3%	Means of verification: EDH report.
Power outages reduced on the Peligre transmission line.	Total power outages on the Peligre transmission line corresponding to the domestic electricity market.	Number of outages per year	12	-	-	6	6	Means of verification: EDH report.
Minimized environmental and social impacts.	People resettled in conformity with Resettlement Plan	% of people resettled in conformity with Resettlement Plan	0	-	-	100	100	Means of verification: Resettlement Action Plan Monitoring report.

**RESULTS FRAMEWORK
MATRIX OF INDICATORS**

REHABILITATION OF PELIGRE TRANSMISSION LINE

Outputs	Unit	Base Level (2015)	2016	2017	2018	Final Target Level 2019	Comments/Mean of verification
Component I - Subcomponent (a) Investment in Peligre-Nouveau Delmas transmission line -engineering design and construction							
112-kV transmission line cable rehabilitated above ground.	Km	0	0	0	42	42	Means of verification: Work progress reports and final acceptance of the work (EDH).
112-kV transmission line cable rehabilitated underground.	Km	0	0	0	10	10	Means of verification: Work progress reports and final acceptance of the work (EDH).
Component I - Subcomponent (b) Resettlement and social-related impact management							
Houses relocated or affected by the Project.	# of households	0	0	0	13	13	Means of verification: Resettlement Action Plan. Monitoring report.
Supervision, administration and management							
Annual Supervision Plan.	Report	1	1	1	1	4	Means of verification: Work progress reports and final acceptance of the work (EDH). Maintenance reports.
Bi-monthly Progress Report.	Report	3	6	6	6	21	Means of verification: Work progress reports and final acceptance of the work (EDH).

FIDUCIARY AGREEMENTS AND REQUIREMENT

COUNTRY: Republic of Haiti
PROJECT No.: HA-L1100- and HA-G1030
NAME: Rehabilitation of the Peligre Transmission Line
EXECUTING AGENCY (EA): Ministry of Public Works Transport, and Communications (MTPTC) and with the participation of Electricité d’Haïti (EDH)
DATE: November 2014
PREPARED BY: Takady Konate and Romina Kirkagacli

I. EXECUTIVE SUMMARY

- 1.1 This document is based on information collected from existing diagnoses of public financial management systems and procurement systems of the Republic of Haiti and the Electricité d’Haïti (EDH), an industrial and commercial public utility company created in 1971, its internal manuals, the experience of the Bank’s supervision of projects implemented by the entity and the most recent institutional capacity assessment conducted in December 2011 with the support of a local consulting firm. EDH is currently governed by the August 20th, 1989 decree with mandate to generate, transmit, distribute and sell electric energy throughout Haiti. To implement donor-funded projects with Ministry of Public Works, Transport and Communications (MTPTC) and EDH in the energy sector, implementation arrangements are namely: (i) the “Unité de Coordination du Programme” or Program Coordination Unit (UCP) under the MTPTC is responsible for fiduciary oversight; and (ii) the “Unité Technique du Programme” or Program Technical Unit (UTP) under EDH, has technical responsibility.
- 1.2 The most recent institutional capacity evaluation of the UCP concludes that the fiduciary system in use at the time of analysis does not entirely comply with the characteristics required for the implementation of projects financed by the Bank. Based on the results, the overall procurement and financial management risk rating of UCP is medium to high, particularly in the area of internal controls, operational management, planning and contract execution monitoring and administration. Based on fiduciary supervision, the Bank finds there are opportunities for improvement in such fiduciary systems.
- 1.3 Procurement, the general context

An evaluation of the National Procurement System was performed in 2013, applying the OECD/DAC methodology and indicators. A certain number of weaknesses were identified and although an action plan for the modernization of the national procurement system was presented, strengthening activities still need to be initiated. Based on the current situation and the need to align the system to international best procurement practices and standards, no country systems will be

used and the Bank's procurement policies will govern procurement activities foreseen under this program.

1.4 Public Financial Management, the general context

The most recent evaluation of public financial management systems in the Republic of Haiti, the PEFA assessment report, was conducted in 2011 and published in February 2012. Country financial management systems and external control mechanisms, as evidenced by this recent diagnostic, would require further improvements to conform to levels consistent with fiduciary management of Bank funded projects.

- 1.5 To mitigate these weaknesses, the Bank will continue to: (i) rely on special project execution units for the execution of all projects; (ii) implement special fiduciary arrangements for the implementation of its projects; and (iii) conduct close operation supervision of project execution units. External control will be performed for all Bank operations by independent audit firms acceptable to the Bank in accordance with the Bank's financial reporting and audit guide.

II. EXECUTING AGENCY FIDUCIARY CONTEXT

- 2.1 The rehabilitation of Peligre transmission line will be executed by MTPTC, through the UCP.
- 2.2 **Organizational structure and administrative policies.** The UCP is responsible for fiduciary aspects of the Program and EDH through the UTP is responsible for its technical aspects. The UCP is headed by a Coordinator who is supported by: (i) a technical team responsible for the project execution by source of financing; (ii) a fiduciary team (finance and procurement); and (iii) administrative and support staff.
- 2.3 The MTPTC, acting through the UCP, will be responsible for the following, amongst others: (i) procure works, goods and services for the Peligre transmission line rehabilitation in compliance with Bank policies; (ii) facilitate the activities of the consultants and suppliers of goods and services for a good execution of the Program; (iii) undertake the Program's accounting and financial management; and (iv) manage all Program's procurement information. In addition, technical responsibilities of UTP include: (i) provide the UCP with corresponding technical inputs for the preparation of the bidding documents; (ii) undertake technical supervision of consulting services financed by the Program; (iii) secure the commissioning of the goods acquired for the Program; and (iv) monitor the Program's main indicators and provide the necessary information to MTPTC for the preparation of the progress reports.
- 2.4 UCP uses ACCPAC accounting software and excel spreadsheet for the preparation of project financial reports and statements. The modified cash basis accounting is used for project management purposes; however, an integrated

- financial management system does not exist at UCP. UCP currently has operational manuals for each grant agreement with IDB. UCP will draft a manual for this new operation.
- 2.5 While UCP has experience with projects financed by the IDB and has been trained on Bank's procurement policies, the assessment referred to in paragraph 1.1 and the execution of past projects have revealed a certain number of areas for improvement in the Unit's procurement capacities. The team dedicated to procurement activities is currently composed of a procurement specialist and an assistant supporting administrative matters, including procurement.
 - 2.6 The execution of operation HA-L1014 revealed some weaknesses related to planning, contract management and administration which resulted in major contracts being amended and extended several times.
 - 2.7 As identified through the technical assistance program undertaken by the Bank's Procurement team, the archiving system at UCP is deficient. No specific area has been identified for archives and the archiving system is not based on an organized filing methodology and such archiving system will be strengthened during this operation.

III. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS

- 3.1 Fiduciary risks that would affect the project are assessed as medium to high impact and severity. For the most recent audit of project 2684/ GR-HA for FY 2012 and 2013, auditors gave an unqualified opinion as to project financial statements. The audit revealed weaknesses in UCP internal control systems that could cause inefficiencies in the use of project funds. Mitigations: Internal controls systems should be put in place including tools to instate good governance practices within UCP.
- 3.2 Another area of improvement is the inadequacy of project financial monitoring due to the lack of proper financial procedures and budget execution monitoring systems. This inefficient is linked to lack of program planning mechanisms and monitoring tools. Mitigation measures: UCP will produce a comparison every four months of the activities performed and expenses incurred in relation to activities and estimated budget presented in Annual Operation Plan (AOP).
- 3.3 The accounting of the projects managed by the UCP is done in accordance with the modified cash method and by means of the general ledger module of the ACCPAC¹ system. UCP has only the general ledger module of the ACCPAC integrated management system which limits its functionality. The system generates financial reports of income and expenses by project and funding source, however they are reprocessed using Excel for further generation of financial

¹ Name of the software used

- reports such as Cash flow and financial planning required by the UCP and the Bank.
- 3.4 The latest assessment of UCP's institutional capacity from December 2011 and based on different reviews determined that the level of development of its financial management systems and internal control processes present medium risk and identified the following weaknesses: (i) the operation manual does not provide enough guidelines for delegation of authority to project stakeholders. Mitigation measure: Clearly define roles of responsibilities of the project team with appropriate level of authorities to effectively implement the new project; (ii) inappropriate number of staff members to manage all donor funding projects. Mitigation: Ensure that the project is adequately staffed to avoid overstretching UCP staff on multiple donor funded project; (iii) high staff turnover due to the lack of competitiveness in the compensation package. Mitigation: Put in place a staff retention policy by offering a competitive package and a creating an environment for work/life; (iv) a lack of monitoring in the reception and payment of goods and services procured. Mitigation: Put in place a contract management system to track quality of goods and services received as defined in contracts' deliverables, included defining roles and responsibilities of those involved in the procurement process (from acquisition to payments of goods and services); (v) weaknesses in the operating manual in regards to budget management and processes to update accounting manual. Mitigation: Update the operating manuals to strengthen the financial management systems as per weaknesses identified; (vi) lack of a financial tool to control and administrate fixed assets. Mitigation measure: Implement with the technical team in the updating of procedures for the administration of fixed assets and implementation of a financial tool for the management of fixed assets.
- 3.5 Even though the present operation will be based on a reduced number of procurement processes, the scope and level of risk related to these large contracts, coupled with the weaknesses identified in the executing agency's functioning, as listed above, represents a level of risk in the area of procurement which is ranked as medium to high. The following risks are identified: (i) Poor planning capacity which can seriously impact on the duration of the project. Mitigation measure: Organizing a workshop with the UCP's technical and fiduciary team facilitated by the IDB Project team at the early stages of the project preparation related to planning methodologies and linked to contract execution monitoring tools; (ii) Low level of absorption capacity in procurement. Mitigation measure: Need to recruit one additional assistant who would be supporting exclusively procurement activities; (iii) Lack of capacity in contract management. Mitigation measures: Holding of quarterly meetings throughout the execution of the project to discuss progress and issues which may occur during the execution of works with the IDB Project Team Leader and Procurement Specialist, the EDH technical and fiduciary team, and the engineering personnel who will be supervising the rehabilitation works; (iv) Insufficient contract administration systems. Mitigation measures: Yearly verifications from external auditors throughout the execution of the project to identify whether the major activities related to contract

administration are being implemented (control over submission and validity of guarantees, record keeping on reception and payment of goods, proper management of inventory, for works contracts, payments based on progress reports submitted); (v) Deficient archiving system. Mitigation: Training on archiving methods will be provided through the Bank Procurement Unit's Technical assistance program, with the support of the Bank's Archiving specialist. With regards to risks related to the rehabilitation contract, the resettlement plan and legal requirements related to this resettlement activity may impact on the timing foreseen for the contract signature and execution of the works. Mitigation: it is recommended that the bidding process is issued in consideration of the timing required for the completion of the resettlement activity so as not to delay the contract signature and commencement of the works.

IV. ISSUES TO BE CONSIDERED

4.1 Conditions precedent to disbursement:

In order to move forward the contract negotiations by the project team, herein are those fiduciary arrangements that must be considered:

- a) **Special accounts and authorized signatures:** UCP will open separate bank accounts at the Central Bank of Haiti for the management of grant resources.
- 4.2 **Audit special requirements:** UCP will be responsible for the recruitment of external auditors eligible to the Bank to perform the audit of their program as follows: (i) annual financial audit of the program to be submitted within 120 days after the closure of each fiscal year; (ii) annual ex-post review of procurement to be submitted with the annual audited financial statements and (iii) a final financial audit of the program to be submitted within 120 days after the date of the last disbursement. UCP will be responsible to submit its audited financial report to the bank as defined in the reporting guidelines. Exchange rate valid at the day of transaction will be used to record all expenses made in local currency; the Central Bank of Haiti exchange rate will be used as the reference rate.

V. AGREEMENTS AND REQUIREMENTS FOR PROJECT PROCUREMENT

The procurement fiduciary arrangements establish the conditions applicable to all procurement execution activities in the project.

A. Procurement Execution

- 5.1 All project related procurement activities will be performed by the Procurement Unit at UCP following Bank's Procurement Policies: Policies for the Procurement of Goods and Works financed by the Inter-American Development Bank (GN-2349-9) and Policies for the Selection and Contracting of Consultants financed by the Inter-American Development Bank (GN-2350-9) and the *Special Procurement Provisions for Haiti (GN-2654)*, as applicable. In addition, prior to any

procurement being initiated for this Program, the executing agency (EA) will be required to prepare and submit to the Bank a draft General Procurement Notice for publication on the IDB's website and United Nations Development Business (UNDB).

5.2 UCP will establish a procurement plan to be approved by the Bank, which will cover the entire duration of the project execution starting on the date the Grant Agreement for this project enters into effect. The procurement plans will be updated semiannually with the semester activity project report, or whenever necessary or as required by the Bank.

- a. **Procurement of Works, Goods and Non-Consulting Services:** The contracts for Works, Goods, and Non-Consulting Services² generated under the project and subject to International Competitive Bidding will be executed through the use of the Standard Bidding Documents (SBDs) issued by the Bank. The processes subject to National Competitive Bidding (NCB) will be executed through the use of National Bidding Documents agreed to by the Bank. Review of the technical specifications during the preparation of the selection process, is the responsibility of the project sector specialist.
- b. **Selection and Contracting of Consultants:** The consulting services contracts generated under this project will be executed through the use of the Standard Request for Proposals (SRFPs) issued or agreed to by the Bank. Review of the terms of reference for the selection of consulting services is the responsibility of the project sector specialist.
- c. **Selection of Individual Consultants:** The selection will be made in accordance with Bank's Procurement rules and procedures and will consist in evaluating the capacity of at least three candidates against set and agreed Terms of References.

B. Thresholds (miles US\$)

Table 6.1: Regular threshold amounts for Haiti

HAITI – LIMIT AMOUNTS (IN THOUSANDS OF US\$)							
Works			Goods			Consulting	
ICB	NCB	PC	ICB	NCB	PC	International	100% National
≥1.000	100<1.000	<100	=>100	25<100	<25	>200	<100

² Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (GN-2349-9) paragraph 1.1: The services different to consulting services have a similar process as procurement of Goods.

Table 6.2: Threshold amounts under procurement provisions for Haiti

HAITI – LIMIT AMOUNTS (IN THOUSANDS OF US\$)					
Works		Goods		Consulting	
ICB ³	NCB ⁴ /PC ⁵	ICB	NCB/PC	International	100% National
≥1.000	<1.000	≥100	<100	>200	<100

C. Main Procurement Activities

Activity	Procurement Method	Estimated Date	Estimated Amount US\$
Works			
- Rehabilitation of 115-kV transmission line Peligre-PAP underground and aboveground, including equipment, supplies and installation of conductors, repairs on towers, supplies and erection of towers, civil works, geotechnical works and underground links.	ICB	2015	US\$21 million
Goods and Works			
- Land acquisition and housing construction costs (including contingency) (and more than 1 contract might be applicable).	ICB/NCB to be determined as applicable	2015	US\$1.02 million
Services			
- Supervision works	QCBS ⁶	2015	US\$1 million

D. Procurement supervision

- 5.3 In view of the risks identified under Section III above, the major procurement activities under this operation will be subject to ex-ante review by the Bank. Procurement activities conducted using the shopping method (up to 200,000 for works) and the recruitment of individual consultants (up to 100,000 in case of direct contracting), will be subject to ex-post review to be conducted by the external audit firm as per paragraph 4.2.

³ ICB: International Competitive Bidding

⁴ NCB: National Competitive Bidding.

⁵ PC: Shopping

⁶ QCBS: Quality and Cost Based Selection

E. Records and files

- 5.4 The UCP will establish a space for filing and will keep the procurement records of each procurement process and contract in an orderly manner. Archives will include all documents starting with the procurement plan, all tender documents and documents related to the contract management, through the end of contract execution. Hard copies of these documents will also be scanned in order to keep and organized electronic archiving system.

VI. ARRANGEMENTS FOR PROJECT FINANCIAL MANAGEMENT

- 6.1 **Programming and Budget.** The financial programming, planning and monitoring of budget execution of UCP will be supported by the utilization of ACCPAC accounting module. At the start of the project, the UCP will prepare a comprehensive financial annual plan covering the total expected execution time and it will be an integral part of the overall operation plan (AOP). The execution of the project's financial plan will be evaluated every six months and reported in the semiannual project monitoring report (PMR). The financial plan will coincide with the Haitian fiscal year and will respect budget lines defined in the grant agreement (investment categories).
- 6.2 **Accounting, financial reporting and financial management system.** The general accounting module of ACCPAC financial management system is currently used by the UCP to record financial transactions and produce reports and financial statements.
- 6.3 **Disbursements and cash flow. Project financial management may be guided by OP-273-2.** UCP will prepare annual planning of the project cash flow and will update it quarterly. The projected cash flow of the project will be based on activities planned for 12 months. Disbursements for investment costs pertaining to Component I – Subcomponent (a) will be made via direct payment to suppliers for payments to be made in a currency other than the local currency (Gourdes). Other costs will be covered with advance of funds equivalent to four months of operations and will be subject to ex-post supervision. The projected annual cash flow will be the basis for determining the advances of funds to be disbursed by the Bank to the UCP. For each new advance, the EA will need to justify 80% of advance received. The entity will establish separate bank accounts for the management of grant and counterpart resources if applicable. Disbursement supervision will be ex-post.
- 6.4 **Financial Control and Reporting.** Audits will be performed in accordance with Bank's Guidelines for Financial Reports and External Audits as described in Section IV. Financial audit cost will be financed by IDB grant and estimated at \$100,000. The program financial statements will correspond to the fiscal year. IDB will also conduct ex-post verification of the procurement processes on the

basis of specific terms of reference to be agreed between the UCP and the Bank. Ex-post verifications will be held annually and will be concurrently performed with the annual audit of the financial statements of the project.

- 6.5 In addition, the following will be monitored: (i) description of activities conducted; (ii) timetable and disbursement; (iii) compliance with performance indicators; (iv) six-month looking forward activity plan; (v) updated procurement plan and annual working plans; (vi) financial report and updated financial projections and (vii) a section related to environmental and social impact management. The semi-annual and annual progress reports will be submitted by EDH to review compliance with the targets established in the Result Framework and in accordance with IDB guidelines for development effectiveness for sovereign transactions.
- 6.6 **Financial Supervision Plan.** Fiduciary staff of the Bank will perform periodic inspection visits to UCP/EDH, which are aimed at reviewing the implementation of the mitigation actions and the execution of financial plan.
- 6.7 **Execution Mechanism.** The UCP will maintain proper financial management systems and will prepare an AOP and Procurement Plan and a twelve-month financial plan indicating cash flow needs for the execution of project's activities stemming from AOP and procurement plans. The twelve-month financial plan will be the basis for advance of funds disbursements, which will cover the funding needs of four months of project execution.
- 6.8 **Financial Supervision Plan**

Fiduciary staff of the Bank will perform periodic inspection visits to UCP which are aimed at reviewing the capacity of the project and the execution of financial plan.

REHABILITATION OF THE PELIGRE TRANSMISSION LINE

HA-G1030

CERTIFICATION

I hereby certify that this operation was approved for financing under the Haiti Reconstruction Fund (HRF) through a communication dated November 20, 2014 from Nadine Schiavi (ORP/GCM). Also, I certify that resources have been committed by the HRF Steering Committee for up to US\$16,000,000 in order to finance the activities described and budgeted in this document. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this operation. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, for which the Fund is not at risk.

(original signed)

11/21/2014

Sonia M. Rivera
Chief
Grants and Cofinancing Management Unit
ORP/GCM

Date

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/14

Haiti. Nonreimbursable Financing GRT/HR-____-HA to the Republic of Haiti
Rehabilitation of Peligre Transmission Line

The Board of Executive Directors

RESOLVES:

1. That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, as Administrator of the Haiti Reconstruction Fund, hereinafter referred to as the “HRF”, to enter into such contract or contracts as may be necessary with the Republic of Haiti, as Beneficiary, and to implement the necessary actions for the purpose of granting it a nonreimbursable financing for an amount of up to US\$16,000,000 chargeable to the resources of the HRF, to cooperate in the execution of the project “Rehabilitation of Peligre Transmission Line”, as contemplated in document PR-_____.

2. That the authorization granted in paragraph 1 above will be effective only once the HRF has approved the use of US\$16,000,000 to finance the project and the Bank has received these resources from the HRF.

3. The resources contemplated in this Resolution will be in addition to the resources authorized in Resolution DE-___/14 for the amount of US\$7,700,000 chargeable to the resources of the IDB Grant Facility.

(Adopted on __ _____ 2014)

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/14

Haiti. Nonreimbursable Financing ___/GR-HA to the Republic of Haiti
Rehabilitation of Peligre Transmission Line

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, as Administrator of the IDB Grant Facility (hereinafter referred to as the “Account”), to enter into such contract or contracts as may be necessary with the Republic of Haiti, as Beneficiary, for the purpose of granting it a nonreimbursable financing to cooperate in the execution of the project “Rehabilitation of Peligre Transmission Line”. Such nonreimbursable financing will be for an amount of up to US\$7,700,000, which form part of the Account, and will be subject to the Terms and Financial Conditions and the Special Contractual Conditions in the Project Summary of the Grant Proposal.

(Adopted on __ _____ 2014)