

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**BOLIVARIAN REPUBLIC OF VENEZUELA**

**REHABILITATION OF UNITS 1 TO 6 OF POWERHOUSE I  
OF THE SIMÓN BOLÍVAR HYDROELECTRIC PLANT (GURI)**

**(VE-L1033)**

**LOAN PROPOSAL**

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ELECTRONIC LINKS	
1.	Environmental and social management report <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319891">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319891</a>
2.	Annual work plan <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319893">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319893</a>
3.	Complete procurement plan <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35338180">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35338180</a>
4.	Results monitoring and evaluation arrangements <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319895">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319895</a>

Other References	
1.	EDELCA project concept document, July 2010 <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319897">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319897</a>
2.	Report on the sector framework and economic viability of the rehabilitation project <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319900">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319900</a>
3.	Report on assessment of the technical viability of the rehabilitation proposal <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319901">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319901</a>
4.	Financial report of EDELCA and CORPOELEC <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319905">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319905</a>
5.	Report on fiduciary agreements and requirements – Financial management <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319910">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319910</a>
6.	Capacity assessment of the procurement system <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319912">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319912</a>
7.	Execution timetable <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319914">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319914</a>
8.	Background on repair of Francis turbines <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319915">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319915</a>
9.	List of project technical documentation (Annexes to EDELCA project concept document) <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319917">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319917</a>
10.	Sector status report <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319920">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35319920</a>
11.	IDB country strategy with Venezuela (2010-2013), working document <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328177">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328177</a>
12.	Other technical documents <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35336893">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35336893</a>

## ABBREVIATIONS

AWP	Annual work plan
CNG	Centro Nacional de Gestión del Sistema Eléctrico [National Electricity System Management Center]
CORPOELEC	Corporación Eléctrica Nacional
DEM	Development Effectiveness Matrix
EDELCA	Electrificación del Caroní, C.A.
Guri	Simón Bolívar Hydroelectric Plant
GVE	Government of the Bolivarian Republic of Venezuela
GWh	Gigawatt hour
ICAS	Institutional Capacity Assessment System
ICB	International competitive bidding
EIRR	Economic internal rate of return
kV	Kilovolt
Masl	Meters above sea level
MPPA	People's Ministry for the Environment
MW	Megawatt
NCB	National competitive bidding
NPV	Net present value
OC	Ordinary Capital
SECCI	Sustainable Energy and Climate Change Initiative
SEN	National Electricity System
TWh	Terawatt hour

## PROJECT SUMMARY

### BOLIVARIAN REPUBLIC OF VENEZUELA REHABILITATION OF UNITS 1 TO 6 OF POWERHOUSE I OF THE SIMÓN BOLÍVAR HYDROELECTRIC PLANT (GURI) (VE-L1033)

Financial Terms and Conditions				
<b>Borrower:</b> Bolivarian Republic of Venezuela			Amortization period:	20 years
			Grace period:	6 years
<b>Executing agency:</b> Electrificación del Caroní, C.A. (EDELCA)			Disbursement period:	6 years
<b>Source</b>	<b>Amount</b>	<b>%</b>	Interest rate:	LIBOR-based
IDB (Ordinary Capital)	US\$ 700,000,000	53.4%	Inspection and supervision fee:	*
Local	US\$ 609,771,000	46.6%	Credit fee:	*
Total	US\$1,309,771,000	100.0%	Currency:	U.S. dollars
Project at a Glance				
<b>Program objective/description:</b>				
The objective of this operation is to contribute to the technical sustainability of the Venezuelan electricity system by preserving a major source of clean, renewable energy, and to increase its efficiency through the modernization, rehabilitation, and repowering of units 1 to 6 of Powerhouse I of the Simón Bolívar Hydroelectric Plant (Guri).				
<b>Special contractual clauses:</b>				
As a condition precedent to the first disbursement of the Bank loan proceeds, the borrower and the executing agency will sign the subsidiary agreement for the execution and administration of program resources, previously agreed upon with the Bank (see paragraph 3.2).				
Special conditions during execution: (i) evidence will be provided that the employees of the executing agency have received training on the potential impact and risks as a result of the execution of these works; (ii) evidence will be provided that the People's Ministry for the Environment (MPPA) is informed on a timely basis regarding the actions and activities conducted under the project; and (iii) provisions will be included in contracts for works execution, supervision, and equipment supply, to ensure compliance with the protocols, guides, and manuals in effect on environment, health, and safety (see paragraph 3.2).				
<b>Exceptions to Bank policies:</b> Waiver of the operational policy on Public Utilities (OP-708), as described in paragraph 2.16.				
<b>Project consistent with country strategy:</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
<b>Project qualifies as:</b> SEQ <input type="checkbox"/> PTI <input type="checkbox"/> Sector <input type="checkbox"/> Geographic <input type="checkbox"/> Headcount <input type="checkbox"/>				

\* The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions of the Bank's policy on lending rate methodology for Ordinary Capital loans. In no case will the credit fee exceed 0.75% or the inspection and supervision fee exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period.

## I. DESCRIPTION AND RESULTS MONITORING

### A. Background, problem, and rationale

- 1.1 **Macroeconomic conditions.** The Venezuelan economy experienced significant growth between 2004 and 2008. During the expansion, GDP grew at an average annual rate of 10.2%, accumulating 62.5%, and private consumption 96.1%. The economy is currently experiencing a contraction in productive activity. GDP shrank by 3.3% in 2009, and this scenario is expected to continue, at least partially, in 2010. Although the global crisis and the decline in oil prices had a significant impact on public finances, fiscal accounts are expected to improve in 2010 mainly due to the parity adjustment in the exchange rate system, which will allow an increase in tax revenues equivalent to 3% of GDP.
- 1.2 The inflation rate has tended to stabilize at around an annual 30%, revealing the persistence of macroeconomic pressures affecting economic performance. Compared with the regional average, public and foreign debt levels are relatively low with respect to GDP. Due more to the exchange rate policy adopted in early 2010 than to a deepening of net debt contraction, the ratio of public debt to GDP is forecast at 24.4% for 2010, which is still low in comparison with the Andean countries (35.4%) and Latin America as a whole (43.1%). These levels are expected to remain stable in the medium term (2010-2013). Oil prices and the exchange rate structure have improved external and fiscal accounts.
- 1.3 The economy is expected to contract by 3.4% in 2010 as compared to 2009, partly due to the electricity rationing that entered into effect in early 2010 (see paragraph 1.6). The decline in economic activity associated with this factor is forecast to be on the order of 1.5% of GDP. Efforts to maintain the electric power balance led to the following measures, among others: (i) larger investments in electricity generation (US\$4 billion or 1.6% of GDP), and (ii) increased use of fossil fuels for thermoelectric generation, which reduced availability for export and reduced oil revenues (approximately US\$2.5 billion annually) and related tax revenues (approximately US\$1.5 billion or 0.6% of GDP).
- 1.4 **The electricity sector in Venezuela.** The growth of economic activity, combined with the relative value of rates, contributed to an increase in electric power consumption from 79,000 GWh/year in 1998 to 123,000 GWh/year in 2010, which is equivalent to 4% per annum. The installed capacity for electric power generation rose from 19,000 MW in 1998 to 23,000 MW in 2010, with 70% of that coming from hydroelectric sources, and the rest from thermoelectric units. Venezuela's electric power transmission grid measures 12,106 kilometers.
- 1.5 Until 2009, the infrastructure of the electricity system was able to meet growing demand, albeit showing certain shortcomings associated with the technical sustainability of the system. These shortcomings include: (i) the age of the electricity generating plants, as more than 50% of hydroelectric capacity is between 25 and 40 years old, and of thermal capacity is more than 25 years old; (ii) intensive use of the transmission system for interconnecting generating and consuming

regions; and (iii) limitations in distribution infrastructure, commercial management, and grid monitoring, including insufficient power measurement equipment and modern billing systems. Increasingly, the age of the generating plants is making them inoperable due to forced or scheduled shutdowns, with outages of almost 700 MW averaging three hours in 2008.<sup>1</sup> Transmission requirements are extreme because 70% of electric power originates in the region of Guyana, in the east, while more than 70% of it is consumed in the Capital, Central, Centro Occidental, Andina, and Zuliana regions. Distribution difficulties have led to low billing levels, on the order of 70% of gross energy generated, with commercial losses representing 82% of unbilled energy.

- 1.6 In 2010 the sector was affected by a dry season accentuated by El Niño, which weakened the capacity for generating hydroelectric energy. A rationing arrangement was implemented and then lifted in June 2010, and incentives were created that resulted in a reduction of more than 8% in peak demand between 2009 and 2010. This episode underscored the system's potential vulnerability to the impact of climate change.
- 1.7 The Government of the Bolivarian Republic of Venezuela (GVE) began restructuring the sector by passing the Law to Reorganize the Electricity Sector, which calls for the merger of the companies of the National Electricity System (known by its Spanish-language acronym, SEN), and the creation of the national electric power company, Corporación Eléctrica Nacional (CORPOELEC).<sup>2</sup> This process is expected to be completed by 2011. The GVE tasked the People's Ministry for Electricity (MPPEE) with planning, regulation, and supervision of the sector.
- 1.8 The sector's sustainability depends on two things: first, the consolidation of its legal and institutional framework to include effective management capabilities for the system's operations, and economic compensation for the service. Second, it requires timely investments to maintain the sector's operating capacity to generate, transmit, and distribute electricity, and to reduce losses in the system. Current revenues collected for electricity services alone are insufficient to finance the necessary investments and to upgrade operating management capacities; it has therefore been necessary to transfer resources from the National Treasury on a regular basis.<sup>3</sup> The country plans to invest approximately US\$8 billion in the sector

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<sup>1</sup> A report and a more detailed assessment can be found in the chapter, "El sector eléctrico en Venezuela" [The Electricity Sector in Venezuela], Informe de entorno sectorial y viabilidad económica del proyecto de rehabilitación [Report on the Sector Setting and Economic Viability of the Rehabilitation Project] (see electronic links).

<sup>2</sup> Decree 5330 created CORPOELEC and called for a merger of the companies making up the SEN. The National Assembly extended the deadline for the merger to December 2011, as published in the Official Gazette issue 379042, on 23 August 2010.

<sup>3</sup> Other references: "Informe financiero de EDELCA y CORPOELEC" [Financial report of EDELCA and CORPOELEC].

between 2010 and 2013; of this, US\$4.2 billion will be earmarked for thermal and hydroelectric generation, US\$1.2 billion for transmission, and US\$2 billion for distribution.

- 1.9 **The problem.** One of the system's technical liabilities is the age of the electricity generating complex. The Simón Bolívar Hydroelectric Plant (Guri), which began construction in 1963 and is operated by Electrificación del Caroní, C.A. (EDELCA), is the SEN's principal plant. Its installed capacity makes it the third largest hydroelectric power plant in the world. Its rated capacity of 8.85 GW represents 37% of the almost 24 GW installed in Venezuela. In 2009 it generated 52.6 terawatt-hours (TWh), or 42.6% of the generating capacity.<sup>4</sup> Located 100 kilometers upstream from the mouth of Caroní River in the Orinoco, Guri was developed in two stages. The first stage ended in 1978, with 2,065 MW generated by 10 units and a reservoir with a maximum level of 215 meters above sea level (masl). The second stage concluded in 1986, and included a second powerhouse with 10 more units generating 7,325 MW, and a rise in the reservoir level to 272 masl. Thus, Guri has two powerhouses and 20 units, with individual capacities ranging from 206 MW to 732 MW.
- 1.10 The present rehabilitation project addresses Guri units 1 to 6, which were commissioned between 1969 and 1978. They have been in service for periods ranging from 32 to 41 years, which exceeds the estimated 20-year cutoff for rehabilitation.<sup>5</sup> The risks of outage or breakage are also related to the age and technology of the control systems and other auxiliary equipment required for operation, as well as the personnel protection systems and the integrity and functionality of the assets.<sup>6</sup> These units, designed for a hydraulic load value of 215-masl, do not fully tap the greater load value of 272-masl. Therefore, they are operating outside their optimal range at less than 84% efficiency, resulting in a 7% reduction in the electric power produced.
- 1.11 EDELCA has launched a two-stage "Guri Modernization Program." The first stage, now in execution, addresses the 14 machines of units 7 through 20. By April 2010, 43% of the works had been executed,<sup>7</sup> and this stage is scheduled for completion in 2014. The present project forms part of the second stage of that program. EDELCA incorporated the lessons learned in the first stage in the design of this project, particularly those related to programming, the real condition of the equipment to be rehabilitated, and the viability of repowering (see paragraphs 1.10 and 2.14).

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<sup>4</sup> Data published by the National Electricity System Management Center (CNG).

<sup>5</sup> "Rehabilitation and Upgrading Hydro Plants: A Hydropower Technology Round-Up Report," as quoted by Manoel Nogueira in "Rehabilitación de fuentes renovables de energía," [Rehabilitation of Renewable Energy Sources], IDB (2010).

<sup>6</sup> A detailed assessment of the condition of Powerhouse I equipment and infrastructure can be found in the Project Concept Document, Technical Feasibility (see electronic link).

<sup>7</sup> See progress report in "Other technical documents."

- 1.12 **The solution.** In order to contribute to the technical sustainability of the electricity system, EDELCA studied different alternatives for rehabilitating, repowering, and modernizing the electricity generating equipment at Guri, optimizing the use of available water resources, improving service quality, and restoring the reliability of operations.
- 1.13 This project will make it possible to complete the Guri Modernization Program by rehabilitating units 1 to 6 of Powerhouse I, and increasing its capacity by 795 MW, from 1,215 MW to 2,010 MW. The project is scheduled to conclude in 2016, and includes replacement of rotors, regulators, generators, excitation systems, auxiliary electrical and mechanical systems of Powerhouse I, and the upgrading of high-voltage switchyards. It also involves upgrading the equipment room, control rooms, offices, and service areas, as well as fire prevention, ventilation, and spill collection systems.
- 1.14 EDELCA meets 72% of the demand for electric power in the country, and Guri supplies nearly 45% of that total demand. By increasing the efficiency and availability of Guri's turbogenerator units, reducing the frequency and duration of maintenance works, and prolonging their useful life, the project will have a strong impact on the output and reliability of the electricity system as a whole.
- 1.15 **The country's strategy.** The Simón Bolívar [National Development Plan](#) identifies the energy sector as a key pillar of development. Given the domestic demand for electric power, tapping the potential of hydroelectric power has a key role to play among the options available for generating electricity to meet the growing demand.
- 1.16 **The Bank's country strategy.** The program is consistent with the priorities set out in the Bank's country strategy with Venezuela for the period 2010-2013, now in the preparation stage. This strategy prioritizes actions to support: (i) the sustainability of sector infrastructure; (ii) increased technical efficiency and therefore effective generating capacity; and (iii) reductions in average operating costs, based on a sector assessment.<sup>8</sup> In this connection, the Bank will focus, among other things, on "projects to renovate, maintain, and improve hydroelectric generation infrastructure [and rehabilitate] hydroelectric plants."<sup>9</sup>
- 1.17 The project also supports the Sustainable Energy and Climate Change Initiative (SECCI). It is consistent with the SECCI Adaptation to Climate Change pillar, as it will contribute to advancement toward a carbon-neutral economy. In addition, it is aligned with the Renewable Energy and Energy Efficiency pillars, inasmuch as it will contribute to better use of renewable water resources. The project is also consistent with the Climate Change Strategy Profile (document GN-2561-1), which prioritizes IDB interventions in energy efficiency. Moreover, the expected

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<sup>8</sup> See electronic link under Other References: "Informe de situación sectorial" [Sector status report]

<sup>9</sup> Document "IDB Country Strategy with Venezuela (2010-2013)," prepared and approved at the quality and risk review (QRR) level; final review is expected in October 2010 (IDBDocs35328177).

outcomes are aligned with the Bank's strategic priorities and their contribution to regional development targets.

- 1.18 The IDB has been involved in the sector with projects including "Institutional Development of CADAPE" (loan 1605/OC-VE); the Program for Integral Management of the Caroní River Watershed (loan 1687/OC-VE), which supports the sustainable management of the Caroní River watershed, where Guri is located (see paragraph 2.5); the Caruachi Hydroelectric Power Plant Project (788/OC-VE), completed in 2006; the Manuel Piar (Tocoma) Dam, currently under construction (loans 1686/OC-VE and 1686/OC-VE-1); and "Comprehensive Institutional Development of CORPOELEC" (loan 2204/OC-VE), through which the GVE plans to support key activities for developing and strengthening CORPOELEC (see paragraph 2.9).
- 1.19 The IDB also supports hydroelectric generation and power plant rehabilitation projects, in order to foster a source of clean energy with minimum marginal environmental and economic impacts. As part of that strategy, the IDB has approved financing for projects including the following: Porce III (Colombia); Manuel Piar, Tocoma (Venezuela); Misicuni (Bolivia); Segredo, Dona Francisca, Cana Brava, and Campos Novo (Brazil). Rehabilitation projects include the Péligre project in Haiti; the plants projects in Central America and Santa Bárbara (Nicaragua); and the proposal to rehabilitate the plants at Furnas and Luiz Carlos Barreto (Brazil), which is in the process of presentation to the IDB Board of Executive Directors.

**B. Objective, components, and cost**

- 1.20 **Objective.** The objective of this operation is to contribute to the technical sustainability of the Venezuelan electricity system by preserving a major source of clean, renewable energy, and to increase its efficiency through the modernization, rehabilitation, and repowering of units 1 to 6 of Powerhouse I of the Simón Bolívar Hydroelectric Plant (Guri). The expected outcomes are an extension of Guri's useful life by an average 25 years, and increased reliability, efficiency, and power.
- 1.21 **Components.** The project proposes to finance investment components for facilities, electromechanical equipment, and environmental management, as well as engineering services for technical management and project monitoring. No civil works will be executed under this project.

**1. Component I: Investments in plant and equipment (US\$935.91 million)**

- 1.22 This component has three subcomponents, grouped by technical function:
- 1.23 **Subcomponent I: Rehabilitation and repowering of the units; modernization of core systems.** This will include increasing the unit power rating of three turbines from 175 MW to 270 MW, and of three others from 220 MW to 370 MW. Shafts, guide and thrust bearings, the distributor drive system, and generator rotors and stators will be resized. Rotating excitation systems will be replaced by static systems. Auxiliary mechanical and electrical equipment will be renewed including

oil-hydraulic regulation, speed control, voltage control, lubrication and cooling systems, and others. It will also include transformers and switchboards for incoming alternating and direct current to the main equipment, the auxiliary services specific to each unit, and general auxiliary services of Powerhouse I. The plant's ventilation and air conditioning systems for the electronic equipment rooms and the control room will be replaced, among other things. A distributed control system will be installed that, in the event of emergency, will allow each piece of equipment to operate in local mode.

- 1.24 **Subcomponent II: Reconfiguration of the 400 kV, 230 kV, 34.5 kV, and 13.8 kV switchyards of Guri A substation.** Includes the 400 kV switchyard; retrofitting of power equipment; replacement of switching, isolation, shutdown, and measurement equipment; electrical wiring of control signals and their fiber optic connection to the substation control room. The 230 kV switchyard must be reconfigured in a small area, using an encapsulated system insulated with sulfur hexafluoride (SF<sub>6</sub>). Also, the 34.5 kV and 13.8 kV fields will be reconfigured and reequipped.
- 1.25 **Subcomponent III: Architectural and environmental upgrading of facilities; modernization of supplementary common auxiliary electrical/mechanical systems of Powerhouse I.** This covers the equipment rooms, control room, and offices of Powerhouse I; containment of possible oil spills from the principal power transformers of Powerhouse I; the flame retardant system, drainage management and oil-water separation systems; reequipping of air ventilation and extraction systems; air conditioning for the electrical services and control rooms; and modernization of the lighting system, among other things.

## **2. Component II: Environmental aspects (US\$16.53 million)**

- 1.26 This component will finance: (i) the procurement, installation, and startup of climatological and hydrometric stations (fixed and floating), to capture and process data such as precipitation and flow in real time; (ii) final disposal of hazardous waste, the most important being oil contaminated with polychlorinated biphenyls (PCBs), hydrocarbon-impregnated solid materials, fluorescent lamps, asbestos covers, and others; (iii) a study of the Guri reservoir's vulnerability to climate change; (iv) procurement of material for managing contingencies, including, among other things, the procurement and commissioning of a hydrocarbons aspirator truck for porous and aqueous media, oil spill barriers, and absorbent cloths; and (v) management and restoration of approximately 100 hectares of quarries and borrow pits, as well as several abandoned camps and storerooms built at the time of the Guri project.

## **3. Component III: Engineering, inspection, and technical assistance (US\$116.38 million)**

- 1.27 This component will support effective program execution through the financing of program supervision, including socioenvironmental oversight, as well as the technical and logistic services for program administration, audit, and evaluation.

Because the investment component includes substantial inputs manufactured at supplier plants, in-factory supervision will also be required.

### C. Results matrix with indicators

- 1.28 The project has a Results Matrix (see Annex II) that includes indicators for project interventions designed to help assess project impact; means of verification (sources and data collection systems); and outcome indicators including baselines, as well as intermediate and final targets. The indicators were agreed to with EDELCA, which will contribute to their verification, supported with project resources.

### D. Cost and financing

- 1.29 The total cost of the program is US\$1.309 billion, as shown in Table 1. Of this amount, US\$700 million will be financed by the IDB, and US\$609.7 million will be counterpart resources. Loan resources will be used essentially for works for the final design, construction, and installation of the electromechanical equipment, as well as for upgrading the automatic systems and the related substations so they can receive and transmit power and energy.<sup>10</sup>

**Table 1. Costs and Financing**  
(US\$ million equivalent)

Description	IDB contribution	Local contribution	Project total
<b>Engineering, inspection, technical assistance</b>	<b>43.30</b>	<b>73.08</b>	<b>116.38</b>
Engineering and inspection	42.85	26.93	69.78
Administration	0.00	46.05	46.05
External audit	0.33	0.00	
Midterm and final evaluations, monitoring, evaluation	0.12	0.10	
<b>Investment components</b>	<b>580.93</b>	<b>358.98</b>	<b>939.91</b>
<b>Investments in plant and equipment</b>	<b>568.60</b>	<b>354.78</b>	<b>923.28</b>
Units 1 to 6 and auxiliary electrical/mechanical systems	400.25	249.75	650.00
400 kV, 230 kV, 34.5 kV, and 13.8 kV switchyards of the Guri A substation	144.71	90.29	235.00
Powerhouse I architecture, auxiliary electrical/mechanical systems	23.64	14.74	38.38
<b>Environmental aspects</b>	<b>12.33</b>	<b>4.20</b>	<b>16.53</b>
<b>Fees</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Unallocated expenditures</b>	<b>75.77</b>	<b>50.88</b>	<b>126.65</b>
Contingencies	38.05	27.34	65.39
Escalation	37.72	23.54	61.26
<b>Financing costs</b>	<b>0.00</b>	<b>126.83</b>	<b>126.83</b>
Interest	0.00	122.92	122.92
Commitment fee	0.00	3.91	3.91
Inspection and supervision fee	0.00	0.00	0.00
<b>Total categories</b>	<b>700.00</b>	<b>609.77</b>	<b>1,309.77</b>

<sup>10</sup> The loan resources will be used primarily to cover foreign currency expenditures budgeted in the project.

## II. FINANCING STRUCTURE AND MAIN RISKS

### A. Financing structure

- 2.1 The program is structured as an IDB investment loan in the amount of US\$700 million. The Government of the Bolivarian Republic of Venezuela (GVE) will contribute US\$609.7 million equivalent as the local counterpart. The borrower will be the Bolivarian Republic of Venezuela, and the executing agency will be Electrificación del Caroní, C.A. (EDELCA). The borrower and EDELCA will sign a subsidiary agreement for the execution and administration of program resources.

**Table 2. Tentative Disbursement Schedule (US\$ million)**

	2011	2012	2013	2014	2015	2016	Total
VE-L1033	35.0	105.0	180.0	200.0	130.0	50.0	700.0
Local	73.5	95.3	164.0	159.5	106.6	10.9	609.8
<b>Total</b>	<b>108.5</b>	<b>200.3</b>	<b>344.0</b>	<b>359.5</b>	<b>236.6</b>	<b>60.9</b>	<b>1,309.8</b>

### B. Environmental and social safeguard risks

- 2.2 The proposed program will not involve changes in the reservoir nor the execution of civil works. The potential adverse socioenvironmental impacts associated with this operation are known, small in magnitude and importance, easily managed using standard techniques, concentrated mainly in the stage of installing the new equipment, and relate to: (i) increased possibility of accidents; (ii) temporary increased noise levels; (iii) increased likelihood of uncontrolled spills; (iv) reduced output capacity when generators are taken out of service for rehabilitation; (v) possible labor problems due to the need to hire outside skilled labor; (vi) interruptions in road traffic due to the transportation of parts and equipment for the rehabilitation works; and (vii) the generation of solid waste, including large parts and equipment that have been replaced.
- 2.3 The positive impacts associated with operation and maintenance include: (i) increased supply of electric power in the country; (ii) less likelihood of greenhouse gas emissions than without the project, if thermal power plants were used to generate the necessary energy; (iii) displacement of current thermal generation operations, which will yield benefits including lower operating costs and increased availability of nonrenewable resources; (iv) optimized use of the water from the Guri reservoir; and (v) indirectly, creation of jobs and income, and stimulation of the regional economy.
- 2.4 Natural risks associated with the project include: (i) geological, (ii) seismic, (iii) hydrological, (iv) climate change, and (v) sedimentation. The likelihood of occurrence of geological, seismic, and sedimentation risks is very low, and their mitigation was considered in the design and construction of the structures of the complex and the reservoir. Existing studies cannot determine how climate change may affect Guri. Hydrological and climate change risks will be characterized with a

study of the vulnerability of the Guri reservoir to climate change, and then managed with an adaptation plan drawn from the study.

- 2.5 The environmental and social management report (ESMR) describes in detail the anticipated impacts, measures to manage them, and the risks associated with the project. The section on aspects of execution describes the preventive actions agreed upon for implementation during project execution. The ESMR also describes progress under the Program for Integral Management of the Caroní River Watershed (loan VE-L1006), including Bank approval of its annual work plan (AWP), actions to establish the Caroní River Watersheds Board, meetings to disseminate the sustainable management program, publication of the teaching guide in the Pemón language for the area's indigenous population, and preparation of the terms of reference for remediation projects in degraded areas.<sup>11</sup>
- 2.6 In view of the foregoing and in accordance with the Environment and Safeguards Compliance Policy (Operational Policy OP-703), the program was classified as category "B," having triggered directives B.03, B.04, B.05, B.06 and B.07 of that policy. Operational policies OP-704 (scenario I) and OP-102 are also triggered.

#### **C. Fiduciary risk**

- 2.7 No significant fiduciary risk is anticipated, given the demonstrated experience and satisfactory performance of EDELCA in executing previous IDB loans (145/OC-VE, 788/OC-VE, 1686/OC-VE, and 1686/OC-VE-1). This conclusion was upheld by the updated institutional capacity assessment (ICAS) of EDELCA, performed for this operation.<sup>12</sup> EDELCA received a satisfactory development and low risk rating in the areas of activity programming, administration of goods and services, financial management, internal audit, and external control. No specific action was recommended, except that the current terms of evaluation continue to be monitored during execution. Without detriment to the foregoing, it was agreed that actions and procedures be implemented to enhance the quality of managerial and control processes, as spelled out in the fiduciary agreements report.<sup>13</sup> The agreements cover the manner and frequency of reporting financial information, audits of financial statements, the mechanism for disbursement of the loan proceeds, and performance of the internal audit function at EDELCA.

#### **D. Execution risk**

- 2.8 EDELCA was organized functionally to enable it to address ongoing needs associated with the company's expansion, including problem-solving alternatives, baseline surveys, assessment of alternatives, and preparation of bidding documents

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<sup>11</sup> See ESMR, paragraphs 5.25 and 5.26, in the electronic links.

<sup>12</sup> Other references: "Evaluación de capacidad del sistema de adquisiciones" [Capacity assessment of the procurement system]

<sup>13</sup> Other references: "Informe de acuerdos y requisitos fiduciarios – gestión financiera" [Report on fiduciary agreements and requirements– Financial management]

for projects such as this one. The human resources assigned to these tasks have the necessary qualifications, and their capabilities will be supplemented with technical assistance provided by external consultants with expertise in the project's core areas of interest. The organization envisaged for coordinating all project stages, for monitoring the works during design and manufacturing, and for in situ inspection activities, is suitable for those purposes. The model specifications to be used by EDELCA for works procurement, and its division of the project scope and contract grouping, are also sound.<sup>14</sup> Loan resources have been budgeted for a final review, by qualified specialists, of the technical documentation.

- 2.9 EDELCA is the project executing agency. As corroborated throughout a long relationship with the Bank, it has gained extensive experience with hydroelectric projects over a period of more than fifty years. Once Corporación Eléctrica Nacional (CORPOELEC) commences operation, it will assume responsibility for project implementation. EDELCA's expertise will be concentrated in the area responsible for the project, which will itself be monitored as part of the Bank's process to monitor and administer the operation. In October 2009 the Bank approved the loan operation for "Comprehensive Institutional Development of CORPOELEC" (loan VE-L1021, contract 2204/OC-VE). The objective of the project is to help construct an institutional platform that supports corporate governance at CORPOELEC in its technical, socioenvironmental, institutional, and administrative operations, helping to build a sustainable and efficient electricity sector. To that end, the project supports activities along three lines: strategy, operations, and management control. These areas correspond to the project components: (i) sector strategy plan, (ii) corporate management model, (iii) and financial model. The GVE and the Bank have signed the contract, and the conditions precedent were satisfied in August 2010, so the contract is now eligible for disbursements. CORPOELEC plans to begin allocating the loan proceeds in the course of 2010. These steps are consistent with the execution timetable for this program, which envisages a loan execution period of five years.

#### **E. Other key issues and risks**

- 2.10 **Economic viability.** The assessment of the project's contribution to the economy is based on the estimated increase in firm generation capacity, and average additional excess generation capacity attributable to the project, based on the determination of the SEN's optimal generation/transmission expansion program. An estimate was made of incremental costs to June 2010. The economic internal rate of return (EIRR) for the country is 13.9%, and the net present value of net benefits (NPV 12%) is US\$100.1 million.
- 2.11 The analysis of sensitivity to variations in the principal parameters showed that variations in investment costs (20%), in international fuel prices (high and low scenarios for 2010 from the Energy Information Administration), and in the plant

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<sup>14</sup> Other references: "Evaluación de viabilidad técnica de la propuesta de rehabilitación" [Assessment of the technical viability of the rehabilitation proposal].

load factor of Guri (0.67 low and 0.72 high) have the greatest impact. The associated risk of a significant adverse impact on EIRR and ENPV, however, is very moderate, since in every case EIRR is greater than 12.1% (up to 16.7%), and NPV is greater than US\$5.7 million (up to US\$274.8 million). The most unfavorable sensitivity corresponds to a 20% increase in investment costs, and the most favorable sensitivity corresponds to the dispatch of the project's additional power with Guri operating with a plant load factor of 0.67. It was found that 20% variations in operating, maintenance, and environmental benefits do not produce significant changes in the economic merits of the project. A comparison by EDELCA of total estimated construction costs with the cost of other works adapted to a configuration reflecting the scope of the program, shows that construction costs are reasonable.

- 2.12 **Financial viability.** EDELCA's financial position has remained stable, despite the immobility of regulated rates (see paragraph 1.8). In real terms, this has had an impact on the company's sales revenues. To relieve the financial impact, EDELCA and the GVE have developed financing mechanisms that include operating subsidies, investment subsidies, and offsetting of EDELCA's accounts receivable with public enterprises. These offsets balance direct payments made by the GVE for EDELCA's debts with different financing institutions. This mechanism has made it possible to begin cleaning up EDELCA's accounts receivable with other State enterprises. The subsidies have been maintained for expenditures or operating expenses, which has an impact on the income statement; in the first 5 months of 2010, this amounted to 825 million Venezuelan bolívares fuertes (Bs).
- 2.13 EDELCA's sales revenues in 2009 totaled Bs 2.618 billion, compared to Bs 3.774 billion in 2008. The contraction was due not only to lower sales (81,221 GW in 2009 compared to 82,218 GW in 2008), but to the fact that more energy was delivered to sectors that pay regulated rates, which are lower than the unregulated rates paid by large consumers. Sales revenues in 2010 are expected to reach Bs 3.5 billion, very close to the figure for 2008. Thus, the profit margin on operational assets will reach 4.1%, and net earnings will come to Bs 480.9 million. The fixed regulated rates are partially offset by larger volumes of energy sales. Unregulated rates were increased substantially in 2010, pegged to two of its components for adjustment: the exchange rate of Bs 4.30 to the U.S. dollar, and the increase in the international prices of metals, with which it is closely associated. In sizing the loan, it was considered that the external financing will be sufficient to substantially cover the project's foreign currency expenditures, while the counterpart funds will be used essentially for outlays in local currency. This provides a financing structure consistent with the risks associated with price variations in different markets and currencies that have a bearing on project costs (see paragraph 1.2).
- 2.14 **Technical viability.** A review of the project design documents during the preparation of this proposal showed that the works are necessary and sufficient to meet the project objectives. The water resources available in the Caroní River can meet the need for additional power for units 1 to 6, even when dispatched at full

- capacity along with the other units of Powerhouses I and II. In that scenario, the increased power of units 1 to 6 can be estimated at 7% of the average energy produced, and the consequent reduction in the plant utilization factor will be less than 1.5%.
- 2.15 The geometry of the built-in fixed parts of units 4 to 6 is identical to their counterparts in units 7 to 10 of Powerhouse I, for which tests were conducted on a physical model to scale. The results support both the viability of the power rating proposed for units 4 to 6, and the expected output rate of 95.6%. The power and output rates proposed for units 1 to 3, which are smaller in size than units 4 to 6, were inferred by EDELCA, using, for the most part, conservative criteria. Based on the electricity study performed by EDELCA, it is also considered viable to inject 800 MW of additional power into the system. Reconfiguration of the 230 kV switchyard in the location currently occupied by the 34.5 kV substation, using an arrangement of a double set of encapsulated bars insulated with SF<sub>6</sub>, with eight inputs for generating units 1 to 3 and line outputs, as well as an interlocking field, is a viable solution. The existing civil works were designed in the original project as the first phase of the works, bearing in mind that they would later operate with the second phase (see paragraph 1.10). The deadlines envisaged in the project timetable, and their correspondence with the activities of the maintenance and rehabilitation schedules of the other units of Powerhouses I and II, are considered tight but viable.<sup>15</sup>
- 2.16 **Bank policies.** The project is consistent with the objectives of the Bank's operational policies for the energy sector (OP-733), electric energy (OP-733-1), and public utilities (OP-708), as well as other Bank initiatives (see paragraph 1.17). The objectives of OP-733 include efficiently meeting the energy needs stemming from the economic development process in Bank member countries. In particular, OP-733-1 promotes the financing of projects that increase the availability and reliability of energy supply. The project is aligned with both objectives because the retrofitting of turbogenerators and the introduction of technology will increase the availability and reliability of the electric power supply. The project is also aligned with the objectives of OP-708 in that it will contribute to:<sup>16</sup> (i) "ensure long-term sustainability of the services" by financing investments needed for the maintenance and retrofitting of the assets of the service; (ii) "achieve economic efficiency" by increasing the efficiency of electric power generation from renewable sources; (iii) "safeguard quality" by improving the reliability and quality of electricity

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<sup>15</sup> For a detailed analysis of technical viability, and because of reasons of space, see Other references: "Evaluación de viabilidad técnica de la propuesta de rehabilitación" [Assessment of the technical viability of the rehabilitation proposal].

<sup>16</sup> OP-708, Objectives.

services; and (iv) “meet wider national objectives,” in this case through the use of renewable resources.<sup>17</sup>

- 2.17 Furthermore, Operational Policy OP-708 calls for certain “basic conditions” to be met, to assure the accomplishment of the objectives, including: (i) the separation of roles of policy formulator, regulator, and entrepreneur; (ii) the existence of a business structure that fosters efficiency; (iii) and the adoption of effective management models; (iv) implementation of an effective regulatory regime; and (v) creation of conditions that lead to the adoption of rates that reflect the marginal cost of the service to the end user. Although the legal framework for the sector is consistent specifically with points (i) , (ii) , (iv) and (v) inasmuch as it provides for a separation of roles, a regulatory regime, and rate regulation procedures, these are not reflected in practice. The sector’s financial stability is premised on subsidies that are made transparent in the budgets, but not targeted (see paragraph 1.8). The business role has been defined with the creation of CORPOELEC and the government’s efforts to establish an efficient operator. In this context, the electricity sector in Venezuela departs from the basic conditions favored by OP-708. Nevertheless, OP-708 acknowledges that the policy: “will be applied in a very wide range of circumstances... consequently, it is conceivable that a departure from one or more of the basic conditions could be countenanced in some cases. In such circumstances, those advocating any such departure must show compliance of the proposal with the objectives of this policy.” In this case, since the project has been shown to be consistent with the policy’s objectives, waiver of these departures is merited. Such a waiver is consistent with the objective of obtaining Bank support for a strategy that seeks to address urgent needs in the sector.

### III. IMPLEMENTATION PLAN AND MONITORING MECHANISMS

#### A. Implementation arrangements

- 3.1 EDELCA’s responsibilities as executing agency will be to: (i) implement the project; (ii) define and approve the annual work plans (AWPs); (iii) implement the AWPs; (iv) approve the terms of reference that will govern the procurement of goods and services; (v) supervise the execution of the different components; (vi) deliver reports and evidence of progress of the operation, as well as other information as requested by the IDB; (vii) promote actions to achieve the program’s objectives and, especially, those indicated in the Results Matrix; and (viii) compile, file, and deliver to the IDB information, indicators, and parameters that will help the GVE and the IDB monitor, measure, and evaluate program outcomes.
- 3.2 **As a condition precedent to the first disbursement of the Bank loan proceeds, the borrower and the executing agency will sign the subsidiary agreement for the execution and administration of program resources, previously agreed**

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<sup>17</sup> See “El proyecto y las políticas y acciones del Banco en el sector” [The project, and Bank policies and actions in the sector] (<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35344029>).

**upon with the Bank.** As special conditions during execution: (i) evidence will be provided that the employees of the executing agency have received training on the potential impact and risks as a result of the execution of these works; (ii) evidence will be provided that the People's Ministry for the Environment (MPPA) is informed on a timely basis regarding the actions and activities conducted under the project; and (iii) provisions will be included in contracts for works execution, supervision, and equipment supply, to ensure compliance with the protocols, guides, and manuals in effect on environment, health, and safety.

**B. Summary of arrangements for monitoring results**

- 3.3 **Monitoring and evaluation.** The program Results Matrix describes the expected outcomes, outputs, and monitoring indicators of the project, and will serve as framework document for monitoring execution of the operation. The following activities will also be used to monitor project execution: (i) AWP, which will include the activities planned for the given reporting period, as well as the actions agreed upon and necessary to mitigate identified risks; (ii) semiannual reports, to report on the progress made relative to the AWP and the outcomes of the activities implemented; and (iii) an action plan for the subsequent semiannual period for addressing aspects requiring corrective action to improve program performance. The funds to cover project monitoring and evaluation activities have been included in the structure of the financing and include both loan and counterpart resources. Quarterly visits will be made to the site of the works, and ongoing collaboration will be provided by the Bank's Energy Division (INE/ENE) and its Country Office in Venezuela (CAN/CVE).
- 3.4 The executing agency will perform a midterm review once the project reaches 50% physical progress, or two rehabilitated units have been commissioned, whichever occurs first. This review will verify program execution and progress toward the targets in the Results Matrix. A final evaluation will be performed once 95% of the Bank loan proceeds have been disbursed. It will report on execution outcomes and Results Matrix targets met, as well as analyze lessons learned under the program. Both the midterm review and final evaluation will be financed with the loan proceeds, and conducted by an independent consultant.

## **Annex I**

### **Development Effectiveness Matrix**

**For Internal Use of the Bank**

**BOLIVARIAN REPUBLIC OF VENEZUELA**  
**REHABILITATION OF UNITS 1 TO 6 OF POWERHOUSE I OF THE SIMÓN BOLÍVAR HYDROELECTRIC PLANT (GURI)**  
**(VE-L1033)**

**RESULTS MATRIX**

<b>General objective:</b>	The objective of this operation is to contribute to the technical sustainability of the Venezuelan electricity system by preserving a major source of clean, renewable energy, and to increase its efficiency by modernizing, rehabilitating, and repowering units 1 to 6 of Powerhouse I of the Simón Bolívar Hydroelectric Plant (Guri).
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<b>Objective of the investment component</b>	To increase the energy generation efficiency and contribution of units 1 to 6 of Powerhouse I of Guri, as well as the quality of management for the environmental sustainability of reservoir operation			
<b>Results</b>	<b>Indicator</b>	<b>Base</b>	<b>Target</b>	<b>Source</b>
Increase generating capacity with renewable resources	Rated installed capacity of units 1 to 6	1,215 MW (2008)	2,010 MW (2016)	EDELCA
Increase the energy contribution of the Lower Caroní River to the National Electric System (SEN)	Average energy delivered annually to the SEN.	88,751 GWh (2008)	90.543GWh (2016)	National Electricity System Management Center
Increase the operability of generator units 1 to 6 to more than 90%	Operability of generating units 1 to 6 (expressed as percentage of the operability time of the equipment)	85% (2008)	90% (2016)	EDELCA
Increase the efficiency of units 1 to 6 to 95%	Efficiency of generating units 1 to 6	84% (2008)	95% (2016)	EDELCA
Reduce outage due to maintenance Increase frequency Reduce duration	Major maintenance cycles: Frequency Duration	In 2008: Every 2 years 60 days	2016 onward: Every 5 years 45 days	CORPOELEC
Extend the useful life of generator units 1 to 6	Theoretical remaining average useful life of units 1 to 6	In 2008: 0 years	In 2016: 25 years	EDELCA
Management of water resources expanded with the incorporation of knowledge and technical tools for addressing the potential impacts of climate change	Models for the management of variables including flows, recurrences, and trends operate, incorporating the variable of climate change impact	In 2010: 0	In 2013: 100%	EDELCA

Outputs									
Investment component									
	Indicator	Source	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Target Year 6
<b><i>Rehabilitation and upgrading of Units 1 to 6</i></b>									
- Unit 1	Each unit (turbo-generator) commissioned and completed test run	EDELCA and works supervision reports	0	0	0	0	0	0	1
- Unit 2			0	0	0	0	0	1	1
- Unit 3			0	0	0	0	1	1	1
- Unit 4			0	0	0	0	1	1	1
- Unit 5			0	0	0	0	0	1	1
- Unit 6			0	0	0	0	0	0	1
<b><i>Rehabilitation and upgrading of switchyards; connection.</i></b>									
- 230 kW and 400kW switchyards	Switchyards rehabilitated and commissioned	EDELCA and works supervision reports	0	0	0	0	1	1	1
- Connection of units	Units connected with links and rehabilitated switchyards		0	0	0	0	0	1	1
<b><i>Environmental component</i></b>									
- Analysis and assessment of vulnerability of Guri reservoir to climate change	Consulting service report submitted and approved	EDELCA	0	0	0	0	1	1	1
- Climatological and hydrometric measurement and control systems	System installed and commissioned, progress of execution according to supervision	EDELCA and works supervision reports	0	0	0	20%	50%	80%	100%

**REHABILITATION OF UNITS 1 TO 6 OF POWERHOUSE I OF THE SIMÓN BOLÍVAR HYDROELECTRIC PLANT (GURI)**  
**(VE-L1033)**

**Period covered by this procurement plan: From January 2011 to July 2012**

Ref. no.	Category and description of procurement contract	Estimated cost of procurement (US\$000)	Procurement method	Review (ex ante or ex post)	Source of financing and percentage		Prequalification (Yes/No)	Estimated dates		Status (pending, in process, awarded, canceled)
					IDB	Local		Publication of Specific Procurement Notice	Contract termination	
I.	GOODS									
1.1	Procurement of hydrometeorologic measurement equipment	750	ICB	Ex ante	66.5%	33.5%	No	Feb/11	Sep/11	Pending
2	WORKS									
2.1	Rehabilitation and modernization of generation units 1 to 6, and of the auxiliary electrical/mechanical systems of Powerhouse I of the Simón Bolívar Hydroelectric Plant (Guri).	650,000	ICB	Ex ante	61.6%	38.4%	Yes	Jan/11	Nov/16	Pending
2.2	Reconfiguration of the 400 kV, 230 kV, 34.5 kV, and 13.8 kV switchyards of Guri A substation, and of the transmission lines of Powerhouse I.	235,000	ICB	Ex ante	61.6%	38.4%	Yes	Oct/11	Mar/15	Pending
2.3	Architectural, structural, and equipment upgrades and rehabilitation of Powerhouse I, including supplementary common auxiliary electrical/mechanical systems	38,380	ICB	Ex ante	61.6%	38.4%	Yes	Mar/12	Mar/16	Pending
III.	CONSULTING SERVICES									
3.1	Onsite inspection of the works to rehabilitate and modernize generation units 1 to 6 of Powerhouse I of the Simón Bolívar Hydroelectric Plant (Guri)	31,000	QCBS	Ex ante	61.14%	38.86%	Yes	Aug/11	Nov/16	Pending
3.2	In-factory inspection of the works to rehabilitate and modernize generation units 1 to 6 of Powerhouse I of the Simón Bolívar Hydroelectric Plant (Guri)	2,000	QCBS	Ex ante	61.14%	38.86%	Yes	Aug/11	Nov/16	Pending
3.3	Inspection of reconfiguration works at Guri Substation A, 400 kV, 230 kV, 34.5 kV, and 13.8 kV switchyards, and transmission lines of Powerhouse 1.	8,600	QCBS	Ex ante	61.14%	38.86%	Yes	Aug/11	Aug/14	Pending
3.4	Environmental sector study	2,500	QCBS	Ex ante	66.5%	33.5%	Yes	Feb/11	Aug/12	Pending

**ACRONYMS:**

Goods and services:     **ICB:** International competitive bidding

**NCB:** National competitive bidding

**S:** Shopping

Consulting firms     **QBS:** Quality-based selection  
                              **QCBS:** Quality and cost-based selection  
                              **FBS:** Selection under a fixed budget.  
                              **LCS:** Least-cost selection.  
                              **CQS:** Selection based on consultant’s qualifications  
                              **SSS:** Single source selection.

**Note:** All procurements of consulting services for amounts less than US\$25,000, and procurements of goods for amounts less than US\$20,000, will be subject to ex post review, and are not included in the procurement plan.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/10

Venezuela. Loan \_\_\_\_/OC-VE to the Bolivarian Republic of Venezuela  
Rehabilitation of Units 1 to 6 of Powerhouse 1 of the Simón Bolívar Hydroelectric Power Plant  
(Guri)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Bolivarian Republic of Venezuela, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a program for the rehabilitation of units 1 to 6 of powerhouse 1 of the Simón Bolívar hydroelectric power plant (Guri). Such financing will be for an amount of up to US\$700,000,000 from the Single Currency Facility of the Ordinary Capital resources of the Bank, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on \_\_\_\_\_ 2010)