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# INTEGRATED SAFEGUARDS DATA SHEET APPRAISAL STAGE

Report No.: ISDSA12658

Date ISDS Prepared/Updated: 21-Apr-2015

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### I. BASIC INFORMATION

### 1. Basic Project Data

Country:	Lao F Repu	People's Democratic blic	Project ID:	P149599		
<b>Project Name:</b>	Powe	Power Grid Improvement Project (P149599)				
Task Team	Rome	e Chavapricha				
Leader(s):				_		
Estimated	22-A <sub>j</sub>	pr-2015	<b>Estimated</b>	23-Jun-20	)15	
<b>Appraisal Date:</b>			<b>Board Date:</b>			
<b>Managing Unit:</b>	GEEI	DR	Lending	Investmen	nt Project Financing	
			<b>Instrument:</b>			
Sector(s):		Transmission and Distribution of Electricity (50%), Energy efficiency in Heat and Power (50%)				
Theme(s):	City-	wide Infrastructure and So	ervice Delivery (	100%)		
Is this project pr	rocess	sed under OP 8.50 (En	nergency Recov	very) or C	P No	
8.00 (Rapid Resp	ponse	to Crises and Emerge	encies)?			
Financing (In U	SD M	illion)				
Total Project Cos	t:	30.00	Total Bank Fin	ancing:	30.00	
Financing Gap:		0.00		•		
Financing Sou	irce Amor				Amount	
BORROWER/RECIPIENT				0.00		
International De	ternational Development Association (IDA)					
Total	30.00					
Environmental	B - Partial Assessment					
Category:						
Is this a	No					
Repeater						
project?						

### 2. Project Development Objective(s)

The project development objective is to help improve efficiency and reliability of power distribution in the selected load areas served by EDL.

### 3. Project Description

The main proposed project components include:

- a. Component 1: Smart metering, distribution improvement and distribution losses reduction [US\$ 19 million]: This component is expected to introduce advanced metering infrastructure (AMI) technology and digital meters in the project area. In addition, it is expected to help improve reliability of power supply and reduce losses in selected parts of the distribution network through strengthening of power distribution infrastructure and distribution automation. This component includes rehabilitating power distribution lines, upgrading of conductors, increasing transformer capacity, placement of capacitors for reactive power and voltage control, installation of load break switches and reclosers, etc.
- b. Component 2: Electric utility information system [US\$ 6 million]. There are three subcomponents: (i) Supply and installation of optical fiber communication links to support advanced metering and distribution automation; (ii) Extension of Geographic Information System (GIS) to support power distribution operation and maintenance; and (iii) Supply and installation of an updated corporate financial management information system (FMIS). This sub-component is expected to take a modular approach in modernizing financial management in EDL, including through the improvement of billing and collection system, which can be subsequently scaled up to a full enterprise resources planning system or be disaggregated according to EDL corporate structure.
- c. Component 3: Institutional capacity building and project implementation support [US\$ 5 million]. This component is expected to include (i) financing for EDL's distribution materials and equipment testers and related trainings, (ii) applications of advanced metering infrastructure, (iii) applications of energy balancing and power flow software, (iv) consultancy for electric utility information system, (v) support to measure distribution system performance indicators, and (vi) project implementation support and incremental operating cost. This component is expected to enhance EDL institutional capacity to utilize new technologies to address distribution losses and improve power grid efficiency.
- d. Component 4: Contingent emergency response [US\$ 0 million]. The objective of the contingent emergency response component with a provisional zero allocation is to allow for the reallocation of financing in accordance with the IDA Immediate Response Mechanism in order to provide a rapid response to disaster or emergency events, as needed. This component would finance expenditures on a positive list of goods and/or specific works and services required for emergency recovery. An Emergency Response Manual (ERM) will apply to this component, detailing streamlined financial management, procurement, safeguard and any other necessary implementation arrangements.

Status of the Project, Procurement, Financial Management and Disbursement

EDL, supported by the Bank team, has prepared a preliminary cost estimate for all components under the proposed IDA Credit budget of US\$ 30 million. The actual cost will be determined upon completion of procurement for each procurement package.

The implementing agency EDL is expected to utilize its existing expertise in procurement, financial management, disbursement, and environmental and social management gained through the on-going REP II and the GMS Power Trade Project. The Bank team has carried out an updated assessment of EDL's fiduciary as well as safeguard capacity and will provide the necessary training and support during appraisal and implementation.

# 4. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The geographical scope of the project is limited to the urban and suburban area of Vientiane. Specifically, the intended project area is located in Xaythany district of Vientiane capital, about 10 kilometers north of Vientiane city center, with a distribution loss of around 24 percent in 2014 (higher than national average of 13 percent). The Vientiane capital area accounts for about 40 percent of the country's demand for electricity. The Xaythany district comprises low- and high-income residential customers, commercial, and industrial customers. There are currently about 46,000 residential and 1,100 non-residential customers in Xaythany.

The number of kilometers of power lines to be rehabilitated is about 366 (of which 127 for medium-voltage). Small-scale works linked primarily to installation of meters, capacitors, upgraded medium-voltage transformers, power poles, and conductors of low- and medium voltage lines are linked to the proposed rehabilitation of existing medium and low voltage distribution lines and reinforcement of selected electricity networks. The planned activities within the project do not include construction of new transmission or distribution electrical lines. The physical installations of meters, power distribution equipment, communication links, computing hardware, testing equipment are expected to be done on existing power poles, power lines, and buildings owned by EDL or by electricity customers.

No physical relocation of existing residences is expected as construction work will be done on the existing power distribution infrastructure. However, minor losses of private assets such as land, crops and fences may occur as a result of upgrading of existing or adding new power poles under the existing right of way. At this stage of the project design the location of the poles is not yet decided by EDL. However, the land area required for new poles normally is around one square foot per pole, which would be addressed through voluntary land donation. Loss of crops and fences would be compensated at replacement value. EDL will notify affected customers for any power cut requirements during project implementation in accordance with its established procedures, including those adopted under the Bank requirements.

#### 5. Environmental and Social Safeguards Specialists

Juan Martinez (GSURR)

Waraporn Hirunwatsiri (GENDR)

6. Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	Small scale installation works pertain to the rehabilitation of distribution of medium voltage (MV 22kV) and low-voltage (LV 0.4 kV) lines and the installation of electronic meters, replacement of capacitors (LV line), upgrading of conductors (on LV and MV lines) and replacement and addition of transformers and power poles (for MV). Given the nature of the rehabilitation works, the project is proposed as category B as certain mitigation measures and monitoring actions will have to be implemented during the civil works in order to minimize, prevent and reduce possible temporary impacts on the environment. Temporary environmental impacts during

		works may include soils and water surfaces pollution due to disposal of fuel oils and other chemicals related to works and disposal of waste materials from installations to be replaced, and physical hazards to workers. Special attention will be given to management of hazardous electrical waste (old transformers) including handling, transportation and final disposal of materials contaminated by PCBs, as well as to impacts from disconnection of power lines and interruption of service to beneficiaries during works. These potential impacts could be managed through clear environmental due diligence obligations of contractors (which will be stipulated in the ESMP) and use of adequate technical construction standards. To ensure that the environmental issues are appropriately addressed, EDL prepared an ESMP including ECoPs that meet the applicable World Bank safeguard policies and national applicable legislation. The WBG Environmental, Health and Safety (EHS) Guidelines for Power Transmission and Distribution which has been incorporated into the ESMP and ECoP will be followed during project construction, operation and maintenance, including provisions for beneficiaries and worker health and safety. The ECoPs include specifications for the proper disposal of excess/discarded electric materials, lubricants, etc. In addition, proper dissemination of service disruption, traffic management, etc. will be required of all contractors. The draft ESMP was publicly disclosed in country on March 26, 2015 as well as in Infoshop on March 25, 2015 in English before the public consultations.
Natural Habitats OP/BP 4.04	No	The works will take place in urban and sub-urban areas where there is no natural habitats.
Forests OP/BP 4.36	No	There is no forest in project right of way. No project activities are involved with forest management of affecting forests.
Pest Management OP 4.09	No	The project does not involve the purchase or increase use of pesticides. EDL does not use toxic herbicides to prevent vegetation growth around poles.
Physical Cultural Resources OP/BP 4.11	Yes	The policy is triggered as precautionary measure to avoid impacts to stupas, pagodas or other cultural and historical resources. From the initial rights-of-way survey, no physical cultural resources were found within the existing 22kV distribution right of way, which is located along the existing road (National Road 13 South). A detailed survey to identify buried physical cultural resources at the location of the additional poles will be conducted before

		the work commencement. A chance find procedures were included in the ESMP.	
Indigenous Peoples OP/ BP 4.10	No	The project will be implemented within the Xaythany district which is an urban district within Vientiane Capital. Indigenous Peoples communities (known as Ethnic Groups in Lao PDR) are not known to be presen in the project areas.	
Involuntary Resettlement OP/BP 4.12	Yes	The project triggers OP4.12 Involuntary Resettlement, and draft protocols for voluntary land donation (P-VLD) and a Resettlement Policy Framework (RPF) have been drafted and disclosed in order to address project impacts in compliance with both GOL and World Bank's policies.	
		No involuntary land acquisition is expected as the small land plots for new poles required are commonly provided through voluntary donations. However, during construction and maintenance minor impacts on structures and standing crops and trees (trimming) cannot be ruled out. At this stage of the project design the location of the poles is not yet decided by EDL. A Resettlement Policy Framework (RPF) was therefore developed which provides principles and procedures to ensure that such impacts will be fully compensated at replacement value.	
		The Protocols for VLD include detailed documentation indicating the appropriateness of the VLD, description on owners and users of land donated, procedures for consultation and disclosure, informed consent of the person donating the land, legal documentation indicating the transference of land donated, and grievance redress procedure and mechanism. In the unlikely event, that involuntary resettlement will occur in the form of impacts on structures or standing crops and trees, the RPF that was prepared by EDL will be applied. The Bank has reviewed the P-VLD and RPF drafted by EDL.	
Safety of Dams OP/BP 4.37	No	The project will not support construction or rehabilitation of dams nor will support other investments that rely on the services of existing dams.	
Projects on International Waterways OP/BP 7.50	No	No project activities are involved in international waterways.	
Projects in Disputed Areas OP/BP 7.60	No	No project activities are involved in disputed areas.	

### II. Key Safeguard Policy Issues and Their Management

### A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify

### and describe any potential large scale, significant and/or irreversible impacts:

The activities involved in PGI project would include small scale installation works pertain to the rehabilitation of distribution medium voltage (127 km of 22 kV MV) and low voltage (239 km of 0.4 kV LV) lines and the installation of electronic meters, replacement of capacitors (LV line), upgrading of conductors (on LV and MV lines) and replacement and addition of transformers and power poles (for MV). Given the nature of the rehabilitation works, the project is proposed as category B and triggered Environmental Assessment OP/BP 4.01 as certain mitigation measures and monitoring actions will have to be implemented during the civil works both during the construction and operation and maintenance phase in order to minimize, prevent and reduce possible temporary and site specific impacts on the environment.

The key impact of the project during project construction and operation phase may include soil and surface water pollution due to disposal of fuel oils and disposal of construction debris (from earth excavation for installation of 50 electrical poles) and waste materials (from replacement of old PCB-based transformers, meters, etc.) and physical hazard to workers. A preliminary on-site assessment conducted found about 30 households with structures around power poles and limit working space for EDL officers and contractors. The exact scale and history of household structures around power poles will be determined during implementation.

In addition, trimming of trees and bushes during project installation for additional poles and regular maintenance of vegetation within the 22 kV distribution right-of way which is necessary to avoid disruption to overhead power lines and poles will have minor impact to biological resources in the project right of way.

In terms of climate and geophysical hazards, as a result of the WBG Climate and Disasters Risk Screening Tool, the project is considered being moderately exposed to strong winds and slightly exposed to drought that may directly impact project implementation and operation. For instance, strong wind may disrupt construction activities or cause physical damages to infrastructure during operating phase. Excess drought may cause fire accidents, which may cause physical damages. The project is less exposed to flooding as most of distribution equipment is above ground-level, and may continue to operate safely during flooding.

The social issues associated with the project are expected to be limited. EDL has already established procedures and communication methods to inform its customers of upcoming power cuts necessary for the project implementation. It is expected that under this project no involuntary land acquisition, physical relocation of households, or commercial entities due to construction work will occur as all the work will be done on existing power distribution infrastructure. About 50 new power poles would be installed on private land under the existing right of way (ROW) along a nine-kilometer section of provincial public road and located in the field paddies. Impact will be minor since each pole will require only around one square foot of land. Such minor loss of land will be addressed through voluntary donations in line with the protocols provided in the Resettlement Policy Framework (RPF). In addition, minor impacts on structures and standing crops and trees may occur during construction and maintenance. The RPF provides principles and procedures to ensure that such impacts will be fully compensated at replacement value.

A draft Environmental and Social Management Plan (ESMP), Environmental Codes of Practices (ECoP), Protocol for Voluntary Land Donation (P-VLD) and Resettlement Policy Framework (RPF) in line with the World bank's Safeguard policies, the WBG Environmental, Health and

Safety (EHS) Guidelines for Power Transmi ssion and Distribution and the National applicable legislation that appropriately addressed the environmental and social issues identified from E&S due diligence was prepared by EDL and reviewed by the Bank. The draft ESMP, ECoP, P-VLD and RPF have been disclosed in country and Infoshop prior to project appraisal. Public consultation was held on April 3, 2015 in Xaythany District.

# 2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

Lower electricity generation resulting from a reduction in distribution losses will also yield a reduction in CO2 emissions since part of the generation comes from fossil fuel fired power plants. A cumulative CO2 emissions saving amount of 1.27 million tons from the project is the long term positive impact from the project. In term of future activities in the project area that may impact project implementation on the safety aspect, any new temporary shelter around power poles could be an issue. This potentially could obstruct and limit safety working space for workers during project operation and maintenance. To avoid and mitigate any negative impacts, EDL will prepare a detailed plan to ensure no additional temporary shelter will be built around power poles.

The socio-economic benefits include a range of positive impacts by improving the efficiency and reliability of power distribution in the urban and suburban areas, the strengthening of power distribution infrastructure and improvements of voltage drop, reduced power cuts, and reduction of distribution losses, which ultimately result in local economic benefits. The potential for adverse impacts on the existing communities is low, as the area is already heavily developed and populated. The physical installations of meters, communication links, computing hardware, testing equipment are expected to be done on existing power lines, and buildings owned by EDL or by electricity customers.

# 3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

Not relevant.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

Measures to Be Taken:

Mitigation and management have been proposed in the ESMP to address all of the impacts identified, including a comprehensive ECoP and P-VLD and RPF for implementation during construction and operation of the scheme. The ESMP details the environmental management and supervision organizations and responsibilities, mitigation measures, capacity training plan, monitoring plan, and budget estimates for implementation. Relevant elements of ESMP and ECOP will be incorporated into project management by EDL in order to ensure effective implementation throughout the preconstruction, construction and operation phases of the project.

The draft ESMP and ECoP have been prepared by EDL and reviewed by the Bank. The draft ESMP and ECoP has been disclosed locally and in the InfoShop to address project impacts in compliance with both GOL and World Banks' relevant policies for small scale installation works pertain to the rehabilitation of distribution of medium voltage (127 km of 22kV MV system) and low-voltage (239 km of 0.4 kV LV system) lines and the installation of electric meters, replacement of capacitors (LV line), upgrading of conductors (on LV and MV lines) and replacement and addition of transformers and power poles (for MV). The ECoP will be incorporated as part of the contractor's contract.

Appropriate P-VLD of new poles installation include detailed documentation indicating the appropriateness of the VLD, description of owners and users of land donated, procedures for consultation and disclosure, informed consent of the person donating the land, legal documentation indicating the transference of land donated; and grievance redress procedure and mechanism.

In the unlikely event that involuntary resettlement will occur in the form of impacts on structures or standing crops and trees, the RPF that was prepared by EDL will be applied.

### Institutional and Implementation Arrangements

The Environment and Social (E&S) Office of EDL will be responsible for the implementation of the proposed mitigation measures in the ESMP, ECoP, P-VLD and RPF. The E&S Office will be responsible for ensuring, on a day-to-day basis, that the mitigation measures and monitoring activities identified in the ESMP, ECoP, P-VLD and RPF are implemented. EDL capacity for implementing environmental and social safeguard is strong. EDL has also experienced working with the Bank on power sector projects (e.g. Rural Electrification Project I and II). With EDL capacity, they will provide training to contractors involved in project construction on the environmental and social safeguard. The training will be focused on: environmental protection laws and regulations, environmental management good practices for power grid improvement; including training on P-VLD.

In addition, EDL's individual E&S consultant will provide oversight and advice to EDL as needed to ensure the ESMP and its monitoring plan is effectively implemented. Detailed Institutional arrangements are described in the ESMP.

#### Gender Strategy

Women are more vulnerable to some types of impacts, therefore a draft gender strategy has been prepared and included in the ESMP. It is expected that the project would proportionately benefit female and male population through improved efficiency and reliability of power distribution. In addition, targeted training of female EDL staff (about 20 percent of total staff) will be carried out during implementation phase, which will be monitored and evaluated under the project results framework. Potential additional financial support for Lao's electrification fund Power to the Poor Program from this proposed project's financial benefits will benefit more women-headed households.

#### **Institutional Capacity Assessment**

As an institution, EDL has worked with the Bank for over 20 years and is familiar with the Bank's environmental and social safeguard policies. Currently, one Bank-financed project with EDL are under supervision (Rural Electrification Phase II). In order to comply with the Bank requirement as well as the Government of Lao PDR, under Rural Electrification Phase I and II EDL prepared the Environmental Assessment Framework, the Resettlement Policy Framework and the Ethnic People's Development Plan. Therefore, EDL is familiar with the Bank safeguard's policies. In addition, EDL has been implementing numerous projects financed by other development financial institutions, such as the ADB, which have similar safeguards policies as those of the Bank.

Most of the staff and internal consultants of EDL have qualified education background and

relevant project experience. However, the Bank will provide capacity building on safeguard for EDL to successfully implement the project. As was mentioned before, as part of the project implementation arrangements, an environmental and social team will include staff members from EDL Environmental and Social Department with support from the E&S consultants, having the responsibility to minimize the social and environmental impacts of the project during the construction/installation and after completion of the project. The E&S team will monitor the preparation and implementations of the ESMP, ECoP, RPF and P-VLD as necessary to minimize the social and environmental impacts according to agreed policy frameworks for safeguards.

During the project preparation, the Bank team has provided a series of informal guidance on the Bank's environmental and social safeguards policies to its counterparts in EDL. Numerous meetings and discussions of the Bank team with its counterparts in EDL have also provided many on-the-job training opportunities to the EDL project team. Also during the project implementation, formal and informal training will be provided to EDL team to properly implement the ESMP, ECOP, P-VLD and RPF. Training budgets have been allocated for project implementation stage as described in the ESMP. EDL's E&S individual consultant will assist EDL to supervise the implementation of the project, including the implementation of the ESMP.

# 5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

Stakeholders include those affected directly or indirectly, as well as the local governments and goods and service suppliers, contractors, customers and suppliers of EDL. For stakeholders, in addition to individual household census and sample survey respondents, several rounds of focus group discussions (FGDs) and public consultations were conducted on April 3, 2015 for the preparation of the ESMP

The purpose of each meeting or interview was to first convey information to the people regarding the project, and secondly to seek feedback to gain an understanding of their perceptions of the project, their aspirations and to receive their comments on how the project may affect them. Written documentation on the project was provided, as well as oral presentations and discussions with the meeting attendees or interviewees.

#### **B.** Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other					
Date of receip	ot by the Bank	24-Mar-2015			
Date of subm	ission to InfoShop	25-Mar-2015			
For category A projects, date of distributing the Executive 000000000 Summary of the EA to the Executive Directors					
"In country" Di	isclosure				
Lao People's Democratic Republic 26-Mar-2015					
Comments: Following public consultations the draft Environment and Social Management Plan, the Environmental Codes of Practices, the Resettlement Policy Framework and the Protocols for Voluntary Land Donation will be revised by EDL and reviewed and cleared by the World Bank.					
Resettlement Action Plan/Framework/Policy Process					
Date of receipt by the Bank 24-Mar-2015					
Date of submission to InfoShop 25-Mar-2015					

"In country" Disclosure				
Lao People's	Democratic Republic	26-Mar-2015		
Comments:	Comments: Following public consultations the draft Environment and Social Management Plan, the Environmental Codes of Practices, the Resettlement Policy Framework and the Protocols for Voluntary Land Donation will be revised by EDL and reviewed and cleared by the World Bank.			
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.				
If in-country disclosure of any of the above documents is not expected, please explain why:				

# C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment					
Does the project require a stand-alone EA (including EMP) report?	Yes [×]	No [	]	NA [	]
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes [×]	No [	]	NA [	]
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [×]	No [	]	NA [	]
OP/BP 4.11 - Physical Cultural Resources					
Does the EA include adequate measures related to cultural property?	Yes [×]	No [	]	NA [	]
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?	Yes [×]	No [	]	NA [	]
OP/BP 4.12 - Involuntary Resettlement					
Has a resettlement plan/abbreviated plan/policy framework/ process framework (as appropriate) been prepared?	Yes [×]	No [	]	NA [	]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [×]	No [	]	NA [	]
The World Bank Policy on Disclosure of Information					
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [×]	No [	]	NA [	]
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [×]	No [	]	NA [	]
All Safeguard Policies					
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [×]	No [	]	NA [	]
Have costs related to safeguard policy measures been included in the project cost?	Yes [×]	No [	]	NA [	]

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [×]	No [	]	NA [	]
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [×]	No [	J	NA [	]

## III. APPROVALS

Task Team Leader(s):	Name: Rome Chavapricha				
Approved By					
Safeguards Advisor:	Name: Peter Leonard (SA)	Date: 21-Apr-2015			
Practice Manager/ Manager:	Name: Julia M. Fraser (PMGR)	Date: 21-Apr-2015			