

Project: **Power Grid Improvement (PGI) Project** Project Stage: Implementation

Team Leader(s): Rome Chavapricha

Country: Lao PDR

### Project Development Objective

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

### Key Project Data

Project Number	P149599	Effectiveness Date	31 December 2015	Closing Date	31 March 2020
IDA Grant Amount	US\$ 30 million	IDA Disbursement	0%		
PDO Rating	Satisfactory	IP Rating	Moderately Satisfactory		

### Introduction

1. A World Bank Group Mission<sup>1</sup> visited Lao PDR, from March 9-10, 2016 to carry out an implementation support for the Power Grid Improvement Project (PGI). The mission would like to express its gratitude for the hospitality provided by the implementing agency Electricite du Laos (EdL).
2. As part of the World Bank's Access to Information policy, the team sought guidance from the implementing agencies as to whether the aide-memoire would be publicly disclosed. It was agreed that it would be disclosed.

### Key Findings

3. **IDA Credit Effectiveness.** The Power Grid Improvement Project (PGIP) was approved on June 23, 2015. The Financing Agreement and the Project Agreement were signed on August 17, 2015. Following an extension, the project became effective on December 31, 2015.
4. **Project Implementation Progress.** The overall implementation progress is moderately satisfactory. A number of key procurement packages are now at advanced stages. The project is expected to disburse of \$1 million by end of June 2016.
5. **Financial Management and Disbursement.**
  - i. Financial Management rating is Moderately Satisfactory (MS). There is no disbursement to date. EDL is finalizing a request for about US\$ 450,000 of retroactive financing and expenses reimbursement. EDL is also expected to request a disbursement of US\$ 500,000 to fund the project Designated Account to cover on-going payments for individual consultants, office equipment and training-related expenses. The mission reiterated its support to EdL to ensure these disbursements requests are submitted by end of March 2016.
  - ii. Financial Management Manual is not yet revised and finalized. PGI Administration and Finance Team will lead the selection of consultant to refine FM Manual by end of April 2016.

<sup>1</sup> Rome Chavapricha (Sr. Energy Specialist and Task Team Leader), Khamphet Chanvongnaraz (Procurement Specialist), Siriphone Vanisaveth (Financial Management Specialist), Helen Han (IFC Investment Officer), Vilayvanh Phonepraseuth (Operations Analyst), Thongkham Chanthavong (Program Assistant). Mr. Masaki Takahashi (Sr. Power Engineer); Ms. Waraporn Hirunwatsiri (Sr. Environmental Specialist); Mr. Juan Martinez (Sr. Social Scientist); Mr. Reaksmeay Keo Sok (Financial Management Consultant), remotely supported the mission on technical, E&S safeguards and FM aspects of the project.

- iii. FY16 project budget is not yet prepared. PGI Administration and Finance Team will prepare an annual project budget by the end of March 2016.

## 6. Procurement.

- i. Overall, procurement performance of the project is considered Moderately Satisfactory (MS). The implementation of procurement packages is progressing. In particular, the agency has awarded the first ICB contract and two shopping of goods. The agency is also in the process of procuring the largest ICB contract of supply and installation of goods, and three consulting services packages. See Annex 2 for procurement assessment and agreed actions.
- ii. On February 29, 2016, the Bank provided a no objection for contract award for the first goods package (G-06 for testing lab equipment) with a contract value of US\$ 754,490, and the contract was signed on March 21, 2016. The bidding document for the next package (G-01 lot 1 for distribution upgrade equipment, estimated value US\$ 13 million) was submitted for Bank prior review during the mission. The contract award is expected by July 2016. The tender for G-05 FMIS upgrade is underway with bids due end-March 2016 (budgeted at US\$ 5 million).
- iii. EDL has received three proposals for consultant selection for advanced meter infrastructure (AMI) system and distribution automation consultancy (CS-01) and submitted the draft technical evaluation report for Bank review during the mission. EDL has also submitted the three proposals for Bank prior review. This package is the largest consulting package under PGI (budgeted at US\$ 0.8 million). The contract signing is expected by June 2016.
- iv. There were many back and forth communications regarding prior review contract; especially the request for NOL of bid evaluation report for the first ICB contract of goods. The mission advised the agency to perform bid evaluations carefully. Bids must be evaluated based on the criteria set in the bidding documents and specified the information, which is compliant with the post qualification requirements only. EDL agreed to improve in the future procurement.
- v. The mission will conduct post review of small packages (e.g. shopping for trucks, GPS devices). Key findings from the post review will be shared with the agency through a separate follow-up letter by the Bank to the agency.
- vi. The mission advised EDL to update the procurement plan in order to reflect the current implementation status of all procurement packages and to add new packages as necessary. The draft revised procurement plan was submitted for the Bank's review on March 18, 2016. The Bank team is consulting with EDL on the details of the draft, which is expected to be finalized by end of March.

## 7. Environmental and Social Safeguards.

- i. EDL confirmed that it will improve the storage facility for the retired Polychlorinated Biphenyls (PCB) based transformers to include a concrete pad with curbs or trays sufficient to contain the liquid contents of these containers should they be spilled or leaked.
- ii. EDL's PGI Technical Team confirmed that 3 out of 22 medium voltage (MV) feeder routes require new power poles to be installed. The expected number of new poles are around 160 poles. In addition about 2,000 existing power poles will be replaced with larger/taller poles. EDL confirmed that it will coordinate with Xaithany District officials to communicate with landowners for land donation for new power poles. The protocol for voluntary land donation has been adopted and annexed to the PGI Environmental and Social Management Plan (ESMP). The ESMP provides guidance for EDL and its contractors to implement for project implementation (e.g. tree trimming and pruning instead of cutting). EDL will arrange a joint meeting with project stakeholders and the contractor to confirm

project environmental and social obligations and ESMP prior to construction/installation work to begin.

8. **Distribution performance indicators (SAIFI, SAIDI, etc.).** EDL is expected to consult the Provincial Electricity Authority of Thailand on the measurement of distribution performance indicators. This will complement the consultancy on AMI and distribution automation to enable EDL to develop measurement methodology, collect base line information, and start the measurements.
9. **EDL finance.** The mission discussed the 2014 financial results of EDL Group, following the release of the audited financial statements on October 30, 2015. Overall profitability has improved (EBITDA margin 22%; net margin 9%), including profitability in the T&D business (EBITDA margin 2%, after operating losses in T&D in recent years). Improved financial results were due to higher average selling tariff (692 kips/kWh versus 653 kips/kWh, a 6% increase) and lower average purchasing tariff (410–426 kips/kWh versus 419–465). Due to large capital spending and investment of about five trillion kips, EDL's indebtedness has exceeded two times its capital and breached the financial covenant set by EDL's major creditors such as ADB, Krung Thai Bank, and World Bank Group. EDL acknowledged this breach and it is expected to address this issue either through assets revaluation and/or recapitalization under the framework of the Second Five-year Financial Action Plan for Financial Sustainability of EDL and the Power Sector (2013–2017). In addition, the Ministry of Energy and Mines is now finalizing consultant selection for the TA on electricity tariffs review under the Technical Assistance for Capacity Building in the Hydropower and Mining Sectors (HMTA) Project. (See Annex 3 for details on Financial Action Plan and IDA credit covenants.)
10. **Additional technical assistance for EDL Group.** The mission discussed a draft outline of additional TA (see Annex 4), focusing on the transmission business. EDL indicated that a previous consultant has studied the next steps for EDL Group restructuring. The Bank team has asked to review this report, and will adjust the TA outline in the next month.

## Next steps and actions

### EDL:

- i. NOL for the draft bidding document of G-01 (lot 1 for distribution upgrade equipment, estimated value US\$ 13 million) is expected in early April 2016. Completion of BER is expected in May 2016 and the contract signing is expected by July 2016.
- ii. To provide a list of past contractors that provide turnkey services for distribution network expansion/upgrade to compliment Bank's review of the draft bidding document for G-01 by April 4, 2016.
- iii. To consult internally and share the study on EDL Group restructuring with the Bank.
- iv. PGI Administration and Finance Team will lead the selection of consultant to refine FM Manual by end of April 2016.
- v. To submit withdrawal application for reimbursement, with separate Statement of Expenditure (SOE) for retroactive financing and non-retroactive financing claims by end March 2016.
- vi. To submit withdrawal application for initial advance to DA by end March 2016.
- vii. To submit annual budget (first draft) by end March 2016.
- viii. To submit first IFR covering the period from first disbursement to June 30, 2016 by August 15, 2016.

- ix. PGI Technical Team will include preliminary information of new power poles to be installed in the bidding document for G-01 package prior to release expected by end March 2016.
- x. PGI Procurement Team will complete updating the second updated procurement plan for Bank review by end March 2016.

World Bank:

- i. To prepare Implementation Status Report by end March 2016.
- ii. To carry out a safeguards due diligence mission prior to work commencement on MV line routes that require additional power pole installation.

### Annex 1 – List of People Met

Name	Institution	Position
Mr. Bounma Manivong	EdL	Deputy Managing Director
Mme. Khamphiou Phounsavat	EdL	Assistant to Managing Director
Mr. Siprasith Boupha	EdL	Project Manager
Mr. Khannousone Phoumkeo	EdL	Deputy Project Manager
Mr. Sen Keosihoun	EdL	Deputy Project Manager
Mr. Latsamee Inthavong	EdL	Deputy Project Manager
Mr. Silikhan Chanthavong	EdL	Manager of Procurement Office
Mr. Kanthaneth Saysompheng	EdL	Manager of Project Loan Accounting Office
Mr. Vongvilay Sisoulath	EdL	Deputy Manager of Environmental Office
Ms. Khamtienphet Inthirath	EdL	Technical Officer, Environmental Office
Mr. Khamphanh Gnabandith	EdL	Technical Officer
Mr. Jitendra Jadon	EdL	Procurement Consultant
Mr. Vongtayfa Sisouvong	EdL	Environmental Consultant

## Annex 2: Procurement Assessment

**Procurement Performance:** Overall, procurement performance of the project is considered “**Moderately Satisfactory**”. The implementation of procurement packages is progressing. In particular, the agency has awarded the first ICB contract and two shopping of goods. The agency is also in the process of procuring the biggest ICB contract of supply and installation of goods, and three consulting services packages.

**Prior and Post review:** There were many back and forth communications regarding prior review contract; especially the request for NOL of bid evaluation report for the first ICB contract of goods. The mission advised the agency to perform bids evaluation very carefully, bids must be evaluated based on the criteria set in the bidding documents and specified the information, which is compliant with the post qualification requirements only. This shall be improved in the future procurement. The mission will conduct post review of small packages (e.g. shopping for trucks, GPS devices) and the key findings from the post review will be shared with the agency through a separate follow-up letter by the Bank to the agency.

**Updated Procurement Plan:** The mission advised the project to update the procurement plan in order to reflect the current implementation status of all procurement packages and to add new packages as necessary; then send for the Bank’s review by March 18, 2016.

The following key actions have been agreed during the mission:

No.	Activity	Responsible Agency	Expected Due Date
1	Perform bids evaluation very carefully, bids must be evaluated based on the criteria set in the bidding documents and specified the information, which is compliant with the post qualification requirements only.	EDL	For all future procurements
2	Contract signed for the procurement of <b>G-01</b> supply and installation of Concrete poles, and cross arms, conductors, Capacitors, Reclosers, Load Break switches and Transformers	EDL	July 2016
3	The tender for <b>G-05</b> FMIS upgrade is underway with bids due end-March 2016. Bid Evaluation expected in April/May 2016.	EDL	April/May 2016
4	Contract signed for the selection of <b>C-01</b> Consultancy for Advanced Meter Infrastructure system	EDL	May 2016
5	Submission of Revised Procurement Plan to the WB	EDL	March 18, 2016 (Done)
6	Contract finalized for the selection of <b>C-03</b> Financial Auditor	EDL	May 2016
7	Contract finalized for the selection of <b>C-06</b> FM individual consultant	EDL	April/May 2016

### **Annex 3 - Follow-up Actions to the Second Financial Action Plan (FAP) for Financial Sustainability of EDL and the Power Sector**



Lao People's Democratic Republic  
Peace Independence Democracy Unity Prosperity

Mrs. Sally Burningham  
Country Manager  
The World Bank  
Vientiane, Lao PDR  
Fax: 856-21-414-210

Dear Mrs. Burningham,

Reference is made to the on-going power sector activities under the Rural Electrification Phase II Project, IDA grant No. H538-LA, GEF grant No. TF098662 and the preparation of the Proposed Power Grid Improvement Project.

The joint working group from the Ministry of Finance ( MOF), the Ministry of Energy and Mines ( MEM), and Electricite du Laos (EDL) is pleased to propose the following follow up actions to the Second Financial Action Plan for Financial Sustainability of EDL and the Power Sector ( 2013-2017) including:

Proposed Actions	Lead Agencies	Schedule
1. Electricity tariffs Review to inform tariff instruction beyond 2017 : - End-users tariffs - Transmission and distribution fees - EDL ad EDL-Gen tariffs	MEM	<ul style="list-style-type: none"> <li>Finalize consultant' s TOR by May 2015.</li> <li>Consultancy Expected to take 1-2 years</li> <li>New tariff Proposals to be submitted to Parliament for approval in 2017</li> </ul>
2. Centralizes billing and payment of electricity bills for public sector and governmental customers	MOF & EDL	<ul style="list-style-type: none"> <li>To start fiscal year 2015</li> <li>Budget allocation to follow annual budget process</li> </ul>
3. Separation of generation investment between EDL and EDL-Gen	MOF,EDL& EDL-Gen	<ul style="list-style-type: none"> <li>To start fiscal year 2015</li> <li>Proposal for project separation or equity support for EDL to be submitted to management and board approval by end of 2015</li> </ul>

We appreciate and thankful for your kind assistant.

Sincerely yours,

Department of the State  
Owned Enterprise  
Finance Management,  
Ministry of Finance.



**Khamphay VITHASAY**



Department of Energy Policy  
and Planning, Ministry of  
Energy and Mines

**Khamso KOUPHOKHAM**



Electricity du Laos

**Sisavath THIRAVONG**  
Managing Director



### IDA Credit Covenants for PGI

**IDA credit covenants.** The covenants are as follows:

<b>Name</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
1. Progress report on implementation of Financial Action Plan	Yes	June 2016, 2017, 2018, 2019	Yearly
2. Update of Financial Action Plan	No	June 2017	Once
3. EDL total liabilities-to-equity ratio of not exceeding 2:1	Yes	Continuous	Continuous
4. Update of Project Operations Manual	Yes	Continuous	As required
5. Implementation of ESMP/ECOP	Yes	Continuous	Continuous
6. Implementation of Emergency Response Manual	Yes	Continuous	Continuous
7. EDL maintaining Project Office	Yes	Continuous	Continuous

Note: The status of the covenants is monitored under the Project Implementation Status Reports.

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**Annex 4 – Draft Outline of Additional Technical Assistance for EDL Group****1. Background of Lao PDR Electric Power Sector**

Over the past twenty years Lao PDR's energy strategy focused on hydropower development, a national electrification program, and export of electricity as one of the main pillars of the country's economic and social development. Access to electricity increased impressively from 15 percent in the mid-1990s to close to 90 percent in 2014.

The electricity peak load demand within Laos rose from about 209 MW in 2003 to 805 MW in 2014, growing on average 13 percent annually. This demand increase has been driven by the commercial and the industrial sectors and by the rising rate of electrification in the country. The rising demand was met by: (i) dedicated domestic hydropower stations wholly owned by the state-owned power utility Electricité du Laos (EDL) and its subsidiary EDL-Generation (EDL-Gen), totaling 392 MW; (ii) Lao PDR's share in and purchases from export-oriented independent power producers (IPPs); and (iii) electric interconnections with Thailand, China, and Vietnam. In 2013 Laos imported about one-third of required electric energy (1,205 GWh), of which 80 percent came from Thailand, 18 percent from China and 2 percent from Vietnam.

The main challenges facing the Lao electricity sector include: (i) inadequate transmission/distribution fees for T&D business; and (ii) end-user tariffs averaged around 9 US cents per kWh in 2013, providing limited room for further increase due to affordability constraints; (iii) the incomplete nationally connected power transmission grid; and (iv) the prospect of building-up a significant surplus of hydropower requires a new energy strategy which will recognize the importance of improving quantity and quality of power supply in the domestic market, while integrating the power grid both internally and in the regional power market.

**2. Objectives**

The objective of this technical assistance is to support the Government and EDL in advancing the next phase of reform and development of the electric power sector in Lao PDR, particularly in the power transmission business and in defining the future role and responsibilities of EDL in transmission.

**3. Scope of Work**

The scope of work includes two areas:

- (i) Area 1: Electricity transmission planning and development
  - Technical adequacy of power transmission system, including: (a) assessment of system bottlenecks and limitations; (b) identification of development priorities based on the current generation and transmission plans; and (c) review of investment needs associated with the development plans.
  - Financial viability of transmission business, including: (a) review of transmission costs; (b) review current transmission tariff methodology and propose options for improving design of transmission tariffs; and (c) development of key performance indicators for stand-alone transmission business.

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- Identify and study different business models for the power transmission development in Lao PDR, including *inter alia* a feasibility analysis for Lao PDR to invest in privately-owned transmission assets and to invest in a regional power transmission system entity, including potential PPP models.
  - Future role and responsibility of EDL (i.e. operational, ownership, investment) of transmission network in Lao PDR
- (ii) Area 2: Next steps of reform for EDL group of companies
- Review the financial, legal and technical options of corporate/business restructuring of EDL into transmission, distribution, and auxiliary functions
  - Develop institutional options, pros and cons for transmission business to meet future sector requirements (e.g. corporatized and fully owned by EDL, establishment of independent transmission company, remain as EDL cost center, etc.)
  - Prepare a decision-making framework to assist the authorities to decide on the next steps of reform for EDL group of companies
  - Prepare an implementation roadmap on the to-be-decided reform option(s), covering financial, legal and technical aspects
  - Support for the implementation of a new FMIS at EDL (PGI)