E4780 V1

POWER GRID IMPROVEMENT PROJECT

(Project ID: P149599)

Draft

ENVIRONMENTAL and SOCIAL MANAGEMENT PLAN (ESMP)

Electricité du Laos

The World Bank

Prepared by: Vongtayfa SISOUVONG

Submitted to: EDL and World Bank

25 March 2015

Table of Contents

ABBREVIATIONS

EA	Environmental Assessment
ECoP	Environmental Codes of Practice
EDL	Electricité du Laos
EDL-Gen	EDL-Generation
EO	Environmental Office of Electricité du Laos
ESMP	Environmental and Social Management Plan
ESU	Environmental and Social Unit
EHS	Environmental, Health and Safety
FVAP	Financial Viability Action Plan
GIS	Geographic Information System
GMS	Greater Mekong Subregion
GOL/GoL	Government of Lao PDR
IDA	International Development Agency
IFC	International Finance Corporation
IPPs	Independent Power Producers
Lao PDR	Lao People's Democratic Republic
LHSE	Lao Holding State Enterprise
MEM	Ministry of Energy and Mines
NT2	Nam Theun2 Hydropower Project
PCBs	Polychlorinated Biphenyls
PGI	Power Grid Improvement Project
PSE	Project Supervising Engineer
RAP	Resettlement Action Plan
SE	Site Engineer
SIA	Social Impact Assessment
TOR	Terms of Reference
WB	World Bank
WBG	World Bank Group

UNITS:

MW	Megawatt
GWh	Gigawatt hour
kWh	Kilowatt hour
kV	Kilovolt
kW	Kilowatt

PART I. INTRODUCTION

I.1 COUNTRY CONTEXT

I.1.1 Sectoral Context

Demand for electricity in Laos has grown significantly in recent years along with rising electrification rate in the country. The electricity peak load demand within Laos rose from about 209 MW in 2003 to 649 MW in 2013, growing on average 12 percent annually. This demand increase has been driven by the commercial and the industrial sectors and by rising rate of electrification in the country, which grew from 39 percent of the total number of households in 2002 to around 87 percent in 2013.

The rising demand was met by 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, Laos' share in and purchases from export-oriented IPPs (independent power producers), and electric interconnections with Thailand, China, and Vietnam. To supplement domestic power generation, in 2012 Laos imported about one-third of required electric energy (1,127 GWh), of which 87 percent came from Thailand, 10 percent from China and 3 percent from Vietnam. The cost of import reached US$ 57.2 million, or about 0.6 percent of estimated 2012 GDP.

By 2013, the total electric energy sales through the national power grid reached 3,381 GWh with residential customers accounted for 38 percent, followed by the industrial sector at 33 percent and the commercial sector at 22 percent.

In parallel, export-oriented power projects continue to expand. By end 2013 the installed capacity of export-oriented hydropower projects reached 2,580 MW, including the IDA-supported Nam Theun2 hydropower project (NT2) that was approved in 2005 and commissioned in 2010. Another 2,400 MW plus of export-oriented power projects are currently under construction, such as the 1,653 MW Hongsa thermal power project, the 410 MW Xepian-Xenamnoy hydropower project, the 280 MW Nam Ngiep1 hydropower project, and the 180 MW Nam Ngiep 2 hydropower project. The drivers of development in the hydropower sector in the country have remained fundamentally unchanged in the past decade. A number of export-oriented projects include dedicated power generation capacity for Lao PDR to help meet the domestic demand for electricity, such as the 75 MW under NT2, 60 MW under Theun Hinboun hydropower project, 175 MW under Hongsa thermal power project, and 40 MW under Xepian-Xenamnoy hydropower project.

I.1.2 Institutional Context

The energy sector institutional framework is well defined. The Ministry of Energy and Mines (MEM) is the focal point for overall energy policy.

Under MEM, the state-owned utility EDL is responsible for the electricity transmission and distribution network and acts as a single-buyer of electricity for the domestic market. EDL's majority-owned subsidiary EDL-Gen is responsible for hydropower generation, with an installed capacity of 387 MW by 2013. In addition, the Lao Holding State Enterprise (LHSE) is the government's investment vehicle in export-oriented power projects where it holds government's equity stakes in projects such as NT2 and the Hongsa thermal power project.

I.1.3 Challenges

The main challenges facing the Lao electricity sector include: **(i)** inadequate available power generation capacity for domestic consumption especially in the dry season months (November–April); **(ii)** inadequate transmission/distribution margin causing financial losses; **(iii)** end-user tariffs averaged around 9US cents per kWh in 2012, providing limited room for further increase due to affordability constraints. Specifically the highest residential tariff is already at 12US cents per kWh (for more than 150 kWh consumption per month); **(iv)** costlier electricity imports. In 2012 the cost of imported electricity averaged about 5.1US cents per kWh; however, this included costlier sources exceeding 6 and 11US cents per kWh.

The power sector development in Lao PDR has entered a new "post-electrification" phase which brings new challenges and requires sustained improvements in the sector. The development of Lao power sector has achieved a major success by increasing the electrification rate from about 15 percent in mid 1990s to around 90 percent in 2014. While the electrification program nears its completion, the power grid is increasingly facing new challenges related to the fast growth of electricity demand. The main challenges are persistently high distribution losses (averaging about 16 percent in 2012, with some areas experiencing losses of over 20 percent) and sub-standard electricity services, including low reliability of electricity supply due to overloading of the distribution grid particularly in major load centers such as Vientiane, Savannakhet, Thakhek, and Pakse.

According to the record of distribution losses are available at country level, the following table represents the recent numbers of distribution losses in Vientiane Capital and each district including Xaythany.

Table 2-1: Percentage Distribution Losses in Vientiane Capital

No.	District/Region	Losses (%)	
		2013	2014
1	4 Central districts	8.05	13.23
2	Hadxayfong	14.31	12.18
3	Naxaythong	21.17	22.08
4	Xaythany	23.02	24.27
5	Pakngeum	17.81	18.35
6	Sangthong	9.70	9.19
7	Vientiane Capital	13.26	15.78
8	Lao PDR	12.02	13.49

Source: Record from EDL, February 2015

I.2 BACKGROUND

By focusing on these new challenges in the power distribution sector, the proposed Power Grid Improvement (PGI) Project will complement the Bank's on-going assistance and help support sustainable development of the power sector in Lao PDR.

Building on the achievement of electricity access projects of the past years, the proposed project thus shifts the focus of WBG engagement towards efficiency and reliability of

electricity supply, which are crucial for the Lao power sector in the years to come. In addition to providing support for the power infrastructure, the proposed project also targets building institutional capacity in EDL, including upgrading the corporate financial management, billing and collection systems. Furthermore, the proposed project is closely linked to the implementation of the Financial Viability Action Plan (FVAP) developed by EDL with support from the Bank and IFC, and was endorsed by the MEM under REP II. Also, the PGI Project has a strong synergy with the Additional Financing for HMTA project which will help create power market and regulatory conditions favorable for the financial recovery of EDL and its future strengthening as a major power market operator in the GMS region. Finally, improvements in the power sector under the proposed project will help create a favorable environment for scaling-up private sector participation which the Bank and IFC jointly promote in Lao PDR.

I.3 OBJECTIVES

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

Electricity du Laos (EDL) is preparing a Power Grid Improvement Project intended for financing support from the World Bank. The project involves rehabilitating the electric distribution network in Xaythany District of Vientiane Capital and related activities. The World Bank group safeguards policy including the Environmental, Health and Safety (EHS) Guidelines for Power Transmission and Distribution and national EHS requirements will be followed during project implementation, including provisions for beneficiaries and worker health and safety.

The main proposes project components include:

i. Smart metering and reduction of distribution losses: This component will introduce advance metering technology in the project area to help reduce distribution losses and improve metering, billing and collection system. In addition, this component will help improve reliability of power supply and reduce losses in selected parts of the distribution network through strengthening of power distribution infrastructure (upgrading of conductors, increasing transformer capacity, placement of capacitors for reactive power and voltage control, installing load break switches and recloses, etc.). The upgrading of conductors involves the rehabilitation of an estimated 366km of distribution power lines, including 127 km of medium voltage (22kV) power lines.

ii. Electric Utility information system. There are three subcomponents: (i) Supply and installation of optical fiber communication links in the project area; (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 will focus on modernization of financial management in EDL, including through the improvement of billing and collection system and its integration with another functions in the modern corporate- wide financial management system.

iii. Institutional capacity building and technical assistance (TA), including: **(i)** expand testing and certification facility of distribution material and equipment, **(ii)** applications of advanced metering infrastructure, **(iii)** applications of energy balancing and power flow software, and **(iv)** project implementation support.

I.4 POLICIES, LEGISLATIVE REQUIREMENT AND COMMITMENT

1.4.1 EDL Policies

EDL has developed environmental and resettlement policy frameworks, including consultation protocols with the aims to mitigate potential environmental and social impacts associated with EDL development projects. These frameworks are in line with the World Bank standards and are summarized as below:

Environmental Policy Framework:

Environmental Policy Framework has been prepared in consistence with the World Bank Environmental Assessment Policies and Procedures as specified in the World Bank Operations Policy Number 4.01 for a "category B" project. The EA procedure consists of the following elements:

- Design/construction phase,
- Project screening,
- EA documentation,
- Consultation,
- EA review and approval,
- Disclosure,
- Conditionality/Implementation obligation,
- Environmental standards/guidelines,
- Licensing and permitting.

Resettlement Policy Framework:

The EDL's Resettlement Policy Framework consists of the following elements:

- Involuntary resettlement should be avoided or minimized through design efforts,
- Where involuntary resettlement is unavoidable, resettlement activities should be conceived and executed as sustainable development program, providing sufficient compensation, assistance and rehabilitation to the displaced people so that they would be at least as well off as they would have been in the absence of the project,
- Ensure that displaced people are benefit from the project,
- Ensure that project stakeholders, including the displaced people are consulted and given opportunity to participate, as practicable, in the design, implementation and operation of the project,
- Assist the displaced people in their effort to improve their livelihoods and standard of living or at least to restore their livelihood to pre-displacement levels.

Resettlement policy has been design to apply to all components under the energy sector project funded by the World Bank and directly related projects funded by other sources. It also applies to all displace people regardless of the total number affected or the severity of impacts. EDL has made commitment to pay more attention to the needs of vulnerable groups among the displaced people especially that below the poverty line, the elderly, women and children and ethnic minorities.

1.4.2 EDL Experiences on WB Power Sector Projects

In order to comply with the Bank requirement as well as the Government of Lao PDR, the project's safeguard policy on the issues of Environment, Social and Ethnic people were set, namely the Environmental Assessment Framework, the Resettlement Policy Framework and the Ethnic People's Development Plan. As for the additional component funded by the Australian Government's overseas Aid program (AusAID), the Environmental and Social Safeguard Frameworks (ESSF) has been applied since 2009.

Those frameworks were prepared by Environmental Office (EO) in the EDL Headquarter and referred and implemented by Environmental Management Unit (EMU) at local levels. EMUs have been established at EDL Branch in the 7 Provinces targeted by the REP1 project. They are responsible for coordinating with local authorities regarding implementation of safeguard policies.

The ESSF was prepared for the sub-project under the REP 2 base on the REP1 experience. The content of the framework was basically the same as that of for the REP1, however, the assessment procedure were more simplified in order to reduce the paper work of the EMU. Under this framework, a screening check approach has been introduced. In this approach, if the result indicate low negative impact, the EMP is not required. Instead, a housekeeping measures in the Safeguard Operation Manual (SOM) shall applied from design, construction to operation phase.

1.4.3 World Bank Operational Policies and Safeguards

Relevant World Bank Safeguard Policies, include:

Environmental Assessment (OP 4.01)

The Bank requires environmental assessment (EA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making. The EA should evaluate a project's potential environmental risks and impacts in its area of influence; examine project alternatives; identify ways of improving project selection, siting, planning, design, and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and include the process of mitigating and managing adverse environmental impacts throughout project implementation.

Physical Cultural Resources (OP/BP 4.11)

This policy addresses physical cultural resources, which are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community.

Physical cultural resources are important as sources of valuable scientific and historical information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices.

Involuntary Resettlement (OP/BP 4.12)

These instruments outline the safeguards required of World Bank funded projects to ensure that impoverishment risks due to involuntary resettlement are addresses and minimized. The policy has the objectives to:

- Avoid resettlement where possible, and otherwise minimized through alternative project designs;
- Resettlement should be conceived and executed as a sustainable development program;
- Affected people should be meaningfully consulted, and be facilitated to participate in planning and implementing resettlement plans;
- Displaced people should be assisted to improve, or at least restore their livelihoods and standards of living.

1.4.4 Lao PDR Legislation and Regulation

A program of legislative reform has been in progress in Lao PDR for more than two decades, aimed at creating amongst other things a legal environment that encourages investment in the country. The following legislations now in force, and supporting regulations (promulgated or in draft) in Lao PDR are relevant to ensuring environmental and socio-economic issues are addressed during design, construction, and operation of the projects:

The table as below lists the main Lao Laws and Decrees in relation to the preparation of environmental assessment (EA), including social issues related to land acquisition and land donation; and other related resettlement issues. There are 17 main laws and decrees and 9 guidelines that are active. Some advanced laws and guidelines were recently promulgated after 2000; most of these laws and guidelines meet the requirements of the World Bank Policies; including consultation aspects.

Laws & Decrees:

1) *The Amended Electricity Law, No. 03/NA, dated 20 December 2011;*
2) *The Amended Law on Environmental Protection, No. 29/NA, dated 18 December 2012;*
3) *The Water and Water Resources Law, No 02-96/NA, dated 11 October 1996 and the Presidential Decree promulgating the law, No126/PDR, dated 2 November 1996;*
4) *The Amended Forestry Law, No 06/NA, dated 24 December 2008;*
5) *The Wildlife and Aquatic Law, No 07/NA, dated 24 December 2008;*
6) *The Land Law, No 04/NA, dated 21 October 2003;*
7) *The Decree on the Compensation and Resettlement of Development Projects, No 192/PM, dated 7 July 2005;*
8) *Regulations for Implementing Decree 192/PM on Compensation and Resettlement of People Affected by Development Projects, No 24322/PMO, dated 11 November 2005;*
9) *The Decree on Environmental Impact Assessment, No 112/PM dated 16 February 2010;*
10) *Decision on the Management of Quality Standards for Drinking Water and Household Water Supply No 1371/MoH, dated 4 October 2005;*
11) *Agreement on National Environmental Standards, No 2734/PMO.WREA dated 7 December 2009;*
12) *National Policy on Heath Impact Assessment, No. 54/PM, dated 23 March 2006;*
13) *Amended Regulation on the Management of National Biodiversity Conversation Areas (NBCAs), Wildlife and Aquatic Animals (No. 0360/AF.2003, dated 8 December 2003);*
14) *Amended Labour Law (No. 06/NA, dated 27 December 2006);*
15) *Law on Urban Plans (No. 03-99/NA, dated 3 April 1999);*

16) *Law on National Heritage (No. 08/NA, dated 9 November 2005);*
17) *Road Law (No.04/99/NA, dated 3 April 1999)*

Government Guidelines:

1) *Environmental Impact Assessment Guidelines, October 2012;*
2) *Technical Guidelines on Compensation and Resettlement of People Affected by Development Projects, Regulation 699/PMO, WREA March 2010;*
3) *Technical Guidelines on Public Consultation For EIA Procedure, No. 707/MONRE, dated 05 February 2013;*
4) *Step-by-Step Environmental Guidelines for Biomass Removal from Hydropower Reservoirs in Lao PDR, SEM II and EMSP-WREA December 2012;*
5) *Environmental and Social Operational Manual for the Road Sector, Ministry of Public Works and Transport, March 2009;*
6) *National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR, No. 561/IPC, dated7th June 2005;*
7) *Health Impact Assessment Guidelines, Ministry of Public Health, 2010;*
8) *Decree and its Technical Guidelines on IEE Process for Development Projects, No. 8029/ MONRE, dated 17 December 2013;*
9) *Decree and its Technical Guidelines on EIA Process for Development Projects, No. 8030/ MONRE, dated 17 December 2013;*

1.4.5 Comparison of National Legislation and Regulation to World Bank Safeguard Policies

A national program of legislation and regulation reform has been in progress in Lao PDR, the national legislation related to compensation and resettlement in development represents a significant improvement in the rights of citizens when their livelihoods, possessions and society are affected by development projects. The Decree on Compensation and resettlement of people affected by development projects, ref. no. 192/PM, issued on 7 July 2005;whilst the Technical guidelines on compensation and resettlement of people affected by development projects, ref. no. 699/PMO.WREA, issued in March 2010 and the Amended Environmental Protection Law, ref. no. 29/NA, issued on 18 December 2012.

In terms of Physical cultural resources, the Law on National Heritage, ref. no. 08/NA, dated 9 November 2005. The Law on National Heritage determines the principles, regulations and measures for the administration, use, protection, conservation, restoration, [and] rehabilitation of the national heritage, and also determines the rights and duties of the State, social organizations and individuals to preserve the value of the national cultural, historical and natural heritage, with the aims of educating citizens with a conscious love for their nation and fine national traditions that is deeply embedded in their hearts or "conceptual basis".and of assuring the elements for prosper sustainability of the nation. In Article 33: Seen and Discovered Individuals or Organizations states that, during the conduct of any activities, see any national heritage shall immediately report to the local administrations and the concerned information and culture sector, and shall suspend such activities until approval for continuation is granted. Individuals or organizations that have discovered sites, received information on existing sites, or suspect that any [item of] national heritage or holy relic exists, shall immediately report to the local administrations and the information and culture sector, and shall be prohibited from exploring them prior to obtaining the approval of the information and culture sector.

Both Lao PDR's related laws and World Bank policies entitle affected people to compensation for land and non-land assets at replacement cost, and for livelihood restoration support. Lao legislation defines such livelihood restoration measures as being applicable only to severely affected people, defined as those with more than 20 percent of their income generating assets affected, whilst World Bank policy does not differentiate. Decree 192/PM (Article 6) also entitles all affected people to economic rehabilitation assistance to ensure they are not made worse off due to the Project. The legal framework does therefore provide the potential for parity with WB social safeguards on resettlement.

PART II. PROJECT DESCRIPTION

II.1 PROJECT LOCATION

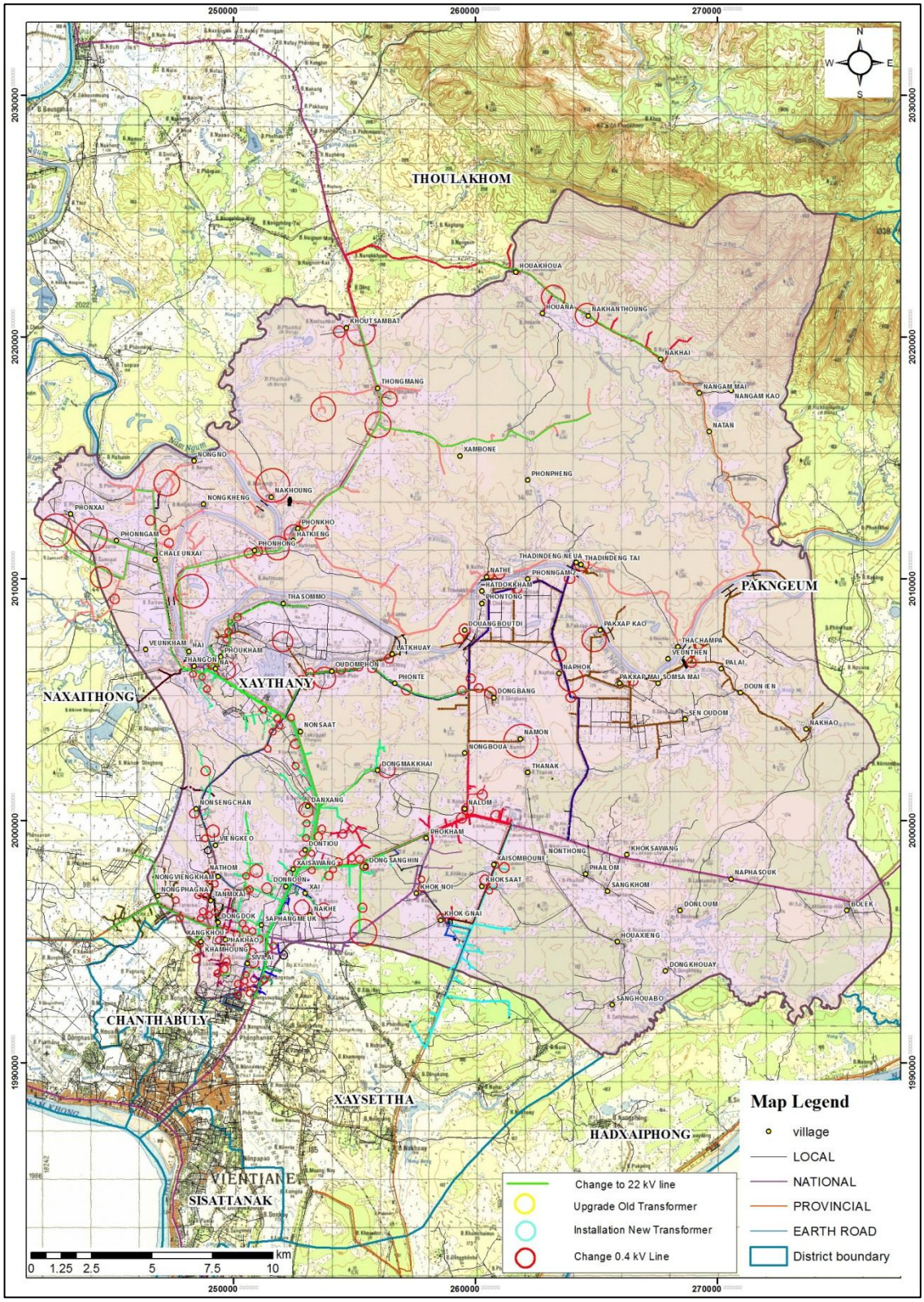


Figure 2-1: Project Location Map

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 almost 25 percent at present. 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.

According to the initial surveying and due diligence environmental and social safeguards report. No land acquisition or physical relocation of existing residences is expected as construction work will be done on the existing power distribution infrastructure. However, a due diligence work is required to review in situ the power lines identified for rehabilitation, including access routes to associated facilities such as sub-stations, as relevant, for encroachments or other types of land use or informal land occupation which may hinder access to a safe working space or pose a safety risk to people living or working in the right-of-way. EDL will notify affected customers for any power cut requirements during project implementation in accordance with its established procedure.

II.2 PROJECT TECHNICAL BACKGROUND INFORMATION

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 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.

1) **Technical Loss Reduction for Low Voltage (LV 0.4kV) lines and Medium Voltage (MV 22kV) lines:**
   - Upgrading conductors of LV and MV lines: 239km of LV line and 127km MV line, to install of insulation cable, increase capacity and provide high reliability of electricity supply in selected area ;
   - Upgrading and adding MV transformers: 150 units, the new transformers will be none PCB transformers;
   - Capacitor placement of LV and MV systems: 36 sets of MV capacitor and 300 sets of MV capacitor;
   - Upgrading power poles: estimated 50 poles to be replaced/added along existing 22 power line routes.

2) **Commercial Loss Reduction:**
   - Introduction of Advanced Metering Infrastructure (AMI) and Electronic Meter:
     - Residential Meter: 25,000 units,
     - Smart Meter for large customers: 1,500 units
   - Recloser & Load break switches:

- Recloser: 63 units;
- Load break switches: 84 units;

3) Information and Communication Infrastructure:

Introduction of optical fiber network for AMI and communication link between Vientiane Capital and Xaythany district (127km).

II.3 SCOPE OF ENVIRONMENTAL AND SOCIAL SAFEGUARD CONSULTANCY

To fulfill the above E&S policy requirements as well as the World Bank Group safeguard policies applicable to the proposed project investments. The detailed tasks include:

a) Carry out environmental and social (E&S) screening and due diligence in the project target area to identify potential E&S impact that can result from the project implementation and propose feasible mitigation measures. The safeguard screening and due diligence should be undertaken in an inclusive and gender sensitive manner, including the analysis of presence or not of ethnic minorities in the project area.

b) Prepare E&S management plan (ESMP) including environmental codes of practice (ECoP) to be applied by contractors and supervised by EDL during works.

c) Carry out free, prior and informed consultation to establish community broad support for the project, specifically the consultant will:
   i. Design and organize the community consultation in randomly selected communities of the project;
   ii. Employ participatory approaches to promote equal participation by all groups of effected people and beneficiaries in the E&S consultation;
   iii. Based on the outcome from the public consultation, assist EDL to update the existing ESMP or associated safeguard document as deemed necessary.

d) Administer safeguard compliance on Behalf of EDL and assist EDL to prepare E&S implementation status Report during project implementation.

II.4 NEGATIVE IMPACTS AND PROJECT BENEFITS

2.4.1 Negative Impacts

The potential negative impacts on environment and social by the development project that may result from the construction or operation of the proposed PGI project can be summarized as the followings.

- Clearing of trees and bushes under 22kV distribution line/ROW. The maximum requirement for the right-of-way (ROW) of 22 kV distribution lines is 8 meters; however, this negative impact is considered as minor significant and permanent;

Additional negative impacts as considered as minor significant and temporary as mentioned below

- Disposal of packaging wastes from electrical equipment and replaced electrical equipment (conductors, meters, capacitors, etc.) during construction phase;
- Disposal of fuel oil and other chemical wastes (including PCBs based transformer) and hazardous materials;
- Health, safety and security;

- Land donation for additional poles (no involuntary land acquisition/ resettlement);
- Interference on local villagers activities including temporary economic displacement;
- Gender impacts, increased role of women in decision making, empowerment of women.

2.4.2 Project Benefits

The Project development will also create a range of positive impacts or benefits as listed as follow.

- Improve efficiency and reliability of power distribution;
- Improve voltage drop and reduction of distribution losses;
- Introduce advance metering technology, improve metering, billing and collection system;
- Strengthening of power distribution infrastructure (upgrading of conductors, increasing transformer capacity, placement of capacitors for reactive power and voltage control, installing load break switches and recloses, etc…);
- Potential expansion of residential customers, commercial, and industrial customers.

PART III. IDENTIFICATION OF ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACTS AND MITIGATION MEASURES

III.1 INTRODUCTION OF IMPACT MATRIX

Potential impacts on environment and social that may result from the construction or operation of the proposed PGI project are summarized in Table as below. Project action and impact duration is also provided.

Table 3-1: Environmental and Social Impacts Matrix

Issue Concerned	Potential Impacts	Initiating Project Action	Impact Duration
Environmental Issues			
1.) Clearing of trees and bushes under 22kV distribution line/ROW	Resulting in loss of local resources and vegetation debris from clearance work	Cutting of trees and bushes under distribution line/ROW. Burning of vegetation waste will not be permitted.	Permanent
2.) Disposal of packaging wastes from electrical equipment and replaced electrical equipment (conductors, meters, capacitors, etc.) during construction phase and disposal of waste materials generated from maintenance activities during project operation phase	Resulting impacts on the surrounding villages from packaging wastes from electrical equipment.	Replaced electrical equipment (conductors, meters, capacitors, etc. will be taken to EDL Warehouse and Storage or substations or branch offices and sort for reuse/recycling or discard.	Temporary
3.) Disposal of fuel oil and other chemical wastes (including PCBs based transformer) and hazardous materials	Resulting impacts on human and animal health	The project will identify disposal sites for fuel oil and other chemical wastes (including hazardous material such as PCBs).	Temporary
4.) Health, safety and security	Injury and sickness of workers	Construction, electrical equipment installation and maintenance activities follow EDL-ECoP. Provide safe working space for workers.	Temporary
	Construction hazard	Construction, installation and maintenance activities and transportation of material and equipment should be conducted by well	Temporary

		trained workers, officers and drivers	
	Road accident	Road accident caused by traffic congestion and divert of traffic flow out of the working space of the workers, officers and drivers. Proper traffic management and warning sign will be provided.	Temporary
	Electrocution	Installation of electrical equipment activities	Temporary
	Fire Hazard and safety of household under transmission line	Construction, electrical equipment installation and maintenance activities will follow EDL-ECoP and emergency response in case of fire hazard. EDL will consult with concerned agencies to avoid construction of infrastructure in the transmission line right of way in the future.	
Social Issues			
5.) Land donation for additional poles (no involuntary land acquisition/ resettlement)	Permanent land use change for new or upgraded power poles	Installation of new or upgraded power poles	Permanent
6.) Interference on local villagers activities, including temporary economic displacement	Disconnection of power lines, interruption of service, temporary economic displacement to beneficiaries during installation works	Construction, installation activities of material and equipment	Temporary
7.) Gender impacts, increased role of women in decision making, empowerment of women	For women headed households, interruption of service, temporary economic displacement to this group of people. Possible temporary disruption on daily income (days of installations) for both male and female-owned businesses along the road that are	Distribution line structures	Temporary

	affected by the installation activities.		

III.2 MITIGATION MEASURES

As impacts from project development are unavoidable, all approaches of mitigation measures are essential and needed in order to protect the affected environmental quality. Thus, this part's structure aiming to specified necessary mitigation measures that impacts are potentially contributed from project implementation during design, planning, construction and operation periods. The specific measures have been proposed according to each project component of PGI project.

Environmental protection measures are designed to:

- Mitigate environmental impacts,
- Achieve compliance with national environmental regulations, and World Bank operational policies,
- Provide compensation for lost environmental resources (if any), and
- Enhance environmental resources.

The matrix of impacts supplemented with management and monitoring activities and assigned responsibilities for implementing those activities, forms the core of the Summary of the Project Environmental Mitigation Plan.

III.3 ENVIRONMENTAL IMPACT AND MITIGATION MEASURES

3.3.1 Biological-Agriculture Resources in the Project Area

Issues and finding:

The activities involved in PGI project would include 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 electronic meters, replacement of capacitors (LV line), upgrading of conductors (on LV and MV lines) and replacement and upgrading of transformers (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.

Maximum requirement for the right-of-way (ROW) of 22 kV distribution lines is 8 meters, where most of the distribution lines is the existing distribution ROW and located along or within the existing road ROW. Regular maintenance of vegetation within the 22kV distribution ROW is necessary to avoid disruption to overhead power lines and poles.

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.

The additional impact of the clearance of a 22 kV transmission line ROW and additional poles will likely to only have a minor impact. The potential impact on biological-

agriculture resources are likely related to clearing of trees and bushes under 22 kV distribution ROW while almost is the existing distribution ROW along the existing roads (e.g. National Road 13South).

Figure 3-1: Existing 22 kV Distribution ROW

3.3.2 Disposal of Construction Debris and Wastes

Issues and finding:

The generation of waste materials by the project result from replacement activities and maintenance during project operation.

The primary waste generated by the vegetation waste created by clearing of trees and bushes of the ROW. Burning of vegetation waste will not be permitted. Waste will be piled and provided opportunity to use the vegetation waste for firewood or other use (e.g. making fences). Secondary, the presence of the project employees and constructors will increase in the generation of litter and waste from construction camps.

In addition to above wastes, there could be an increase in the generation of packaging wastes from electrical equipment.

All the wastes are likely to include:

- Electrical equipment replacement;
- Vegetation waste;
- Food waste;
- Packaging materials.

Solid waste remaining from construction activities will be collected on site and transported off-site for disposal and/or reuse/recycling. Recycling and reuse of waste material will be maximized where possible. While the potential for litter will be minimized by the presence of waste bins at the site, as well as the regular clean up of the terminal by maintenance staff.

Wastes that are uncontrolled or improperly disposed of could have adverse effects on human and environmental health. The project will identify spoil disposal sites in construction with District Authority and/or EDL-Vientiane Branch Office. Spoil disposal area will be located at least 100m from surface water resources (streams, rivers, ponds).

3.3.3 Disposal of Replaced Electrical Equipment, Fuel Oil and Other Chemical Wastes (including PCBs) and Hazardous Materials

Issues and finding:

Pollution due to disposal of replaced electrical equipment, 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 Polychlorinated Biphenyls (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.

Polychlorinated Biphenyls (PCB) were widely used as a dielectric fluid to provide electrical insulation, although their use has been largely discontinued due to potential harmful effects on human health and the environment. Recommendations for the management of PCB include:

- Replacing existing transformers and other electrical equipment containing PCB, and ensuring appropriate storage, decontamination, and disposal of contaminated units;
- Prior to final disposal, retired transformers and equipment containing PCB should be stored on a concrete pad with curbs sufficient to contain the liquid contents of these containers should they be spilled or leaked. The storage area should also have a roof to prevent precipitation from collecting in the storage area. Disposal should involve facilities capable of safely transporting and disposing of hazardous waste containing PCB;
- Surrounding soil exposed to PCB leakage from equipment should be assessed, and appropriate removal and/or remediation measures should be implemented.

Figure 3-2: EDL Warehouse for Replaced Electrical Equipment

The project will identify spoil disposal sites of fuel oil and other chemical wastes (including PCBs) and hazardous materials. The existing warehouse and storage located within Phonetong Substation are proposed as disposal of these hazardous wastes which include hazardous electrical equipment, 150 units of possible PCBs Based Old Transformers and other chemical wastes.

Figure 3-3: Proposed EDL Storage for PCBs Based Old Transformers

3.3.4 Health, Safety and Security

The objective of Health, Safety and Security management is to prevent nuisance, health and safety effects on the community and impacts on the natural environment, particularly during project construction.

Most occupational health and safety issues during the construction, operation, maintenance, and decommissioning of electric power distribution projects are common to those of large industrial facilities. These impacts include, among others, exposure to physical hazards from use of heavy equipment and cranes; trip and fall hazards; exposure to dust and noise; falling objects; work in confined spaces; exposure to hazardous materials; and exposure to electrical hazards from the use of tools and machinery.

Occupational health and safety hazards specific to electric power transmission and distribution projects primarily include:

- Live power lines;
- Working at height;
- Electric and magnetic fields;
- Exposure to chemicals (including PCBs) and hazardous materials.

Additional, Community health and safety impacts during the construction and decommissioning of distribution power lines are common to those of industrial facilities, these impacts include, among others, dust, noise, and vibration from construction vehicle transit, and communicable diseases associated with the influx of temporary construction labors. The operation of live power distribution lines may generate the following industry-specific impacts:

- Electrocution;
- Electromagnetic interference.

Provide appropriate driver training and careful planning of haulage routes and times to minimize risks to the local community.

The WBG Environmental, Health and Safety (EHS) Guidelines for Power Transmission and Distribution will be followed during project implementation, including provisions for beneficiaries and worker health and safety. The ECoP should include specifications for the proper disposal of excess/discarded electric materials, lubricants, etc. In addition, proper dissemination of service disruption, traffic management, etc. should be required of all

contractors.

III.4 SOCIAL IMPACT AND MITIGATION MEASURES

3.4.1 Land Donation for Additional Poles

The additional of 12-14 m concrete poles for the low-medium voltage line (0.4-22 kV) under 22 kV distribution ROW while almost is the existing distribution ROW along the existing roads. About 50 poles along the 9 km section are expected to be replaced/added or replaced along the provincial public road and located in the field paddy where belong to sub-urban and rural area with low density population or in less populated areas.

The project will not require to finance the physical installations of additional poles which are expected to be done on existing power poles, power lines ROW, and buildings owned by EDL or by electricity customers.

Initial surveying indicated that construction, installation activities where almost are under the existing 22 kV distribution ROW where located in conjunction or alongside with existing national and provincial roads (e.g. National Road 13 South), meanwhile almost the existing 22 kV distribution ROW is within the rights-of-way of existing national and provincial roads to minimize both costs and disturbance to ecological, socio-economic and cultural resources. Other factors, the existing 22 kV distribution ROW is located in the urban and sub-urban area where closed to the district town.

According to Article 20, Law on Public Road, the road limit (right-of-way) refers to the total area of the road, which includes the road surface, the road shoulder, footpaths, drainage channels, the road slope and the delimitation area for public roads. The width of the road limit for each kind of public road is as follows:

1. National public road: 25 meters on each side, measured from the centre line of the road;
2. Provincial public road: 15 meters on each side, measured from the centre line of the road;
3. District public road: 10 meters on each side, measured from the centre line of the road;
4. Rural road: 5 meters on each side, measured from the centre line of the road;
5. Municipal road: in compliance with the master urban plan;
6. Specific road: in compliance with technical standards specifically imposed for such road.

Figure 3-4: Requirement of Land Donation for Additional 12-14 m Concrete Poles

Therefore, no land acquisition or physical relocation of existing residences is expected as construction work will be done on the existing power distribution infrastructure. Permanent structures for the 22 kV distribution line poles will require the land donation (about 30cm x 30cm per pole in maximum) from residential owners; for this process specific procedures will be applied based on the existing EDL procedures, summarized as follows:

1.) Step 1: Detail survey to identify the location of additional poles;
2.) Step 2: Official letter to inform the village head and villagers or land owner where additional pole to be installed will require land donation;
3.) Step 3: Template/Note on the land donation will be prepared for land owner, village head and EDL, as this project will be directly benefited to the people in the area, land donation for additional poles shall be volunteer donation;
4.) Step 4: EDL's Best practices or operational guidelines may be referred during lines upgrading and new poles installment, includes a planning and verification framework to ensure that any land acquisition is well-documented both in terms of its voluntary nature and the lack of any significant economic impact on villagers.

3.4.2 Interference on Households Structures and other Infrastructures and on Local Villagers Activities

Initial surveying indicated that construction, installation activities and transportation of material and equipment will interfere on household structures and other infrastructures due to encroach to household structures/properties. In addition, disconnection of power lines and interruption of service to beneficiaries during installation works. In general, EDL notifies villagers well in advance of upcoming power cut. This provides time for villagers to plan their household or commercial activities to minimize temporary economic displacement accordingly. In addition, EDL also plans to minimize the duration of each power cut through routing electricity through alternative distribution lines that are available in Xaythany district. Although there will be temporary disruption from power cuts, the benefits of having more reliable power supply in the longer term for households and businesses are expected.

Figure 3-4: Encroachment of Household Structures to Distribution ROW

3.4.3 Physical Cultural Resources

From initial surveying indicated that construction, installation activities where almost are under the existing 22 kV distribution ROW and located along the existing roads (e.g.

National Road 13 South). Otherwise, the project is located in the urban and sub-urban area where closed to the district town.

At the present, the potential impacts on stupas, pagodas or other cultural and historical resources were not found. As mentioned in section 3.4.1 above, detail survey to identify the location of additional poles will be done during planning phase. In case of there are historical place or physical cultural resources along the right of way, digging for new poles will be suspended and will be reported to the Provincial Culture and Tourism Directorate for further instruction in case anything with archaeological value found.

PART IV. ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MITIGATION PLAN

IV.1 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Environmental and Social Management Plan (ESMP) covers all phases of the Project from preparation through commissioning and operation, and it aims to ensure the monitoring of environmental and social impacts and implementation of environmental and social mitigation measures. Relevant parts of the ESMP will be incorporated into the construction, operation, and management of the Project.

Environmental and social monitoring programs will be carried out and the results will be used to evaluate:

1) The extent and severity of actual environmental impacts against the predicted impacts,
2) The performance of the environmental protection measures or compliance with related rules and regulations, and
3) Trends of impacts.

Environmental protection measures are designed to:

- Mitigate environmental and social impacts,
- Achieve compliance with national environmental regulations, World Bank operational policy,
- Provide compensation for lost environmental resources, and
- Enhance environmental resources.

The matrix of impacts supplemented with management and mitigation activities and assigned responsibilities for implementing those activities, forms the core of the Project.

The Environmental and Social Management and Mitigation Plan for the Power Grid Improvement Project which will be implemented throughout all phases of the Project from preparation through commissioning and operation periods is provided in the Table 4-1 as below.

IV.2 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MITIGATION PLAN

Environmental and social management and mitigation plan will consist of routine systematic checking that all mitigations specified in the ESMP and Environmental Codes of Practice (ECoP) are effectively implemented during the relevant periods of the project.

Detailed environmental and social management and mitigation plan is shown in Table 4-1 for relevant periods of the project.

Table 4-1: Environmental and Social Management and Mitigation Plan

Issue Concerned / Potential Impacts	Mitigation Measures	Significant of Mitigation	Responsibility	Start Date	End Date
Design, Planning and Construction Phases					
Environmental Issues					
1.) Clearing of trees and bushes under 22kV distribution line/ROW	- Cleared trees and bushes shall be disposed only to areas permitted by Authorities concerned, - Ensure that vegetation is not cleared beyond predefined project boundaries. Prohibit herbicides and incineration for the ROW clearing, - Made felled trees and other cleared or pruned vegetation available to the owner (individual or village) or removed if requested by the owner, - Stacked vegetation debris from the ROW will be outside the ROW, - Burning of vegetation debris will not be permitted, - Install suitable sign boards to make people aware about potential construction hazard at construction site. And place the warning barriers around the construction/installation areas. Inform households that might have elderly people and children to be extra careful around the installation time.	Minor	Contractor	Before construction is started	After construction activities are completed
2.) Disposal of packaging wastes from electrical equipment and replaced electrical equipment (conductors, meters, capacitors, etc.) during construction phase and disposal of waste materials generated from maintenance activities during project operation phase	- Recycle packaging wastes from electrical equipment as much as possible otherwise dispose of in designated waste disposal areas, - Remove all surplus materials and left in a clean and tidy condition after erection, - The project will identify disposal site with District Authority and/or EDL-Vientiane Branch Office for wastes that can have adverse effects on human health and environment.	Minor	Contractor	Before construction is started	After construction activities are completed
3.) Disposal of fuel oil and other chemical wastes (including PCBs	- Install garbage bins at construction site and make arrangement to dispose of recyclable waste such as paper,	Minor	Contractor	Before construction	After construction

based transformer) and hazardous materials		cans, tins, bottles cardboard and polythene as appropriate, - Make arrangement to waste collecting points and disposed of complying with local authority's regulations, - On completion of the works, left clean and tidy the site - Label hazardous materials with appropriate signage in both English and Lao, - Maintain an inventory of all hazardous materials on site and update regularly, - Install suitable sign boards to make people aware about potential construction hazard at construction site, - Remove all surplus material, and left in a clean and tidy condition after completion of the works, - Proper management of hazardous electrical waste (oil, lubricant, old transformer) including handling, transportation and final disposal of materials contaminated by PCBs, as specified in ECoP including store retired transformers and equipment containing PCB on a concrete pad with curbs sufficient to contain the liquid contents of these containers should they be spilled or leaked. The storage area should have a roof to prevent precipitation from collecting in the storage area. Disposal should involve facilities capable of safely transporting and disposing of hazardous waste containing PCB, - Identify disposal site of fuel oil and other chemical wastes (including 150 units of PCBs based old transformers) at the existing warehouse and storage located nearby Phonetong Substation; - Maintenance shops and other facilities, and activities may involve potential contact with PCB or PCB-contaminated machinery, - Provide training and appropriate personal protection equipment for Contractor's employ.			is started	activities are completed
4.) Health, safety and	Injury and	- Elaboration and enforcement of safety regulation, - Implementation of an emergency digging/evacuation	Minor	Contractor	Before	After

security	sickness of workers	procedure.			construction is started	construction activities are completed
	Construction hazard	- Install suitable sign boards to make people aware about potential construction hazard at construction site, - Provide training and appropriate personal protection equipment for Contractor's employ, - Maintain construction equipment in good condition, - Testing structures for integrity prior to undertaking work, - Implementation of a fall protection program that includes training in climbing techniques and use of fall protection measures; inspection, maintenance, and replacement of fall protection equipment ; and rescue off all-arrested workers, among others, - Hoisting equipment should be properly rated and maintained and hoist operators properly trained, - Safety belts should be of not less than 16 millimeters (5/8inch) two-in-one nylon or material of equivalent strength. Rope safety belts should be replaced before signs of aging or fraying of fibers become evident, - When operating power tools at height, workers should use a second (backup) safety strap, - Signs and other obstructions should be removed from poles or structures prior to undertaking work.				
	Road accident	- Minimize transportation activities from 7:00 pm to 6:00 am, - Vehicles to be maintained in good condition to minimize exhaust emissions, - A speed limit of 20km/hour imposed on construction traffic through the villages; - Share knowledge on regulations of traffic and traffic police directives among drivers.				
	Electrocution	- Implement regular inspection of the distribution line for clearing vegetation/obstructions, - Install appropriate warning signs on facilities, - Carry out electricity safety awareness raising in project				

		areas. Coverage of households with men, women, elderly people. - Only allowing trained and certified workers to install, maintain, or repair electrical equipment.				
	Fire Hazard and safety of household under transmission line	- Construction, electrical equipment installation and maintenance activities will follow EDL-ECoP and emergency response in case of fire hazard. EDL will consult with concerned agencies to avoid construction of infrastructure in the distribution line right of way in the future.				
Social Issues						
5.) Land donations and land use change due to installation of new or upgraded poles (no involuntary land acquisition/ resettlement)		- Permanent structures for the upgraded 22 kV power poles will require small land donation (about 30cm x 30cm) from residential owners. For Land Donation, under this project community contributions are voluntary and frequent as standard practice of EDL. SOPs (operational guidelines) during line upgrading and new polesinstalmentincludes a planning and verification framework to ensure that any land acquisition is well-documented both in terms of its voluntary nature and the lack of any significant economic impact on villagers. Several approaches will be used to be obtain information: a. Information will be disseminated to community members on applicable rules and consultations will be conducted at key stages of the sub-project planning process, b. Check willingness for donations and provide written documentation, c. Train project staff how to conduct effective consultations during the proposed works planning process.	Minor	EDL	Before construction is started	After construction activities are completed

6.) Interference on local villagers' activities (temporary economic displacement)	- Erect danger and warning signs on every poles as well as conductors where the line is crossing a road or river, - Disconnection of power lines shall be noticed on newspaper and inform to local villagers 1 week before starting of installation works, - Disconnection of power lines and interruption of service to beneficiaries during installation works shall be allowed only on daytime (between 8.00 am to 17.00 pm).	Minor	Contractor	Before construction is started	After construction activities are completed
7.) Gender impacts, increased role of women in decision making, empowerment of women	- Disconnection of power lines shall be noticed on newspaper and inform to local villagers 1 week before starting of installation works, - Disconnection of power lines and interruption of service shall be allowed only on daytime (between 8.00 am to 17.00 pm), which is gender-sensitive to the household responsibilities of women.	Minor	Contractor	Before construction is started	After construction activities are completed
Operation Phase					
Environmental Issues					
8.) Right-of-way maintenance	- Regular maintenance of vegetation within the rights-of-way is necessary to avoid disruption to overhead power distribution lines and poles, - No herbicides used in the control of vegetation within the rights-of-way, - Tree plantation and crops with higher than 3 metres will not be allowed, - Rather, local people living along the distribution line route also will be participated under mutual contract to clear or cut vegetation along right-of-way, - Scheduling activities for right-of-way maintenance.	Minor	EDL (Xaythany Branch Office)	After construction activities are completed	During Project Life
9.) Safety maintenance of distribution power lines, meters, capacitors, transformers and other electrical	- Ensuring that live-wire maintenance works are conducted by trained workers with strict adherence to specific safety and insulation standards, - Where maintenance and operation is required within	Minor	EDL (Xaythany Branch	After construction activities are	During Project Life

equipment	minimum set back distances, specific training, safety measures, personal safety devices, and other precautions should be defined in a health and safety plan, - Scheduling for maintenance activities.		Office)	completed	
Social Issues					
10.) Community health and safety	- Use of signs, dangerous warning signs, barriers, and education/public outreach to prevent public contact with potentially dangerous equipment particularly with households that have little children; - Grounding conducting objects (e.g. fences or other metallic structures) installed near power lines, to prevent shock.	Minor	EDL (Xaythany Branch Office)	After construction activities are completed	During Project Life

Table 4-2: Environmental and Social Monitoring Plan For Design, Planning and Construction Phases

Phase	Issue Concerned	What Parameter to be Monitored	Where Parameter to be Monitored	How Parameter to be Monitored	When Parameter to be Monitored	Responsible Agencies	Start Date	End Date
DESIGN PLANNING AND CONSTRUCTION PHASES	**Environmental Issues**							
	1.) Clearing of trees and bushes under 22kV distribution line/ROW	Clearing of trees and bushes under 22kV distribution line ROW	22kV distribution line ROW	Visual observation and interview with contractor	Monthly	EO Office/EDL	Start of Construction	End of Construction
	2.) Disposal of packaging wastes from electrical equipment and replaced electrical equipment (conductors, meters, capacitors, etc.) during construction phase	Way of disposal of conductors, meters, capacitors, etc. Repair and recycle and reuse of such electrical equipment above	At construction site and warehouse nearby Phonetong substation	Visual observation and interview with warehouse manager	Monthly	EO Office/EDL	Start of Construction	End of Construction
	3.) Disposal of fuel oil and other chemical wastes (including PCBs based transformer) and hazardous materials	Way of disposal of fuel oil and other chemical wastes (including PCBs based transformer) and hazardous materials	At construction site and storage nearby Phonetong substation	Visual observation and interview with storage manager	Monthly	EO Office/EDL	Start of Construction	End of Construction
	4.) Health, safety and security	EHSS plan by contractor; Use of protection equipment and vehicles. Injury of workers and public	At construction site	Visual observation and interview with contractor	Monthly	EO Office/EDL	Start of Construction	End of Construction

Table 4-2: Environmental and Social Monitoring Plan For Design, Planning and Construction Phases

Phase	Issue Concerned	What Parameter to be Monitored	Where Parameter to be Monitored	How Parameter to be Monitored	When Parameter to be Monitored	Responsible Agencies	Start Date	End Date
	Social Issues							
	5.) Land donations and land use change due to installation of new or upgraded poles (no involuntary land acquisition/ resettlement)	Land donation from residential owners, Land rehabilitation after completion of works	At construction site (additional pole location)	Visual observation and interview with contractor/ residential owners	Monthly	EO Office/EDL	Start of Construction	End of Construction
	6.) Interference on local villagers' activities (temporary economic displacement)	Temporary economic displacement by disconnecting of power lines; Villager complaints; Traffic control measures	At construction site where to be affected by disconnecting of power line	Visual observation and interview with villagers	Monthly	EO Office/EDL	Start of Construction	End of Construction
	7.) Gender impacts, increased role of women in decision making, empowerment of women	Interruption of service, temporary economic displacement to group of women headed households	Group of women headed households which to be affected by disconnecting of power line	Visual observation and interview with women headed household	Monthly	EO Office/EDL	Start of Construction	End of Construction

Table 4-3: Environmental and Social Monitoring Plan For Operation Phase

Phase	Issue Concerned	What Parameter to be Monitored	Where Parameter to be Monitored	How Parameter to be Monitored	When Parameter to be Monitored	Responsible Agencies	Start Date	End Date
OPERATION PHASE	**Environmental Issues**							
	8.) Right-of-way maintenance	Clearing of trees and bushes under 22kV distribution line ROW	22kV distribution line ROW	Visual observation	As per Scheduling activities for right-of-way maintenance	EO Office/EDL	End of Construction	End of Project life
	9.) Safety maintenance of distribution power lines, meters, capacitors, transformers and other electrical equipment	Use of protection equipment and vehicles. Injury of workers and public	Placement of maintenance activities	Visual observation	As per scheduling for maintenance activities	EO Office/EDL	End of Construction	End of Project life
	Social Issues							
	10.) Community health and safety	Use of signs, dangerous warning signs, to prevent public contact with potentially dangerous equipment	At every distribution poles and replaced/added electrical equipment	Visual observation	Quarterly	EO Office/EDL	End of Construction	End of Project life

IV.3 INTERNAL MONITORING SCHEDULES

Detailed environmental and social monitoring programme are shown in Table 4-2 and 4-3 as mentioned above, for relevant periods of the project. The programme considers the scope of monitoring, monitoring parameters and frequency, data processing, and quality control requirements.

The monitoring on implementation status of mitigation measures by the Contractor is to be monitored. EDL will establish an Environmental and Social Monitoring Unit (ESU) that will perform monitoring of the project. The ESU will report to EDL's Project Manager. The EO's ESU of EDL shall support the monitoring activities at site. The type of monitoring and brief content for each monitoring activities will be based on the following schedule.

A database of environmental and social monitoring information regarding the PGI project would be maintained and updated every three months, the database can be established with assistance from the environmental and social safeguards consultant. Monitoring reports will be forwarded to EDL Management, PEMC members, the WB and concerned parties as part of regular Project reporting.

4.3.1 Monitoring During Design, Planning and Construction Phases

1) Monthly Monitoring

An agreed time schedule would be arranged once a month, which the EDL's ESU will send their staff to project site to monitor and evaluate the state of mitigation measures implemented by Contractors based on the ESMP. The main tasks of monthly monitoring include:

a) Conducting visual inspection with of construction contractor's mitigation activities at construction site based on the items addressed in the ESMP;
b) Consulting with the EDL-Vientiane Capital Branch Liaison Officer and the PEMC to see if the ESMP is working as expected or not;
c) Conducting some interviews with the Project Affected Persons/villagers on compensation (if any) and mitigation of the project;
d) Preparing field report for EO to analyze and prepare monthly report.

2) Quarterly Monitoring

An agreed time schedule, a joint monitoring and evaluation team between the ESU of EO/EDL and PEMC will come to project site every 3 months with the main tasks of:

a) Reviewing of the work progress and to see if the ESMP is affective and carry on according to time frame allowance;
b) Conducting visual inspection of construction contractor's mitigation activities at construction site based on the items addressed in the ESMP;
c) Recording on the possibility of the adjustment to the ESMP if there is any requirement with the aims to make the ESMP more effective;
d) Consulting with villages' representative and Project Affected Persons on

suggestions and/or opinions for improvement of the compensation (if any) and mitigation measures;

e) Preparing the field report to the EDL Managing Director and all PEMC members;
f) Submitting the monitoring result of past three months with respect to environmental and social considerations as a part of quarterly progress report to World Bank and concerned parties.

3) Semi-Annual Monitoring

A joint monitoring and evaluation team comprises of the EDL's ESU, PEMC will come to the project site in every 6 months. The main tasks include:

Reviewing the entire recommendations made by the monthly and 3 months monitoring reports;

Consulting with the liaison officer, the PEMC for their opinions;

a) Consulting with the project affected persons/villagers;
b) Considering and make changes to the ESMP as necessary to reflect the findings from the monitoring;
c) Preparing a field inspection report with recommendation for EDL Managing Director, all PEMC members and concerned parties.

4.3.2 Monitoring During Operational Phase

Monitoring during operation in order to maintain the distribution ROW, ensure safety maintenance of distribution power lines, meters, capacitors, transformers and other electrical equipment as well as community health and safety are also necessary. Based on the previous best practices, EDL shall conduct inspection of recommended.

IV.4 EXTERNAL MONITORING AND EVALUATION

The general objective of independent or external monitoring is to provide an independent periodic review and assessment of achievement of the project objectives. It is recommended for EDL to conduct an external monitoring and evaluation at the end of construction phase in order to gain some experiences for its implementation of future projects as well as to enhance transparency of the EDL. The Environmental and Social Safeguards Specialist would be engaged for the following tasks:

a) Reviewing the relevant document including progress reports and monitoring reports;
b) Interviewing some affected persons/villagers within project area;
c) Preparing a report and present to concerned parties;

IV.5 REPORTING

The reporting programme must satisfy 3 objectives:

- To provide a regular distribution of information through the several parties involved in the project;

- To set up a formal framework for performance achievement evaluation;
- To assist in a fast decision making procedure in order to implement within the shortest time any decision taken by concerned parties.

The reporting system will be based on 6 types of reports:

- Field site monitoring report,
- Monthly report,
- Quarterly report,
- Semi-annual report,
- Independent monitoring report.

4.5.1 Monthly Reporting

At the end of each month, the EO/EDL supervisor will analyze and prepare monthly report, concerning the implementation of the ESMP and ECoP. The monthly report will include:

(i) an account of site inspection with of construction contractor's mitigation activities at construction site based on the items addressed in the ESMP;

(ii) the results of environmental and community monitoring, including any significant project impacts detected and an outline of management response;

(iii) Significant environmental and social issues encountered and an outline of management response.

4.5.2 Quarterly Reporting

At the end of every 3 months, after a joint monitoring and evaluation team between the ESU of EO/EDL and PEMC; the EO/EDL supervisor will analyze and prepare monthly report, concerning the implementation of the ESMP and ECoP of the past three months. The quarterly report will include:

(i) progress and success of the site management and monitoring plan,

(ii) the results of environmental and social monitoring, including any significant project impacts detected and an outline of management response during six months period,

(iii) possibility of the adjustment to the ESMP if there is any requirement with the aims to make the ESMP more effective,

(iv) Significant environmental and social issues encountered and an outline of management response.

The quarterly report will be copied to EDL Managing Director, all PEMC members, the World Bank and concerned parties.

IV.6 BUDGET SUPPORT FOR ESMP PLAN

To implement this ESMP plan, the budget support is required and will be considered in 5 categories:

1. Administration, tools (monitoring forms and check lists, etc...), equipment and transport needs,
2. Implementation and monitoring of environmental and social management plan,
3. Support for PEMC activities,
4. Capacity building support programme to EO/EDL, EDL-Vientiane Capital and Xaythany District Branches and District authorities in monitoring of environmental and social impact management,

5. Capacity building on environmental and safeguards (solid waste management, fuel oil and other hazardous chemical wastes including PCBs based transformer) and hazardous materials) support to EO/EDL,

The ESMP schedule and budget estimated are summarized in the Table below:

Table 4-4: ESMP Schedule and Budget Estimated for PGI Project

No	Items	Construction and Installation Phase						Commis-sioning	Operation and Maintenance Phase				Budget Estimated (USD)	Responsibility Agency
		Year 1				Year 2			Year 2		Year 3			
		Q1	Q2	Q3	Q4	Q5	Q6		Q7	Q8	Q9	Q10		
I	**Monitoring during Construction Phase**													EO/EDL, PEMC
1	Monthly Monitoring												???	
2	Quarterly Monitoring												???	
3	Semi-Annual monitoring												???	
II	**Monitoring During Operation Phase**													EDL-Vientiane and Xaythany Branches
4	Quarterly Monitoring												???	
III	**Support for District PEMC Activities**													EO/EDL, PEMC
5	Monitoring and Evaluation												???	
6	District PEMC Quarterly Meeting												???	
IV	**Support for Vientiane Capital PEMC Activities**													EO/EDL, PEMC
7	Monitoring and Evaluation												???	
8	Vientiane Capital Quarterly Meeting												???	
V	**Capacity Building Programme for EO/EDL and Concerned Agencies**													EO/EDL, Consultant
9	Capacity Building on Application of tools (monitoring forms and check lists, etc...)												???	
10	Capacity Building on Environmental and Social Management, Solid Waste Management												???	
11	Capacity Building on Chemical Wastes (including PCBs based transformer) and other Hazardous Materials												???	
12	Capacity Building on EHS Programme													
VI	**Project Administration and Management**													EO/EDL
13	Office Supply	Lump Sum											???	
14	Tool and Equipment Support	Lump Sum											???	
15	Transportation	Lump Sum											???	
16	Other	Lump Sum											???	
	Grand Total													

Budget estimates to be provided.

PART V. INSTITUTIONAL ARRANGEMENT

V.1 INSTITUTIONAL RESPONSIBILITY AND ARRANGEMENTS

EDL, especially the project ESU, will be responsible for implementation of the proposed mitigation measures to minimize any adverse impacts which could occur during the development. EDL will be responsible for ensuring, on a day-to-day basis, that the mitigation measures and monitoring activities identified in this ESMP and the associated ECoP are implemented.

An individual safeguard monitor, with experience in monitoring and supervision of environmental aspects of electricity projects, will be contracted to provide oversight and advice to EDL. In essence, the safeguard monitor will provide an environmental audit service to ensure Environmental Management and Monitoring is effectively implemented.

EDL will be responsible for the following activities:

- Providing environmental training to Contractors involved in constructing the Project. Training will be focused on: environmental protection laws and regulations; environmental management practices for erosion control, waste disposal, health and safety, and stop work authority.
- Conducting regular monitoring of the Contractors construction activities to ensure that work is carried out in full compliance with the environmental specifications and provisions set out in the construction contract.
- Holding monthly on-site meetings with the Contractor to review work performance relative to environmental objectives of the project; identify areas of satisfaction and shortcomings in the Contractor's work and provide guidance to resolve areas where the work is deficient.

An environmental and social safeguard monitor must be experienced in environmental assessment and monitoring of power distribution/transmission lines and substation construction projects. This service will be provided by national Consultants familiar with environmental conditions in Lao PDR. The safeguard monitor will assist EDL with the following tasks:

- Ensuring that the Environmental and Social Unit (ESU) has been established for the project and is functioning as designed.
- Developing monitoring guidelines to be used on the project.
- Providing environmental training on best environmental management practices, monitoring techniques, data gathering methods, health and safety, etc.
- Carrying out periodic environmental audits of Project construction works (both those completed and in progress) to identify potential problems that should be corrected, and providing guidance on how problems might be resolved.
- Providing post-audit briefings to the Project Manager, EDL, EO and ESU staff and the Contractor's environmental representative.

The Contractor will be required to have a full time environmental monitor on site and prepare a monthly environmental management report to EO/EDL, which identifies the work

undertaken over this period and documents the environmental protection measures that have been implemented, the problems encountered, and follow-up actions that were taken (or will be taken) to correct the problems.

V.2 ROLES AND RESPONSIBILITIES

All Contractors and EDL employees have an inherent responsibility for the protection of environmental, socio-economic and heritage values during their work. Members of the EDL Project team and those identified within each Contractor's organization have professional responsibilities for environmental management.

This section of the ESMP and the ECoP describes the roles and responsibilities of EDL, EDL's Environmental Liaison Officer(s), the Contractor, the Contractor's Environmental Monitor(s) and various Committees for implementing, inspecting, managing and reporting on the effectiveness of environmental protection and mitigation measures. This section also identifies what reports or documents must be written and the parties responsible for writing the reports.

A schematic showing the organizational lines of communication and reporting for the environmental aspects of the Project is provided in Figure 5.1 below.

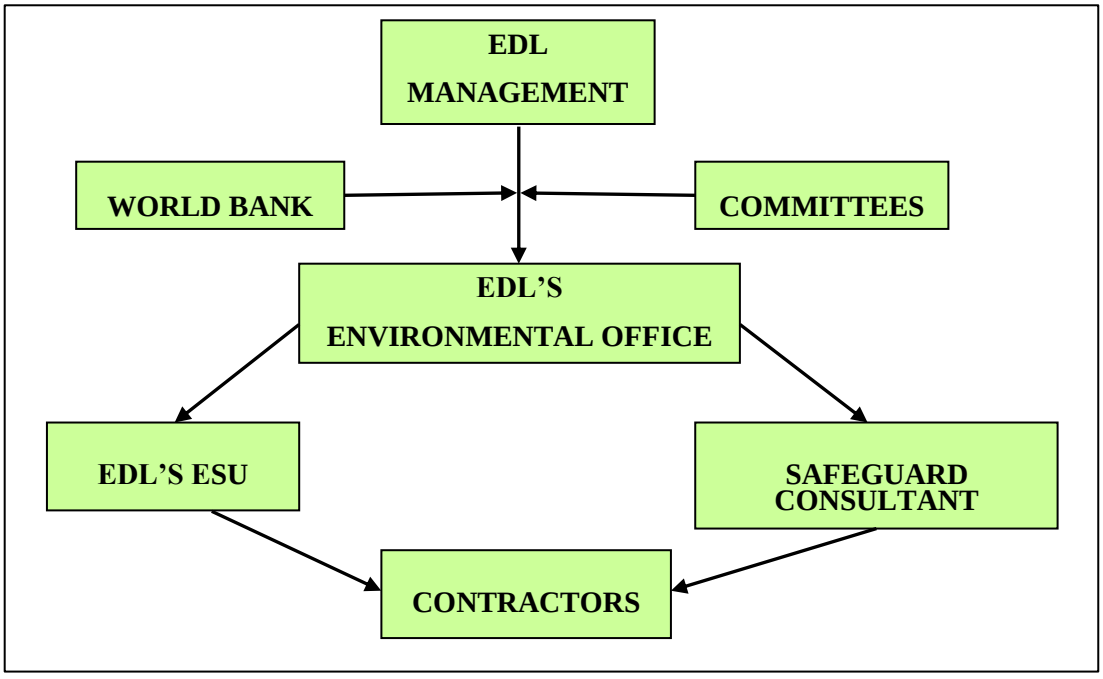


Figure 5-1: PGI Project Organization

V.3 ROLES AND RESPONSIBILITIES

The numerous committees involved in the project are identified in (Table 5-1).

Table 5-1: Project Committees Representatives

Committee Name	Members	Tasks
Vientiane Capital's Project Environmental Management Committee	1) Vice Capital Governor 2) Vientiane Capital Cabinet 3) Energy and Mines Department 4) National Resources and Environmental Department 5) EDL Vientiane Branch	1) Project Public Consultation at Vientiane Capital level 2) Monitoring of environmental and social issues

	6) Agriculture and Forestry Department 7) Public Works and Transport Department 8) Vientiane Capital Public Security	
District's Project Environmental Management Committee	1) Vice District Governor 2) District Cabinet 3) Energy and Mines Office 4) Natural Resources and Environmental Office 5) EDL Branch Office 6) Agriculture and Forestry Office 7) Public Works and Transport Office 8) District Public Security 9) Villages Heads	1) Project Public Consultation at Village and District levels 2) Monitoring of environmental and social issues
Project Compensation and Grievance Redress Committee	1) Vice District Governor 2) District Cabinet 3) Energy and Mines Office 4) Natural Resources and Environmental Office 5) EDL Branch Office 6) Agriculture and Forestry Office 7) Villages Heads	1) Settlement of complaints about compensation payments (if any) or other issues 2) Determination of value of land 3) Preparation of compensation guidelines 4) Monitoring of disbursement of compensation payments

V.4 REQUIRED DOCUMENTS

Below are the documents that need to be prepared before and during project construction, the group responsible for writing them and when they should be submitted.

Table 5-2: Required Documents

5-2-1 Documents Required from EDL	
Document Names	**Submission Period**
Due Diligence Environmental and Social Report which includes at least the followings: • Site Visit Observation • Environmental Due Diligence • Social Due Diligence	March 2015
Environmental and Social Management Plan (ESMP) which includes at least the followings: • Environmental and Social Impact Matrix • Environmental Management Plan • Environmental Monitoring Plan • PEMC Monitoring and Evaluation Plan	March 2015
Environmental Code of Practices (ECoP) which includes at least the followings: • Environmental and Social Rules of Practices • Disposal of Construction Waste • Disposal of Transformer and other Electrical Wastes Occupation Health and Safety	March 2015
Healthy, Safety and Security Plan	Before project construction begins (prepared jointly with Contractor)
Monthly Field Monitoring Report to the EO/EDL Manager concerning Environmental Monitoring	Monthly during construction Phase

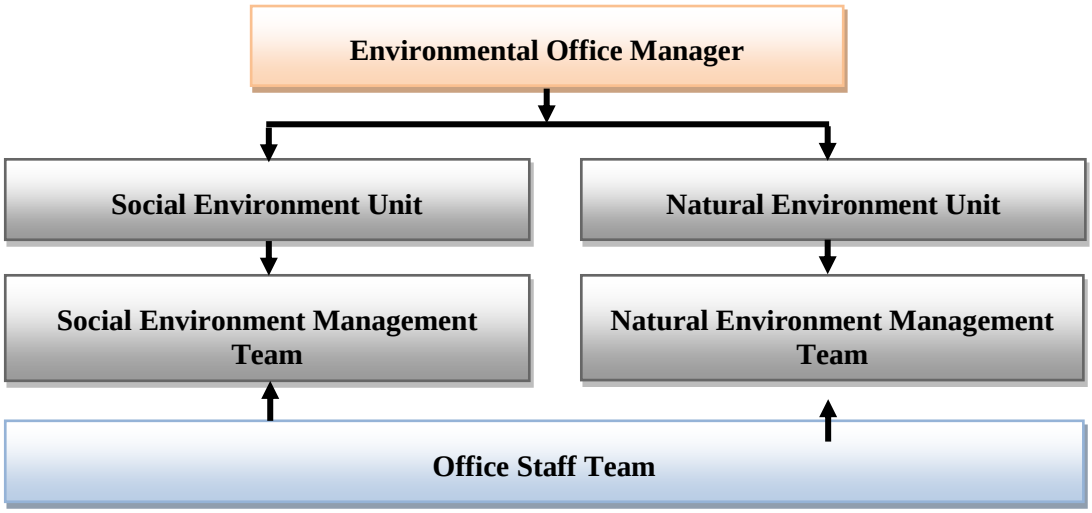
Quarterly Field Monitoring Report to the EDL Manager, PEMC, WB and concerned Parties	Quarterly during construction Phase
Semi-Annual Monitoring Report to the EDL Manager,PEMC Committee, WB and concerned Parties	Every six months during construction Phase
ECoP Review Report for ESU/EO Office	Quarterly during construction Phase
ECoP Effectiveness Review Report for PSTEO, DoE	Every 6 months during Construction Phase
5-2-2 Documents Required from Contractor	
Document Names	**Submission Period**
Environmental, Healthy, Safety and Security Plan (EHSS Plan) as defined in the ESMP and ECoP	With Bid
Environmental Incident Report (EIR)	Construction Phase when there is and Environmental incident.
Workers' Health Safety and Security Plan	Construction Phase
Fire Emergency Action Plan	Construction Phase (prepared jointly with EDL)
The Environmental Pre-Work Orientation Record (EPOR)	Construction Phase
Hazardous Waste Materials Disposal log	Construction Phase
Spill Reporting Matrix	Construction Phase
Emergency Contact List	Construction Phase
Clearing Prescriptions	Construction Phase
Monthly Environmental and Monitoring Report	Construction Phase

V.5 EDL

EDL will be responsible for ensuring that the overall project is implemented in accordance with the conditions of the World Bank loan agreement including World Bank safeguards, and guidelines and GoL environmental regulations. The following sections identify the responsible personnel and outline their roles.

5.5.1 Structure & Activities of the Environmental Office within EDL

Environmental and Social management for GMS NPTP are the prime responsibility of EDL's Environmental Office (EO). The organization and staffing of the EO are illustrated below.



Source: Activity Guidelines of the EO-EDL, 2007.

Figure 5-2: Structure of the EDL's Environmental Office (EO)

5.5.2 Roles & Responsibilities of the EO

The roles and responsibilities of the EO are outlined in the Activities Guidelines of the Environmental Office document dated December 2007. These guidelines stipulate that the EO is responsible to:

1) Represent EDL in carrying out environmental and social management activities associated with the development of electricity projects.
2) Study and summarize information, policies, laws or legislation relating to environmental and social management activities to be used as references by the EO in the implementation of activities associated with environmental management of each development and management project of EDL.
3) Study, assess and request approval for the procurement of experts or contractors to assess environmental impacts of a project during the study, implementation and assessment phases.
4) Prepare and request approval of environmental compliance certificate for each project from relevant agencies.
5) Actively implement activities that promote the mitigation of environmental and social impacts associated with the development of electricity projects.
6) Coordinate with relevant national and international organizations in the management of environment and social activities associated with the development of electricity projects.
7) Participate in meeting/workshop dealing with environment and social management issues.
8) Prepare annual plans and summarise reports of implemented activities to the Manager of the Department of Power Generation and Project Management.
9) Prepare reports on the implementation of environmental and social management to the management of EDL for onward reporting to relevant agencies.
10) Strengthen the capacity of the EO staff by:
    a. Communicating policies and regulations of Lao PDR, particularly regulation of EDL to staff so that staff aware and understand the regulations
    b. Monitoring and assessing the implementation outcomes of the assigned work so that improvement can be made to the EO and staff on a regular basis
    c. Assessing technical and language training needs of the staff while at the same time supporting, encouraging and developing training conditions to improve the knowledge of the EO staff in both short and long term.

In addition to the above roles and responsibilities, each EO staff member has also been assigned roles and responsibilities. All staff involved must possess adequate experience and skills to perform their duties. The roles and responsibilities of the EO staff members and Units are summarized below.

a) EO Manager

- Leading and inspecting all activities inside the office and various projects in according to the responsibilities of the office.

- Appointing and allocating responsibilities to the office Deputy Manager and technicians.
- Disclosing policies from upper management to the office staff and at the same time summarizing comments or requests raised by the office staff and onward comments to upper management.

b) Deputy Managers

Responsible for carrying out responsibilities listed in (a) for the work executed on site.

- Summarizing and monitoring office activities and reporting to the Manager.

c) Head of Environment and Social Unit

- Leading the implementation of activities of the group in according to each project natural environment and social plan.
- Preparing daily, weekly or monthly work plans using the overall EO work plan as reference.
- Preparing report on implemented activities to the EO Manager.
- Proposing modification, change or improvement to the work plan to ensure that it reflects the current work situation or if deems the modification is reasonable and will improve the effectiveness of the work.
- Review and comment on various draft environment and social documents to the office management committee.

d) Deputy Head of Environment and Social Unit

- Carrying out responsibilities listed in (c) in the absence of the Head of the Unit.
- Summarizing and monitoring office activities and report to the Manager.

e) Environment and Social Team Leader

- Carrying out responsibilities listed in (c) in the absence of the Head of the Unit and Deputy Head of the Unit.
- Summarizing and monitoring office activities and report to the Manager.

f) Environment and Social Team Member

- Implementing responsibilities allocated by the Unit and Office in an effectively manner.
- Requesting modification, change and improvements to the work plan to reflect current work situation during each phase of work or if deems the modification is reasonable and will improve the effectiveness of the work.
- Reviewing and commenting on various draft environment and social documents to the office management committee.

- Conducting site visits and implementing environmental and social activities of the project.

5.5.3 EDL Project Manager

Has overall responsibility for compliance with terms and conditions of regulatory permits, approvals, authorizations and WB safeguards as reflected in the ESMP, and the ECoP during construction phase and also:

- Confirms that GoL guidelines and standards are followed;
- Delegates authority and communicates requirements, as required, on all aspects of the Project, including environmental management and environmental monitoring;
- Confirms that the CEMP is finalized and accepted by regulatory agencies;
- Evaluates Contractor's Environmental Monitor(s) and Contractor's environmental record as part of tender evaluations Coordinates review of Contractors' Environmental Protection Plans (EPPs) with EDL's Environmental Liaison Officer(s).

5.5.4 EDL Construction Program Manager

- Has overall responsibility for the administration of contracts, including their environmental requirements.
- Oversees technical quality control, adherence to and performance of engineering requirements of contract specifications, schedules, and costs.
- Coordinates construction inspections to evaluate compliance with engineering specifications and standards.
- Facilitates communication links among the construction management team and the Contractor.
- Receives, reviews and processes equitable adjustments from the Contractor.
- Issues Advisory Memos which may include measures to implement environmental requirements.
- Seeks input from the Environmental Liaison Officer(s).

V.6 ENVIRONMENTAL MANAGEMENT UNIT (EMU)

The EMU will be responsible for ensuring, on a day-to-day basis, that the Project Environmental and Social Management Plan and the Construction ECoP are properly implemented. This includes the following activities:

- Ensuring that:
  - environmental clearance or approval is secured from EO/EDL prior to site works,
  - bidding documents include the ECoP as guidance for preparation and implementation of the EHSS by contractors,
  - Project ESMP, ECoP and EHSS implementation are monitored and the results shall be reported regularly

- Providing environmental training to contractors involved in constructing the Project. Topics include environmental protection laws and regulations,

environmental best management practices for erosion control, fuel handling and spill clean-up measures, waste disposal, health and safety, and stop work authority.

- Carrying out regular monitoring of the contractor's construction activities to ensure that work is carried out in full compliance with the ESMP, ECoP and EHSS and provisions set out in the construction contracts.

- Monitoring the social conditions associated with the project, including identification of potential problems arising from influx or movement of populations into or out of the project areas as a result of the Project; problems with price speculation; grievances amongst villagers towards Project construction practices, contractor activities, impairment of livelihood due to damage to or loss of crops as a result of construction activities, loss of access, etc.

- Holding monthly on-site meetings with the Contractors to review work performance relative to mitigation of environmental and social impacts; identify areas of satisfaction and shortcomings in the Contractor's work and provide guidance to resolve related issues.

5.6.1 EDL Community Relations Officer

This person will be responsible for:

- Managing communications and stakeholder relations during construction of the PGI project,
- Communicating with landowners, stakeholders and interested parties about activities and potential disturbances with respect to the PGI project,
- Providing an EDL corporate contact for landowners and local residents who have issues or questions to be addressed,
- Distributing updates on scheduled construction activities to stakeholders.

5.6.2 EDL Land Acquisition and Management Officer

This person will be responsible for direct communication with individual property owners on matters directly affecting their property, where required.

5.6.3 EDL Environmental Program Manager/Environmental Liaison Officer(s)

The Environmental Program Manager will serve as EDL's environmental representative during construction of the Project. The Environmental Program Manager will be supported by Environmental Liaison Officer(s) to inspect and evaluate the work of each Contractor and the Contractor's Environmental Monitor(s). Roles and responsibilities of the Environmental Liaison Officer(s) include the following:

- Communicates ESMP, ECoP and EHSS requirements to Contractor's staff,
- Audits environmental training and orientation sessions delivered to Contractor's staff by the Environmental Monitor(s),
- Reviews draft and final EHSS for compliance with EDL policies, GoL laws and the ECoP,
- Reviews the Design-build Contractor's detailed design for compliance with EDL policies, GoL laws and the ECoP,

- Reviews the plan for access developed by the contractor for compliance with EDL policies, GoL laws and the ECoP,
- Provides advice to Clearing Contractors and the Design-build Contractor during clearing and construction of access roads,
- Coordinates with qualified environmental resource specialists to undertake pre-construction environmental surveys.
- Reviews field environmental monitoring reports prepared by Contractor's Environmental Monitor(s) for completeness, factual accuracy, and for effectiveness of mitigation measures,
- Reports to the EDL Project Manager and the Construction Program Manager on the effectiveness of mitigation measures being implemented, difficulties encountered, and how they are managed,
- Coordinates and communicates with regulatory agencies and stakeholders, as required,
- Verifies that copies of applicable permits/approvals and spill response and emergency procedures are maintained at work site(s) at all times,
- Audits and evaluates compliance of work practices and procedures and effectiveness of mitigation measures with terms and conditions of regulatory approvals, with this ECoP, and with applicable EPPs. The Environmental Liaison Officer(s) would typically schedule site visit auditing activities when work is occurring in environmentally-sensitive areas or when conditions (i.e., rainfall events) could potentially result in adverse environmental effects,
- Provides recommendations to Contractors and their staff to achieve compliance with the ECoP, the EHSS, and with regulatory approvals in consultation with the EDL Construction Program Manager,
- Prepares Monthly Environmental Audit Reports summarizing the results of the Environmental Liaison Officers' field audit inspections, reviews of the Contractors' Weekly Environmental Monitoring Reports, and environmental issues tracking in a format suitable for distribution to regulatory agencies,
- Reviews the Environmental Monitoring Completion Reports to be prepared by each Contractor's Environmental Monitor(s) for completeness and factual accuracy,
- Assists in emergency situations to minimize adverse environmental effects of the ECoP for emergency contact list/template),
- Directs the Environmental Monitor/Contractor to suspend construction activities for non-compliance with the ECoP, contravention of regulatory permits and approvals, and/or if environmental damage outside that anticipated by the Project scope is observed, until a solution can be identified.

V.7 ENVIRONMENTAL AND SOCIAL SAFEGUARDS CONSULTANT

An individual consultant required to assist EDL to fulfill the above E&S policy requirements as well as the World Bank Group safeguard policies applicable to the proposed project investments. The detailed tasks include:

a. Carry out environmental and social (E&S) screening and diligence in the project target area to identify potential E&S impact that can result from the project implementation and propose feasible mitigation measures. The safeguard screening and due diligence should be undertaken in an inclusive and gender

sensitive manner, including the analysis of presence or not of ethnic minorities in the project area;

b. Prepare environmental and social management plan (ESMP) including environmental codes of practice (ECoP) to be applied by contractors and supervised by EDL during works;
c. Carry out free, prior and informed consultation to establish community broad support for the project, specifically the consultant will:
    i. Design and organize the community consultation in randomly selected communities of the project,
    ii. Employ participatory approaches to promote equal participation by all groups of effected people and beneficiaries in the Environmental and social consultation,
    iii. Based on the outcome from the public consultation, assist EDL to update the existing ESMP or associated safeguard document as deemed necessary,
    iv. Administer safeguard compliance on behalf of EDL and assist EDL to prepare Environmental and social implementation status report during project implementation.

V.8 CONTRACTOR

The Contractor shall have overall responsibility for ensuring that the work adheres to GoL guidelines and standards, WB safeguards, this ESMP and the ECoP. Each Contractor prior to commencing work will undertake the following:

- Develop site- and/or activity-specific EHSS consistent with the requirements established in the ECoP and include these in the bid document,
- Identify qualified specialists to undertake pre-construction surveys as specified in the ECoP and include their resumes in the bid documents,
- Develop an Access Plan for the Project which minimizes the environmental impacts of access required for clearing the transmission line corridor based on the preliminary line design,
- Develop Clearing Prescriptions for the Project based on the preliminary line design minimizes environmental impacts,
- Identify qualified Environmental Monitors to evaluate and report on compliance of the Contractor's work procedures and practices with the environmental requirements established by the GoL guidelines and standards WB safeguards and the ECoP. Include their resumes in the bid documents,
- Verify that field crews and subcontractors are aware of the environmental requirements of the work, and are trained and competent to implement them.

V.9 PROJECT ENVIRONMENTAL MANAGEMENT COMMITTEE (PEMC)

The Project Environmental Management Committee (PEMC) is required for project development soon after the commencement of implementation. The PEMC consist of members who are representatives from the different authorities concerned such as Vientiane Capital Departments and District Offices (e.g. Cabinet, Energy and Mines, Natural Resources and Environmental, Agriculture and Forestry, Public Works and Transport), Deputy General Manager of EDL, EDL-Vientiane and EDL-Xaythany branches, Vice Governor (concerned Capital and District) and Villages Head men (concerned villages).

The Committee will have subcommittees such as Environmental management Committee, Compensation and Grievance Redress Committee.

V.10 PROJECT GRIEVANCE REDRESS COMMITTEE (PGRC)

The grievance redress mechanism and process need to be proposed for the project that may include three steps as discussed below:

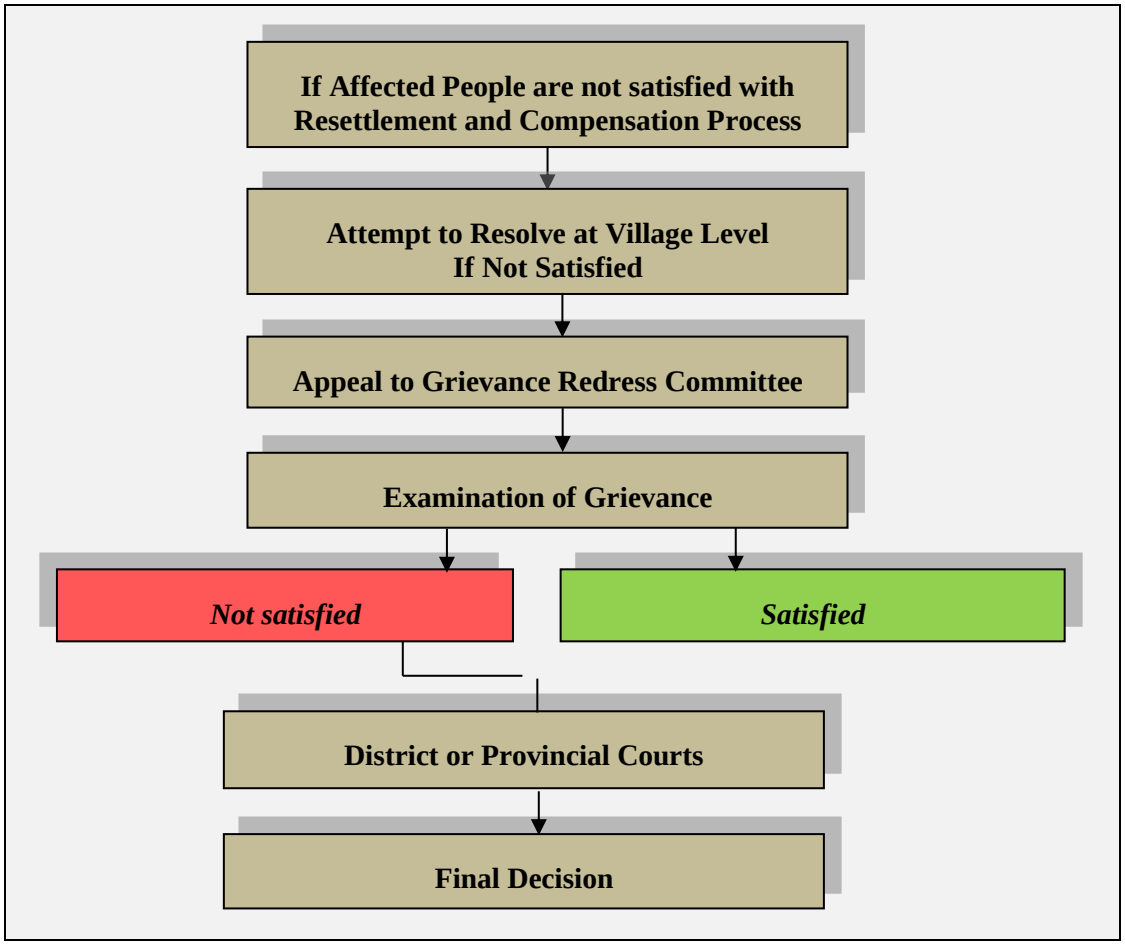


Figure 5-3: Proposed Grievance Redress Procedure for the GMS NPTP

Grievance Procedures:

- **Step 1** – At the village level, a householder or group of householders can be approached to the Grievance Committee through village chief and present the grievance, and then allows its consideration at the lowest level of claimant hierarchy. The issues can be resolved through discussions and mediation. If the village level cannot resolve the complaints or if the claimants are not satisfied with the decision, the next step can be used – either by the claimants or the village committees on behalf of the matters.

- **Step 2** – At the District level – an official grievance committee has to look after the issues within 15 days to resolve it to: respond the claimant grievance in terms of prior activities to be undertaken; and to ensure that the claims are reviewed

within the context of the existing policy, regulations procedures and entitlement limits.

- **Step 3** – At the Provincial Court - This is the last assistance to be urgently solved by the developer's company before reaching to the court. At this level, the justice authority at the district also included to clarify for resolving such problems. Presented below is the proposed grievance redress procedure for the Project**.**

The picture as below illustrates overall Project Institutional Environmental Arrangements for PGI.

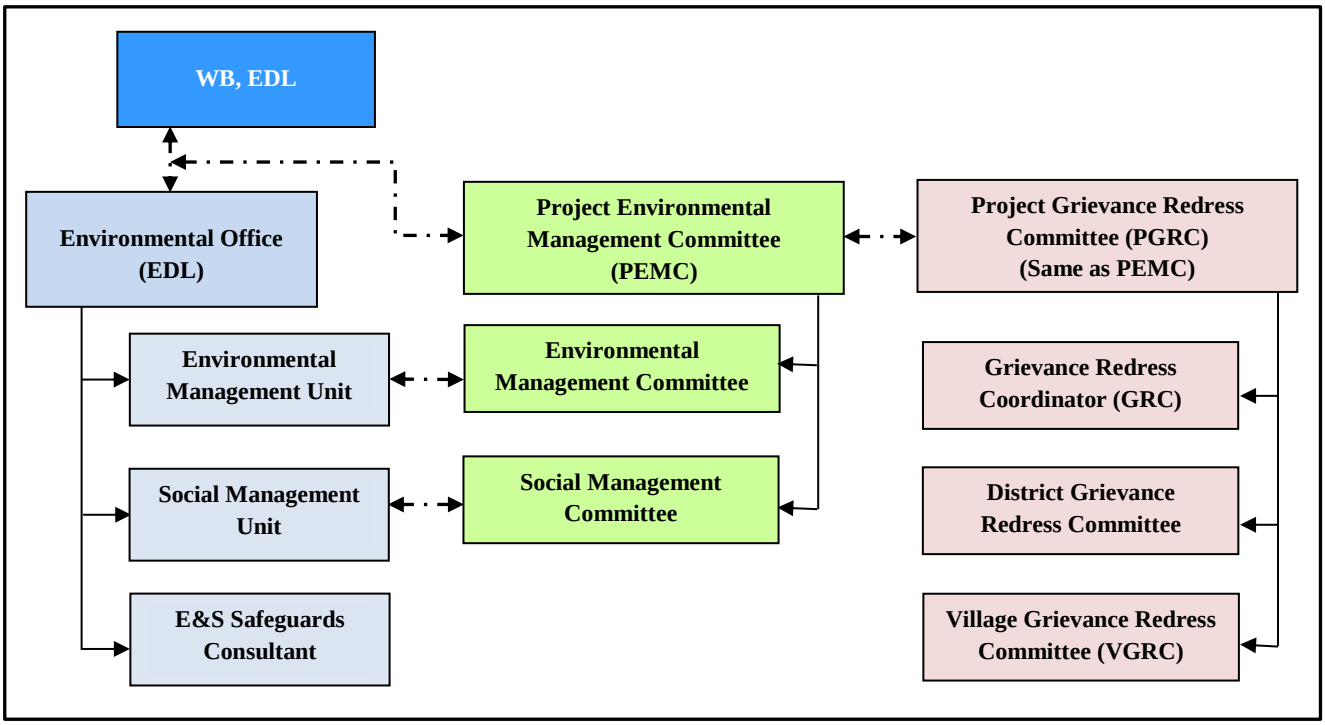


Figure 5-4: Project Institutional Environmental Arrangements for PGI Project

PART VI. PUBLICONSULTATION AND INFORMATION DISCLOSURE

VI.1 RATIONALE, OBJECTIVE & SCOPE

There are a number of national regulations and guidelines which require consultation with project-related beneficiaries and affected people. These include:

- Prime Minister's Decree on Environmental Impact Assessment in the Lao PDR (No: 112/PM dated 16 February 2010);
- Decree 192 and its Technical Guidelines on Compensation and Resettlement for Development Projects (November 2005), which in Chapter 11 sets out the minimum requirements for consultation and participation of affected communities;
- Technical Guidelines on Compensation and Resettlement of People Affected by Development Projects, Regulation 699/PMO, WREA March 2010;
- Technical Guidelines on Public Consultation For EIA Procedure, No. 707/MONRE, dated 05 February 2013;
- Decree and its Technical Guidelines on EIA Process for Development Projects, No. 8030/ MONRE, dated 17 December 2013;
- Decree and its Technical Guidelines on IEE Process for Development Projects, No. 8029/ MONRE, dated 17 December 2013;

The EA process included public participation, consultation and focus group discussions to help for achievement of the public acceptance of the Project. The consultation process followed the harmonized environmental and social safeguard requirements developed for the project. The following are the harmonized operational framework for the consultations:

- Prior and informed consultation with affected people and informed participation as early as possible and throughout the project implementation;
- Disclosure at local level with understandable content during public consultation;
- A grievance mechanism to receive and facilitate resolution of the affected communities' concerns and grievances.

Extensive consultations and public participations have been conducted during the project preparation. Awareness about the project within the affected community is well established.

The public consultations were meant to achieve the following objectives:

(i) To make the public aware of the Project;
(ii) To ensure that the public was provided with opportunities to participate in the decision- making process and to influence decisions that would affect them;
(iii) To identify the widest range of potential issues about the Project as early as possible and in some cases, have those resolved;
(iv) To ensure that government departments were notified and consulted early in the process;

Scope of consultation will focus on main components:

- Information Collection - involving collecting information on the environmental and social baseline conditions of the study area to determine key sensitive receptors;
- Information Dissemination - involving disclosure of information about the intended activity, project objectives and their outcomes in order to enable meaningful consultation.
- Participation-defined as a voluntary process in which stakeholders and project proponents come together to share, negotiate and control the decision-making process in project design and management. It builds on the consultation component.

The purposes of consultation are to introduce the proposed project to stakeholders, inform them as it develops, and identify their views and concerns. This approach stakeholders' engagement and contribution to the project, enhances its acceptability and encourages realistic expectations as to what the project will deliver to them.

The consultation program aims to:

- Identify problems, concerns and needs
- Inform stakeholders about the project
- Obtain feedback
- Learn from local knowledge and understanding
- Evaluate alternatives
- Promote ownership and enhance social acceptability
- Avoid or resolve conflicts
- Demonstrate commitment of the project proponent in addressing issues raised during consultations

The consultation process will involve, but will not be limited to:

- Formal meetings with government authorities, institutions, individuals, specialists and any NGOs identified.
- Meetings with opinion leaders, community representatives (village committees or councils).

VI.2 PARTICIPATION PROCESS

6.1.1 Village and District Public Consultation Meeting

Participation with GoL stakeholders will involve a series of formal meetings and discussions. The purpose of the meetings are to inform the stakeholders of the proposed project, to discuss the associated environmental and social issues as well as to gather any relevant secondary data.

The public consultation meeting with affected villages and district stakeholders will also discuss the most practical and feasible mitigation measures in the opinion of these stakeholders. Consultation at these levels is an important step in the protocol of working in the local area.

Formal Village and District Public Consultation meeting was organized on 6 March 2015 at Xaythany District with about 60 participants from villages, See detail participant list and minute in Annex 1.

Figure 6-1: Village and District Public Consultation in Xaythany District

Village and District Consultation Meeting, organized in Xaythany District, Vientiane Capital, 6 March 2015

World Bank Representatives in the Meeting

Participantsto the Village and District Public Consultation Meeting

Director of EO/EDL in the Meeting

Participants from Villages with the Questionnaire Forms

Most of Participants Agreed with the Development of PGI Project

6.1.2 Results of the Village and District Public Consultation

In respect to the PGI project, there was supported from all the villages for the Project development. In general it is recognized the project will facilitate growth and socio-economic development in Xaythany District as well as Vientiane Capital.

The survey questionnaires which provided a fundamental component of both the environment and social aspects as the basis for identifying of impacts and mitigation measures that are specific to following questions, have been distributed to 45 participants from affected villages. The table as below shows the summary of comment and feedback from those participants.

Table 6-1: Summary of Comment & Feedback of Affected Villages and People during the Village and District Public Consultation Meeting

Questionnaire Provided in the Meeting		No. of Feedback Form	
		Yes	No
Q1	Do you have any suggestion, for installing of new insulated cables, new meters and other electrical equipment? *Answer: Agree, but the project is to inform in advance via village chief and then the villagers; and time needed for electric cut, to avoid impact on daily livelihood, household business and economic displacement*	All 45	None
Q2	Do you have any suggestion, for changing/upgrading by new transformers with none PCBs, in order to help improve efficiency and reliability of power distribution in the selected area? *Answer: Agree, but the project is to inform in advance via village chief and then the villagers; and time needed for electric cut, to avoid impact on daily livelihood, household business and economic displacement*	All 45	None
Q3	The changing/adding of 8m poles by of about 50 concreted 12 to 14m poles along the existing ROW, which require land donation of 30cm X 30cm or equivalent to 0.09m2 per pole in maximum, and the project, will do the detail surveys for this. How do you think, in case of project request of land donation for the purpose of additional poles in your land ownership? *Answer: Agree, due to very small area, but the additional pole location shall be adjusted to some where do not encroach main household structure. Well documentation and safety/security implementation will be carefully proceeded*	All 45	None
Q4	If the project request for Voluntary Resettlement from Distribution ROW (4 metres of each side from the Central line of ROW). Do you agree about this? *Answer:* Yes, I'm agree	42	3

PART VII. CONCLUSION AND RECOMMENDATION

VII.1 CONCLUSION

The project development is to help improve efficiency and reliability of power distribution in the selected load areas served by EDL. The project involves rehabilitating the electric distribution network in Xaythany District of Vientiane Capital and related activities.

The potential negative impacts on environment and social by the development project that may result from the construction or operation of the proposed PGI project can be summarized as the followings.

- Clearing of trees and bushes under 22kV distribution line/ROW, as this negative impact is considered as minor significant and permanent;

Additional negative impacts as considered as minor significant and temporary as mentioned below

- Disposal of packaging wastes from electrical equipment and replaced electrical equipment (conductors, meters, capacitors, etc.) during construction phase;
- Disposal of fuel oil and other chemical wastes (including PCBs based transformer) and hazardous materials;
- Health, safety and security;
- Land donation for additional poles (no involuntary land acquisition/ resettlement);
- Interference on local villagers activities including temporary economic displacement;
- Gender impacts, increased role of women in decision making, empowerment of women.

The Project development will also create a range of positive impacts or benefits as listed as follow.

- Improve efficiency and reliability of power distribution;
- Improve voltage drop and reduction of distribution losses;
- Introduce advance metering technology, improve metering, billing and collection system;
- Strengthening of power distribution infrastructure (upgrading of conductors, increasing transformer capacity, placement of capacitors for reactive power and voltage control, installing load break switches and recloses, installation of optical fiber communication links in the project area, etc…);
- Potential expansion of residential customers, commercial, and industrial customers.

VII.2 RECOMMENDATION

The ESMP, ECoP as well as the World Bank group safeguards policy including the General EHS Guidelines, EHS Guidelines for Power Transmission and Distribution and national/contractor EHS requirements will be followed during project implementation, including provisions for beneficiaries and worker health and safety.

REFERENCES

The Amended Electricity Law, No. 03/NA, dated 20 December 2011;

The Amended Law on Environmental Protection, No. 29/NA, dated 18 December 2012;

Law on National Heritage, No. 08/NA, dated 9 November 2005;

The Amended Forestry Law, No 06/NA, dated 24 December 2008;

The Land Law, No 04/NA, dated 21 October 2003;

The Law on National Heritage, No. 08/NA, dated 9 November 2005;

The Road Law,No.04/99/NA, dated 3 April 1999;

The Decree on the Compensation and Resettlement of Development Projects, No 192/PM, dated 7 July 2005;

The Decree on Environmental Impact Assessment, No 112/PM dated 16 February 2010;

Agreement on National Environmental Standards, No 2734/PMO.WREA dated 7 December 2009;

Decree and its Technical Guidelines on IEE Process for Development Projects, No. 8029/ MONRE, dated 17 December 2013;

Decree and its Technical Guidelines on EIA Process for Development Projects, No. 8030/ MONRE, dated 17 December 2013;

Environmental, Health, and Safety Guidelines for Electric Power Transmission and Distribution, IFC and The World Bank Group, April 2007;

Environmental, Health, and Safety General Guidelines, IFC and The World Bank Group, April 2007;

Integrated Safeguards Data Sheet Concept Stage, Report No.: ISDSC1082, The World Bank Group, December 2014;

Project Information Document (PID) Concept Stage, Report No.: PIDC15574, The World Bank Group, December 2014;

Updated technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs);

Updated technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs);

Environmental Safeguards Operation Manual, Rural Electrification Project 2 (REP II), EDL, MEM, March 2009;

Environmental and Social Safeguard Framework (ESSF), Rural Electrification Project 2 (REP II), EDL, MEM, March 2009;

Rural Electrification Phase II Project (REP II) and GEF Rural Electrification Phase II Project (GEF REP II) Environmental and Social Safeguard Framework (ESSF), EDL, MEM, January 2011

EDL Technical Standard, EDL, MEM, February, 2004;

ANNEX 1:

Minutes of Village and District Public Consultation Meeting
With District Line Offices at Xaythany District

ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ

ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນາຖາວອນ

482 • • – •

ເມືອງໄຊທານີ

ເລກທີ.........../ມຊທນ

ໄຊທານີ, ວັນທີ 06 MAR 2015

<u>ບົດບັນທຶກກອງປະຊຸມ</u>

ປຶກສາຫາລືຂັ້ນບ້ານ, ຂັ້ນເມືອງກ່ຽວກັບວຽກງານສິ່ງແວດລ້ອມ-ສັງຄົມຂອງໂຄງການປັບປຸງລະບົບ ຕາໜ່າງ 22 ກວ ໃນນະຄອນຫຼວງ(PGI)

– ອີງຕາມຂໍ້ຕົກລົງແຕ່ງຕັ້ງຄະນະກຳມະການຊຸກຍູ້ ແລະ ປະສານງານໂຄງການ ລະບັບເລກທີ 423 / ຈມ.ຊທນ, ລົງວັນທີ 27 / 02 /2015.

ກອງປະຊຸມປຶກສາຫາລືຂັ້ນບ້ານ, ຂັ້ນເມືອງກ່ຽວກັບວຽກງານສິ່ງແວດລ້ອມ-ສັງຄົມຂອງໂຄງການປັບປຸງລະບົບຕາໜ່າງ 22 ກວ ໃນນະຄອນຫຼວງ (PGI). ໃນວັນທີ 06/03/2015 ທີ່ຫ້ອງປະຊຸມ ກົມສົ່ງເສີມກະສິກາ ແລະ ສະຫະກອນ ກອງປະຊຸມຮັບຟັງການສະຫຼູບລາຍງານຂໍ້ມູນທາງດ້ານເຕັກນິກຂອງໂຄງການ ແລະ ການນຳສະເໜີຂໍ້ມູນກ່ຽວກັບວຽກງານສິ່ງແວດລ້ອມ-ສັງຄົມ. ທີ່ເມືອງໄຊທານີ, ນະຄອນຫຼວງວຽງຈັນ.

ກອງປະຊຸມ ໄດ້ຈັດຂຶ້ນຢ່າງເປັນທາງການ ໃນເວລາ 8:30 ຫາ 11:35 ໂດຍເປັນປະທານ ຂອງທ່ານ ດຣ ຫຼ້າສາຍ ນອນທາສິງ, ຮອງເຈົ້າເມືອງໆ ໄຊທານີ, ປະທານຄະນະກຳມະການປະສານງານ ແລະ ຊຸກຍູ້ໂຄງການພ້ອມທັງບັນດາທ່ານຜູ້ຕາງໜ້າຈາກທະນາຄານໂລກ, ພະແນກຫ້ອງການທີ່ກ່ຽວຂ້ອງເມືອງ ແລະ ບ້ານທີ່ຮັບຜົນກະທົບ, ຕາງໜ້າລັດວິສາຫະກິດໄຟຟ້າລາວ ພ້ອມດ້ວຍຄະນະ, (ດັ່ງບັນຊີລາຍຊື່ລະອຽດຄັດຕິດມາພ້ອມນີ້).

ຫຼັງຈາກນັ້ນ ທ່ານ ວົງຜາສຸກ ສຸວັນນະວົງ ຫົວໜ້າສາຂາລັດວິສາຫະກິດໄຟຟ້າລາວ, ຕາງໜ້າໃຫ້ລັດວິສາຫະກິດໄຟຟ້າລາວໄດ້ກ່າວມີຄຳເຫັນພາບລວມຂອງແຜນການພັດທະນາໄຟຟ້າລາວຂອງໂຄງການ ແລະ ຢັ້ງຢືນວ່າໂຄງການນີ້ແມ່ນການປັບປຸງລະບົບຕ່າໜ່າງໄຟຟ້າ 22 ກວ ໃນນະຄອນຫຼວງໂດຍໄດ້ກຳນົດເຂົ້າແຜນພັດທະນາດັ່ງກ່າວ.

ຕາງໜ້າໃຫ້ໂຄງການໂດຍສົມທົບກັບຫ້ອງການສິ່ງແວດລ້ອມ, ລັດວິສາຫະກິດໄຟຟ້າລາວ ໄດ້ນຳສະເໜີຂໍ້ມູນທາງດ້ານເຕັກນິກ ແລະ ຄວາມຄືບໜ້າຂອງແຜນການຈັດຕັ້ງປະຕິບັດຂອງໂຄງການເປັນຕົ້ນແມ່ນວຽກງານກ່ຽວກັບສິ່ງແວດລ້ອມ ແລະ ສັງຄົມ.

ກອງປະຊຸມປຶກສາຫາລືຂັ້ນບ້ານ, ຂັ້ນເມືອງກ່ຍວກັບວຽກງານການຄຸ້ມຄອງສິ່ງແວດລ້ອມ-ສັງຄົມ. ເພື່ອສາມາດສືບຕໍ່ຈັດຕັ້ງປະຕິບັດວຽກງານດັ່ງກ່າວໃຫ້ແທດເໝາະກັບສະພາບຄວາມເປັນຈິງຂອງທ້ອງຖິ່ນ ແລະ ລະບຽບການຕ່າງໆ ຂອງ ສປປ ລາວ. ຜ່ານການຮັບຟັງການນຳສະເໜີບັນດາໜ້າວຽກ ແລະ ຂໍ້ມູນຜົນກະທົບໃນຂອບເຂດໂຄງການ, ຫຼັກການເຮັດວຽກຕ່າງໆ ແລະ ຂັ້ນຕອນໃນການຈັດຕັ້ງປະຕິບັດວຽກງານສິ່ງແວດລ້ອມສັງຄົມຂອງໂຄງການ .

ພາຍຫຼັງການຮັບຟັງຄັ້ງກ່າວກອງປະຊຸມໄດ້ປຶກສາຫາລື, ອອກຄຳຄິດຄຳເຫັນ ແລະ ແລກປ່ຽນຄວາມຄິດເຫັນ ຢ່າງກົງໄປກົງມາ ແລະ ເຫັນດີເປັນເອກະພາບກັນບາງບັນຫາລຸ່ມນີ້:

1. ສະເໜີເຫັນດີ ແລະ ສາມາດໃນການຈັດຕັ້ງປະຕິບັດຂອງໂຄງການດັ່ງກ່າວ.
2. ສະເໜີສ້າງແຜນງານລະອຽດເພື່ອປະສານສົມທົບແຈ້ງພາກສ່ວນນາຍບ້ານ ແລະ ປະຊາຊົນທີ່ກ່ຽວຂ້ອງໃນ ການເລີ້ມຈັດຕັ້ງປະຕິບັດໃນຂອບເຂດໂຄງການ
3. ສະເໜີໃຫ້ນາຍບ້ານລົງເຜີຍແຜ່ຂໍ້ມູນໃຫ້ແກ່ປະຊົນຜູ້ທີ່ໄດ້ຮັບຜົນກະທົບຈາກໂຄງການເຂົ້າໃຈ ແລະ ປຸກລະດົມໃນການໃຫ້ປະກອບສ່ວນຮ່ວມນຳໂຄງການເປັນຕົ້ນແມ່ນການນຳໃຊ້ທີ່ດິນເພື່ອຕັ້ງຕົນເສົາໃໝ່ ໃນບາງຈຸດຂອງໂຄງການ.

ສຸດທ້າຍ ປະທານກອງປະຊຸມ ໄດ້ສະຫຼຸບຄືນເນື້ອໃນການປຶກສາຫາລື ແລະ ໄດ້ສະເໜີໃຫ້ຜູ້ພັດທະນາໂຄງ ສາມາດຈັດຕັ້ງປະຕິບັດໂຄງການຕາມແຜນການ ແລະ ຂັ້ນຕອນທີ່ໄດ້ກຳນົດໄວ້

ກອງປະຊຸມກໍ່ໄດ້ປິດລົງໃນເວລາ 11:35 ໂມງ.

ບົດບັນທຶກສະບັບນີ້ມີຜົນສັກສິດຕັ້ງແຕ່ມື້ລົງລາຍເຊັນເປັນຕົ້ນໄປ.

ປະທານກອງປະຊຸມ

ກຣ. ຫລ້າສາຍ ນວນທາສີ

ຜູ້ບັນທຶກ

ນ. ຄຳຢຸພະເພ

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມກອງປະຊຸມ

ຫົວຂໍ້: ກອງປະຊຸມປຶກສາຂັ້ນບ້ານ ແລະ ຂັ້ນເມືອງ ເພື່ອເຜີຍແຜ່ແຜນຄຸ້ມຄອງຕໍ່ສິ່ງແວດລ້ອມ ແລະ ສັງຄົມ
ຂອງໂຄງການປັບປຸງຕ່າໜ່ຽງໄຟຟ້າ 22 ກວ ໃນນະຄອນຫຼວງ (PGI).
ໃນຄັ້ງວັນທີ: 06/03/2015
ພາກສ່ວນ ລັດວິສາຫະກິດໄຟຟ້າລາວ.

ລ/ດ NO	ຊື່ ແລະ ນາມສະກຸນ Name&Surename	ມາຈາກພາກສ່ວນ Department & Company	ຕຳແໜ່ງ Position	ເບີໂທລະສັບ Telephone	ລາຍເຊັນ Signature
1				55664338	
2				54998448	
3				55663712	
4				55522782	
5				55932624	
6				55609566	
7				22425771	
8				22885262	
9				98880910	
10				222 34335	
11				54998521	
12			—	99884848	

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມກອງປະຊຸມ

ຫົວຂໍ້: ກອງປະຊຸມປຶກສາຂັ້ນບ້ານ ແລະ ຂັ້ນເມືອງ ເພື່ອເຜີຍແຜ່ແຜນຄຸ້ມຄອງຕໍ່ສິ່ງແວດລ້ອມ ແລະ ສັງຄົມ ຂອງໂຄງການປັບປຸງຕ່າໜ່ຽງໄຟຟ້າ 22 ກວ ໃນນະຄອນຫຼວງ (PGI).

ໃນຄັ້ງວັນທີ: 06/03/2015

ພາກສ່ວນ ຂັ້ນເມືອງ.

ລ/ດ NO	ຊື່ ແລະ ນາມສະກຸນ Name&Surename	ມາຈາກພາກສ່ວນ Department & Company	ຕຳແໜ່ງ Position	ເບີໂທລະສັບ Telephone	ລາຍເຊັນ Signature
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມກອງປະຊຸມ

ຫົວຂໍ້: ກອງປະຊຸມປຶກສາຂັ້ນບ້ານ ແລະ ຂັ້ນເມືອງ ເພື່ອເຜີຍແຜ່ແຜນຄຸ້ມຄອງຕໍ່ສິ່ງແວດລ້ອມ ແລະ ສັງຄົມ ຂອງໂຄງການປັບປຸງຕ່າໜ່ຽງໄຟຟ້າ 22 ກວ ໃນນະຄອນຫຼວງ (PGI).

ໃນຄັ້ງວັນທີ: 06/03/2015

ພາກສ່ວນ ບ້ານ.

ລ/ດ NO	ຊື່ ແລະ ນາມສະກຸນ Name&Surename	ມາຈາກພາກສ່ວນ Department & Company	ຕຳແໜ່ງ Position	ເບີໂທລະສັບ Telephone	ລາຍເຊັນ Signature
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

ລ/ດ IO	ຊື່ ແລະ ນາມສະກຸນ Name&Surename	ມາຈາກພາກສ່ວນ Department&Company	ຕຳແໜ່ງ Position	ເບີໂທລະສັບ Telephone	ລາຍເຊັນ Signature
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

ລ/ດ IO	ຊື່ ແລະ ນາມສະກຸນ Name&Surename	ມາຈາກພາກສ່ວນ Department&Company	ຕຳແໜ່ງ Position	ເບີໂທລະສັບ Telephone	ລາຍເຊັນ Signature
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					

ລ/ດ NO	ຊື່ ແລະ ນາມສະກຸນ Name&Surename	ພາກສ່ວນ Department&Company	ຕໍາແໜ່ງ Position	ເບີໂທລະສັບ Telephone	ລາຍເຊັນ Signature
41	ນ. ວັນນາ.	ບ້ານນາສົມ	ນາຍບ້ານ	96753923	[signature]
42	ນ. ຄຳແພງ ມະເທດ	——	ນາຍບ້ານ	96615337	[signature]
43	ນ. ຄຳປາງ	——	ປ/ຊ	96995821	[signature]
44	ທ. ບຸນໜູ	ບ້ານ ໄຊ	ປ/ຊ	58974921.	[signature]
45	ທ ບຸນຍັງ	ບ້ານລາດຄວາຍ	ຮອງນາຍບ້ານ	5577624[illegible]	[signature]
46	ທ. ບົວທອງ	ປກສ. ລາດຄວາຍ	ຫົວໜ້າ	5984 [illegible]	[signature]
49	ນ. ແສງພະລີ [illegible]	ບ. ທ່າງ່ອນ	ເລຂາພັກ-ນາຍບ້ານ	55700640	[signature]
48	ນ. ຄຳຊິບ	ບ. ທ່າງ່ອນ	ປ.ແມ່ຍິງບ້ານ	55988864	[signature]
49	ນ. ສີເປີງ [illegible]	ບ. ທ່າງ່ອນ	ແມ່ຍິງ	59551661.	[signature]
50	ນ ອອນ [illegible]	ບ ທ່າງ່ອນ	ແມ່ຍິງ	55408648	[signature]
51	ນ. ສຸດໃຈ.	ບ. ທ່າງ່ອນ	ແມ່ຍິງ.	55495640	[signature]
52	ທ. ບຸນ[illegible]	ບ. ດ່ານຄຳ	ປ/ຊ.	77607924	[signature]
53					
54					

ANNEX 2:

Questionnaire for Households Headed
at the Village and District Public Consultation Meeting

Á®®³ º´¦¿¹ ùµ©¦¿¹ ®£öÀ»õ-	£¤¸ñêó	*6/3/2015*

¡Ë¼¡®¡¾¯ö¯É¤ê¾¼©Ë¼¦¤Á¸©¦É´ Áì½¦ñ£ö

Â£¤¡¾¯ñ¤ì½®®¥¿Î ®¼Ä³ Ë¼ À õ¤Ä§ê¾ó - ½£º - ¹ ùµ¤¸ ¼¥ñ

§ºÃ Ê¿² ¾©:		Î Ë¼ê ®º ®§º ®:		À ©Ã©À ñ¹ õÎ ®£º ®£ö?	
®¼ :		Î ú¨ :	À õ¤	Ä§ê¾ó	Á¢¸ ¤	- ½£º - ¹ ùµ¤¸ ¼¥ñ

1. ¢Óøê¾Ã

¥¿-¸-¦½ ¾§ õÃ- £öÀ»õ- :		êñ ®		§¾		¨ ó	
§ö§¾©:	ì ¾¸ì È		ì ¾¦ ø		ì ¾ Àê ó		§ö À ¾

2. £÷ì ñ¦½ ½¢º ¤À»õ- ê¼ÉÉ¤Áì ¸¦¾ Ä³ Ëê†õÃ ¯®¥®ñ (Ã ¢º®À¢©À®ó ì ½4 Á´® ¹ Ë¥¾ Ã¥¡ ¾¢º ¤À ùÄ³ ËÀ©õ)

À»õ- ¢º ¤ê Ë¸ ´ õÈ- Ã©¢º ¤À»õ- ª ¤µ Ë É¤Áì ¸¦¾ Ä³ Ëê†Ã ¯®¥®ñ (Ã ¢º ®À¢©À®óì ½4 Á´ ® ¹ Ë¥¾ Ã¥¡ ¾¢º ¤À ùÄ³ ËÀ©õ)

®Òó		À»õ- Ã¹ ¨ È		®¾¦ È- ê†® õºº¡´ ¾		¦ú- º ² À¸ Ã¹ É½®÷ ¨ Ó	

3. êË´ õ¾ Ã§Ê½Â¹ ¨©Á-¸Ã© Ã ¡¾ ©¿À óê÷½ ®, Ã ¦È- Â£¤ Ë¢º ¤À»õ- ê¼ÉÉ¤Áì ¸¦¾ Ä³ ËÀ©õ

»® £Ë òõ ¾		»Ë ¢¾ À£º ¤¢½ ¾© É¨		»® º ¾ ¾		»® ¦É´ Á¯¤ì ®	
Â»¤¦ À¢ ¾		Â»¤À º ¨		Â»¤Á»´ /®Ë ² ñ		»® ¦É´ Á¯º ² À	
¯Õ Õ ñ		º ² À ² É´ êñ ½®À©¨ ¹ ¨ Ó					
Á´ ÈÀ ©Ã© À ñ¹ õ Ã ¡¾ ©¿À óê÷½ ® Ã £º ®£ö?			À ©§¾			À ©¨ ó	

4. Â£¤¡¾-ÊÀ½ õ¾ ¯Ë ¦¾ Ä³ Ã úÈ¦¾ ¹ Ë¦½ ¸-¡ñÄ³, ª®º¤® ½ º - Ä³ Ëê¢ñ ¦½Ã Áì ½Àù Ä³ ËÀ†Ã ®¾¥®,

4.1 êË ´ õ ¸¾ £®À ñÁ-¸Ã©, «ËÂ£¤¡¾ ´ õ¾ ¯Ë ¦¾ Ä³ Á»¤¾ ê†õ¾ ¹ É, ¯Ë ìÌ ÓÄ³, Î ú¨ ª®Ä³ Ëê¢ñ¦½Ã ¡¸ËÀ‰

	À ñ©ó¿Â£¤¡¾ Áª ÈÉ¤ õ¾ Á¥ËÀ õ- ì Èñ ®¼ Ë- ¾ ®Ë Ã¹ É¾ ®Ë Ä©É¤»É Èñ ®¼ Áì ½Ä ¨ ½Àì ¾	
	ê†É¤ª ®Ä³ À º ´ õ¾ ¡¼ ¼ì Èñ ®¼ Áì ½¹ õì Éº ö¡ ½É®ª Ò ¾©¿ì ®§ó® Áì ½©¿À óê÷½ ® £º ®£ö	
	®À ñ©ó	À ©º ö:	

4.2 êË ´ õ ¸¾ £®À ñÁ-¸Ã©, «ËÂ£¤¡¾ ¥½À©É õ¾ ¯Ë ´ õì ½©® ©É¨ Î Ó¯¤Ä³ Ëê†õ½ ¾©Ã ¨ È¸ ËÀ‰

À º ¨ õì ½©® ¯½ ®ëò¾® Áì ½¦ ½Á¨ ì ½¾®Ã ¡¾ ¥¿Î ®² ½ ®¤Ä³ ËÃ ² ¤ê†Ã ó¤¤ ¸ËÀ‰

	À ñ©ó¿Â£¤¡¾ Áª ÈÉ¤ õ¾ Á¥ËÀ õ- ì Èñ ®¼ Ë- ¾ ®Ë Ã¹ É¾ ®Ë Ä©É¤»É Èñ ®¼ Áì ½Ä ¨ ½Àì ¾	
	ê†É¤ª ®Ä³ À º ´ õ¾ ¡¼ ¼ì Èñ ®¼ Áì ½¹ õì Éº ö¡ ½É®ª Ò ¾©¿ì ®§ó® Áì ½©¿À óê÷½ ® £º ®£ö	
	®À ñ©ó	À ©º ö:	

4.3 Â£¤¡¾ ¥½À©É õ¾ ¯Ë À ùÄ³ Ëê†ª ¼ 8 Á´ ® Áì ½ª ®ª ¤À ùÄ³ Ë¦ ø 12 ¹ ¾14 Á´ ® ¯½ ¾ 50 ª ¡ À†Ã ®¾¥®, À§¤.¸ ¾¥¿À ñª É¤À©É¿Ã§É¤†½ ¾ 30 §ª Á´ ® X 30 §ª Á´ ® ¹ ¼Àè‰ ® 0.09 Á´ ®´ öêê ª Ò ¢ ¡ (ª ¾Áì ¸¦¾ À ‰ê†Ã ¯®¥®ñ), À§¤Â£¤¡¾ ¥½À©É¿¹ ùµ©ì ½½® À º ¡ ¿- ®¥ª ®ª ¤À ùÄ³ ËÀ†À õ©¤ Ë, «Ë¢õ©èê À ñ¡ ¿´ ¼ ® ¢º ¤êË, êË ¥½ ¸¾ £®À ñÁ-¸Ã© «ËÂ£¤¡¾ »¼ »ñ ¤Ã ËÉõ ¾ ®ò ¼ ¾ ¦ öê ®ËÊ ¡ ®Â£¤¡¾ ?

	À ñ©óÀ ¾½À ñ¸Ã ñ©ò ² ¼À ñ-É¨ Áª ÈÉ¤ õ¾ ¡ ¿- ®®È- ª ¤À ¼ ®Ö ÉÓ¢¸ ¾ª Â£¤ ËÃ ñ¢º ¤À»õ- Ã¹ ¨ ÈÁì ½ ª É¤ÄÃ©É®¤ ®®ñê õÀ ñì ¾ì ñº ñ¦º - »È ¡ñ Áì ½ª É¤»® ¯½ ñê ¾©Ë À ñ- õ Áì ½£¸ ¾ ¯º ©Ã ² £ñ Ã- È	
¨ ñª ®¦ òÃ¥®À©É		À ©º ö:	
®À ñ©ó		À ©º ö:	

5. «ËÂ£¤¡¾ »¼ »É¤Ã Éõ¾ ¨ ö¯Ë Á®®¦½ ñÃ¥ ºº¡¥¾¡ÉÁì ¸¦¾ (Ã ¢º ®À¢©À®ó ì ½4 Á´ ® ¹ Ë¥¾ Ã¥¡ ¾ ¢º ¤À ùÄ³ ËÀ©õ) êË ¥½ ¸¾ £®À ñÁ-¸Ã©?

	À ñ©ó		®À ñ©ó

6. êË £®¸ËÂ£¤¡¾ ©¤Ë ¥½ õöÃ©Á-¸Ã©ª ÒÈ-ì ¸´, £¿£®À ñ Áì ½¢Ó½À õ Ë À ª ®Â£¤¡¾ ?

	ì ¾À§ñ Áì ½§Á¥Ë

HOUSEHOLD INTERVIEW QUESTIONNAIRE Date: *6/3/2015*

Environmental and Social Safeguards

Power Grid Improvement Project, Xaytahny District, Vientiane Capital

Name of Interviewee:		Position:		Gender of Leaded HH?			
Village:		Unit:		District:	*Xaythany*	Province:	*Vientiane Capital*

1. General Information

Number of family members:		Total		Male		Female	
Ethnic group:	Lao Loum		Lao Soung		Lao Theung		Sub-Ethnic

2. Household Characteristics Under Existing Distribution ROW (Within 4 metres of each side from the Central line of ROW)

ere any of your houshold structures, located under the existing distribution ROW (Within 4 metres of each side from the Central line of

None		Main house		Additional structure		Other, please indicate	

3. How Do You Use This Household Structure Under Existing Distribution ROW, In Terms of Making Household Business

Minimark		Retail shop		Restaurant		Garage	
Ricemill		Sawmill		Hotel/Guesthouse		Other repairing shop	
Pump station		Other, please indicate					
Which gender is the main key for household business?				Male		Female	

4. The Project Will Change the Old Distribution Line by Insulated Cable, Install New Electrical Equipment and Additional Poles

4.1 Do you have any suggestion, for installing of new insulated cables, new meters and other electrical equipment

	Agree, but the project is to inform in advance via village chief and then the villagers; and time needed for electric cut, to avoide impact on daily livelihood, household business and economic displacement	
	Not Agree	Reason:

4.2 Do you have any suggestion, for changing/upgrading by new transformers with none PCBs, in order to help improve efficiency and reliability of power distribution in the selected area

	Agree, but the project is to inform in advance via village chief and then the villagers; and time needed for electric cut, to avoid impact on daily livelihood, household business and economic displacement	
	Not Agree	Reason:

4.3 The changing/adding of 8m poles by of about 50 concreted 12-to 14m poles along the existing ROW, which require land donation of 30cm X 30cm or equivalent to 0.09m2 per pole in maximum, and the project will do the detail surveys for this. How do you think, in case of project request of land donation for the purpose of additional poles in your land ownership.

	Agree, due to very small area, but the additional pole location shall be adjusted to some where do not enchroach main household structure. Well documentation and safety/security implementation will be carefully proceeded.	
	Not yet decided	Reason:
	Not Agree	Reason:

5. If The Project Request for Voluntary Resettlement from Distribution ROW (4 metres of each side from the Central line of ROW). Do You Agree About This? ☐ **Yes, I'm agree** ☐ **No**

6. Do You Think That The Project Activities Have Benefit For Common Community? Any Suggestion and Comment?

Signature and Name

ANNEX 3:
Leaflet for PGI Project

V. ຂອບເຂດດ້ານສິ່ງແວດລ້ອມ ແລະ ສັງຄົມ

1. ການກຳນົດແລວສາຍສົ່ງໄຟຟ້າ 22ກວ:

ການກຳນົດແລວສາຍແຈກໄຟຟ້າ 22 ກວ ສູງສຸດ ແມ່ນ 8 ແມັດ, ເຊິ່ງວ່າ ສາຍແຈກໄຟຟ້າ ສ່ວນໃຫຍ່ ໄດ້ຖືກຕິດຕັ້ງຕາມຖະໜົນທີ່ມີຢູ່ແລ້ວ.

ຕົວຢ່າງຂອງເສົາ ສຳລັບສາຍແຈກໄຟຟ້າ 22ກວ

2. ຜົນກະທົບທາງດ້ານສິ່ງແວດລ້ອມທີ່ອາດເກີດຂຶ້ນ:

ຜົນກະທົບຊົ່ວຄາວຕໍ່ສິ່ງແວດລ້ອມ ໃນຊ່ວງຂອງການດຳເນີນໂຄງການອາດຈະລວມມີ:

- ການຕັດຕົ້ນໄມ້ ແລະ ພຸ່ມໄມ້ທີ່ຢູ່ກ້ອງສາຍແຈກໄຟຟ້າ ຫຼື ແລວສາຍແຈກ;
- ການກຳຈັດບັນດາອຸປະກອນໄຟຟ້າເຊັ່ນ: ສາຍໄຟຟ້າ, ໝໍ້ນັບໄຟ, ຕົວທ້ອນຄາປາຊິເຕີ້ ແລະ ສິ່ງເສດເຫຼືອຈາກການກໍ່ສ້າງຕ່າງໆ;
- ການກຳຈັດນ້ຳມັນ ແລະ ສານເຄມີ (ລວມເຖິງສານ PCBs) ແລະ ສິ່ງເສດເຫຼືອອັນຕະລາຍອື່ນໆ;
- ດ້ານສຸຂະພາບ, ຄວາມປອດໄພ ແລະ ການປ້ອງກັນໄພ;

3. ຜົນກະທົບທາງສັງຄົມທີ່ອາດເກີດຂຶ້ນ:

- ການເວນຄືນທີ່ດິນ (ຖ້າມີ), ການລືບກອນໂຄງສ້າງຂອງບ້ານເຮືອນ, ໂຄງລ່າງພື້ນຖານ, ແລະ ກິດຈະກຳຂອງຄົນໃນພື້ນທີ່;
- ການຕັດກະແສໄຟຟ້າ ຫຼື ການຂັດຈັງຫວະການໃຫ້ບໍລິການ ໃນດ້ານຕ່າງໆ ໃນຊ່ວງຂອງການປັບປຸງຕິດຕັ້ງ;
- ດ້ານບົດບາດຍິງ-ຊາຍ ທີ່ອ່ອນໄຫວ ຕໍ່ກັບຄອບຄົວທີ່ມີຜູ້ຍິງ ມີຄວາມຮັບຜິດຊອບ ເປັນຫົວໜ້າຄອບຄົວ.

3. ນະໂຍບາຍຂອງທະນາຄານໂລກໃນດ້ານການປົກປ້ອງ:

ນະໂຍບາຍດ້ານການປົກປ້ອງ	ສະຖານະ
ການປະເມີນດ້ານສິ່ງແວດລ້ອມ OP/BP 4.01	ມີ
ຊັບພະຍາກອນທຳມະຊາດ OP/BP 4.04	ບໍ່ມີ
ປ່າໄມ້ OP/BP 4.36	ບໍ່ມີ
ການຈັດການສັດຕູພືດ OP 4.09	ບໍ່ມີ
ຊັບພະຍາກອນທາງວັດທະນະທຳ OP/BP 4.11	ບໍ່ມີ
ກຸ່ມຄົນທ້ອງຖິ່ນ OP/BP 4.10	ບໍ່ມີ
ການຍົກຍ້າຍຈັດສັນແບບບໍ່ສະໝັກໃຈ OP/BP 4.12	ບໍ່ມີ
ຄວາມປອດໄພຂອງເຂື່ອນ OP/BP 4.37	ບໍ່ມີ
ໂຄງການຕ່າງໆກ່ຽວກັບການເປີດນ່ານນ້ຳສາກົນ OP/BP 7.50	ບໍ່ມີ
ໂຄງການຕ່າງໆໃນພື້ນທີ່ທີ່ມີຂໍ້ຂັດແຍ້ງ OP/BP 7.60	ບໍ່ມີ

ຂໍ້ມູນເພີ່ມເຕີມ:

- **ສຳນັກງານໃຫຍ່ ລັດວິສະຫະກິດໄຟຟ້າລາວ:**
  ຖະໜົນມິດຕະພາບລາວ-ໄທ, P.O BOX 309,
  ບ້ານທົ່ງກາງ, ເມືອງສີສັດຕະນາກ,
  ນະຄອນຫຼວງວຽງຈັນ, ສປປ ລາວ.
  ໂທ (+856-21) 451 537, 451 519
  ແຟັກ: (+856-21) 416 318, 263 794
  ອີເມວ: edlmdo@edl.com.la
  ເວັບໄຊ: http://www.edl.com.la
- **ລັດວິສະຫະກິດໄຟຟ້າລາວ - ຝ່າຍປະຕິບັດການໄຟຟ້ານະຄອນຫຼວງວຽງຈັນ :**
  ຖະໜົນສາມແສນໄທ, P.O Box 309,
  ບ້ານສີສະຫວາດ, ເມືອງຈັນທະບູລີ,
  ນະຄອນຫຼວງວຽງຈັນ, ສປປ ລາວ
  Tel: (+856-21) 212 800-9
  Fax: (+856-21) 212 807
- **ລັດວິສະຫະກິດໄຟຟ້າລາວ - ສາຂາເມືອງໄຊທານີ :**
  ຖະໜົນເລກທີ 10, P.O Box 309,
  ບ້ານໄຊສະຫວ່າງ, ເມືອງໄຊທານີ,
  ນະຄອນຫຼວງວຽງຈັນ, ສປປລາວ
  Tel: (+856-21) 732 000
  Fax: (+856-21) 732 249
- **ທະນາຄານໂລກ:**
  ປະຕູໄຊ, ຖະໜົນເນຣູ
  ນະຄອນຫຼວງວຽງຈັນ, ສປປ ລາວ
  ໂທ: (+856-21) 266 200
  ອີເມວ: worldbanklaos@worldbank.org
  ເວັບໄຊ: http://www.worldbank.org

ໂຄງການປັບປຸງ ລະບົບຈຳໜ່າຍໄຟຟ້າ

POWER GRID IMPROVEMENT PROJECT

I. ຄວາມເປັນມາ

ປະຈຸບັນ ລະບົບຈຳໜ່າຍໄຟຟ້າ ກຳລັງປະເຊີນໜ້າກັບຄວາມທ້າທາຍໃໝ່ໆເພີ່ມຂຶ້ນ ເນື່ອງຈາກຄວາມຕ້ອງການນຳໃຊ້ໄຟຟ້າເພີ່ມຂຶ້ນຢ່າງວ່ອງໄວ. ໃນນັ້ນ, ສິ່ງທ້າທາຍຫຼັກ ກໍ່ຄືພະລັງງານຕົກເຮ່ຍມີຄ່າສູງຢ່າງຕໍ່ເນື່ອງ (ສະເລ່ຍປະມານ 16 ເປີເຊັນ ໃນປີ 2012, ໃນບາງສາຂາໄຟຟ້າ ແມ່ນຫຼາຍກວ່າ 20 ເປີເຊັນ) ການຈຳໜ່າຍກະແສໄຟຟ້າ ທີ່ຕ່ຳກວ່າມາດຕະຖານ, ລວມເຖິງຄວາມສະຖຽລະພາບ ຂອງການສະໜອງໄຟຟ້າຕ່ຳ ອັນເນື່ອງມາຈາກການເພີ່ມຂຶ້ນ ຂອງກຳລັງໄຟຟ້າເກີນກຳນົດ ຂອງລະບົບຈຳໜ່າຍ ໂດຍສະເພາະໃນບັນດາຕົວເມືອງ ໃຫຍ່ເຊັ່ນ: ນະຄອນຫຼວງວຽງຈັນ, ສະຫວັນນະເຂດ, ທ່າແຂກ ແລະ ປາກເຊ. ດ້ວຍຄວາມເອົາໃຈໃສ່ ຕໍ່ກັບບັນດາສິ່ງທ້າທາຍດັ່ງກ່າວ, ຈຶ່ງໄດ້ມີການສະເໜີ ໂຄງການປັບປຸງລະບົບຈຳໜ່າຍໄຟຟ້ານີ້ຂຶ້ນ, ໂດຍການຊ່ວຍເຫຼືອຈາກທະນາຄານໂລກ ໃນການໃຫ້ທຶນກູ້ຢືມ ເພື່ອການຈັດຕັ້ງປະຕິບັດໂຄງການ ແລະ ເພື່ອຊ່ວຍສົ່ງເສີມ ການພັດທະນາດ້ານພະລັງງານແບບຍືນຍົງ ໃນ ສປປ ລາວ.

II. ຈຸດປະສົງຂອງໂຄງການ

ຈຸດປະສົງຂອງໂຄງການພັດທະນາ ແມ່ນເພື່ອຊ່ວຍຍົກລະດັບປະສິດທິພາບ ແລະ ຄວາມສະເຖຍລະພາບໃນການຈ່າຍພະລັງງານໄຟຟ້າ ໃນຂອບເຂດ ຂອງສາຂາ ໄຟຟ້າເມືອງໄຊທານີ ໂດຍການໃຫ້ບໍລິການ ຈາກລັດວິສະຫະກິດໄຟຟ້າລາວ.

⇒ ໝໍ້ນັບໄຟອັດສະລິຍະ ແລະ ການຫຼຸດຜ່ອນພະລັງງານໄຟຟ້າຕົກເຮ່ຍ: ການນຳໃຊ້ເທັກໂນໂລຊີວັດແທກຂັ້ນສູງໃນພື້ນທີ່ໂຄງການ ຈະຊ່ວຍຫຼຸດຜ່ອນພະລັງງານໄຟຟ້າຕົກເຮ່ຍ ແລະ ຍົກລະດັບຂອງໝໍ້ນັບໄຟ, ການອອກໃບເກັບເງິນ ແລະ ການຈັດຍັບຫົກ.

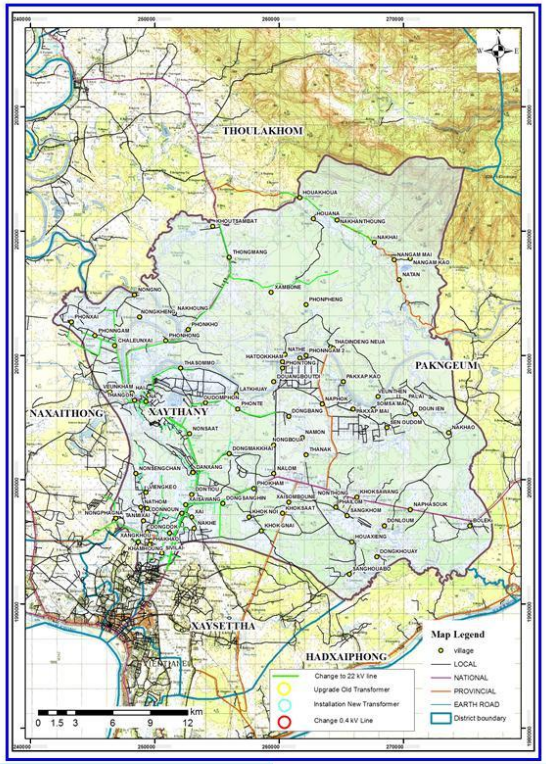
⇒ ຍົກລະດັບຄວາມສະເຖຍລະພາບຂອງການສະໜອງໄຟຟ້າ ແລະ ຫຼຸດຜ່ອນພະລັງງານໄຟຟ້າຕົກເຮ່ຍ ບາງສ່ວນຈາກລະບົບຈ່າຍ ໂດຍການເພີ່ມທະວີການກໍ່ສ້າງພື້ນຖານໂຄງລ່າງ ເພື່ອຮອງຮັບການສະໜອງພະລັງງານໄຟຟ້າ. ການປັບປຸງສາຍໄຟຟ້າຕາມແລວສາຍໄຟຟ້າປະມານ 366 ກມ ໃຫ້ສາມາດ ຮອງຮັບກັບການເພີ່ມຂຶ້ນຂອງການຊົມໃຊ້. ໃນນັ້ນສາຍແຈກແຮງກາງ 22 ກວ ມີ 127 ກມ.

⇒ ລະບົບການຈັດການຂໍ້ມູນ: **(i)** ສະໜອງ ແລະ ຕິດຕັ້ງລະບົບຕິດຕໍ່ສື່ສານ ຜ່ານສາຍໃຍແກ້ວໃນພື້ນທີ່ໂຄງການ; **(ii)** ຂະຫຍາຍລະບົບຂໍ້ມູນຂ່າວສານ ດ້ານແຜນທີ່ພູມສາດ (GIS) ເພື່ອຊ່ວຍໃນການດຳເນີນການສະໜອງພະ ລັງງານໄຟຟ້າ ແລະ ການບຳລຸງຮັກສາ; ແລະ **(iii)** ສະໜອງ ແລະ ຕິດຕັ້ງ ລະບົບການຈັດການຂໍ້ມູນຂ່າວສານດ້ານການເງິນ (FMIS).

⇒ ເສີມສ້າງຄວາມສາມາດຂອງສະຖາບັນສູນຝຶກອົບຮົມ ແລະ ການຊ່ວຍ ເຫຼືອດ້ານວິຊາການ.

III. ພື້ນທີ່ຂອບເຂດຂອງໂຄງການ

ຂອບເຂດທາງພູມສາດຂອງໂຄງການ ແມ່ນຈຳກັດໃນເຂດຕົວເມືອງ ແລະ ເຂດຊານ ເມືອງ ໃນນະຄອນຫຼວງວຽງຈັນ. ໂດຍສະເພາະແມ່ນ ເຂດເມືອງໄຊທານີ ເຊິ່ງຫ່າງຈາກ ໃຈກາງນະຄອນຫຼວງ ໄປທາງເໜືອປະມານ 10 ກມ, ເນື່ອງຈາກພະລັງງານໄຟຟ້າຕົກ ເຮ່ຍໃນພື້ນທີ່ດັ່ງກ່າວ ປະຈຸບັນແມ່ນເກືອບ 25 ເປີເຊັນ. ສະເພາະຂອບເຂດນະຄອນ ຫລວງວຽງຈັນ ພະລັງງານໄຟຟ້າທີ່ນຳໃຊ້ແມ່ນຢູ່ທີ່ປະມານ 40 ເປີເຊັນ ຂອງຄວາມ ຕ້ອງການນຳໃຊ້ໄຟຟ້າທົ່ວປະເທດ. ເມືອງໄຊທານີ ປະກອບດ້ວຍ ລູກຄ້າທົ່ວໄປທີ່ມີ ລາຍໄດ້ໜ້ອຍ ແລະ ຫຼາຍ, ລູກຄ້າທີ່ປະກອບທຸລະກິດຄ້າຂາຍ ແລະ ອຸດສະຫະກຳ. ເຊິ່ງປະຈຸບັນມີລູກຄ້າ ປະເພດທີ່ຢູ່ອາໄສປະມານ 46,000 ຄົວເຮືອນ ແລະ ລູກຄ້າ ທີ່ບໍ່ແມ່ນ ປະເພດທີ່ຢູ່ອາໄສ ອີກ 1,100 ລູກຄ້າ.



IV. ຂອບເຂດທາງດ້ານເຕັກນິກ

1. ການຫຼຸດຜ່ອນພະລັງງານໄຟຟ້າຕົກເຮ່ຍໃນທາງເຕັກນິກ ສາຍໄຟຟ້າແຮງຕ່ຳ (LV 0.4 ກວ) ແລະ ສາຍໄຟຟ້າແຮງກາງ (MV 22 ກວ):
   - ປັບປຸງປ່ຽນສາຍໄຟຟ້າແຮງຕ່ຳ ແລະ ແຮງກາງ: 239 ກມ ຕາຂ່າຍແຮງຕ່ຳ ແລະ 127 ກມ ຕາຂ່າຍແຮງກາງ;
   - ຍົກກຳລັງ ແລະ ເພີ່ມໝໍ້ແປງໄຟຟ້າ ແຮງກາງ: 150 ໜ່ວຍ;
   - ຕິດຕັ້ງຕົວທ້ອນ ຄາປາຊິເຕ້ ຂອງລະບົບໄຟຟ້າແຮງກາງ ແລະ ແຮງຕ່ຳ: ລະບົບໄຟຟ້າແຮງກາງ 36 ຊຸດ ແລະ ລະບົບໄຟຟ້າແຮງຕ່ຳ 300 ຊຸດ.
2. ຫຼຸດຜ່ອນການສູນເສຍລາຍໄດ້:
   - ນຳໃຊ້ໝໍ້ນັບໄຟແບບພິເສດ ອັດສະລິຍະ (AMI) ແລະ ໝໍ້ນັບໄຟ ແບບເອເລັກໂຕຣນິກ ເພື່ອວັດແທກປະລິມານການນຳໃຊ້ໄຟຟ້າ:
     - ໝໍ້ນັບໄຟ ປະເພດທີ່ຢູ່ອາໄສ: 35,000 ໜ່ວຍ;
     - ໝໍ້ນັບໄຟ ປະເພດອັດສະລິຍະ ສຳລັບຖານລູກຄ້າທີ່ໃຫຍ່: 1,500 ໜ່ວຍ;
   - ໜ່ວຍຕັດໄຟຟ້າແບບ Recloser ແລະ Load break switch:
     - ໜ່ວຍຕັດໄຟຟ້າແບບ Recloser: 63 ໜ່ວຍ;
     - ໜ່ວຍຕັດໄຟຟ້າແບບ Load break switch: 84 ໜ່ວຍ;
3. ໂຄງລ່າງຂໍ້ມູນ ແລະ ການຕິດຕໍ່ສື່ສານ:

   ນຳໃຊ້ເຄືອຂ່າຍສາຍໃຍແກ້ວນຳແສງ ສຳລັບໝໍ້ນັບໄຟພິເສດ ອັດສະລິຍະ AMI ແລະ ການຕິດຕໍ່ສື່ສານ ລະຫວ່າງ ສູນບັນຊາລະບົບໄຟຟ້າ ແລະ ສາຂາໄຟຟ້າ ເມືອງໄຊທານີ (127 ກມ).

V. SCOPE OF ENVIRONMENTAL AND SOCIAL CONCERNED

1. Right-of-Way for 22kV Distribution Line:

Maximum requirement for the right-of-way (ROW) of 22 kV distribution lines is 8 meters, where most of the distribution lines are located along the existing roads.

Typical Poles for 22kV Distribution Line

2. Potential Environmental Impacts: Temporary environmental impacts during works may include:

- Clearing of trees and bushes under distribution line/ROW;
- Disposal of conductors, meters, capacitors and other construction debris and wastes;
- Disposal of fuel oil and other chemical wastes (including PCBs) and hazardous materials;
- Health, safety and security;

3. Potential Social Impacts:

- Land acquisition, interference on household structures, local infrastructure, and local activities;
- Disconnection of power lines and interruption of service to beneficiaries during installation works;
- Gender issues which is gender-sensitive to the household responsibilities of women

3. World Bank Safeguards Policies:

Safeguard Policies	Triggered
Environmental Assessment OP/BP 4.01	Yes
Natural Habitats OP/BP 4.04	No
Forests OP/BP 4.36	No
Pest Management OP 4.09	No
Physical Cultural Resources OP/BP 4.11	No
Indigenous Peoples OP/BP 4.10	No
Involuntary Resettlement OP/BP 4.12	No
Safety of Dams OP/BP 4.37	No
Projects on International Waterways OP/BP 7.50	No
Projects in Disputed Areas OP/BP 7.60	No

Further Information:

◆ **EDL Head Quarter:**
Lao-Thai Friendship Road, P.O BOX 309,
Thongkang Village, Sisattanak District,
Vientiane, Lao PDR
Tel: (+856-21) 451 537, 451 519
Fax: (+856-21) 416 318, 263 794
Email: edlmdo@edl.com.la
Website: http://www.edl.com.la

◆ **EDL-Vientiane Capital Branch:**
Samsenethai Road, P.O Box 309,
Sisaket Village, Chanthabuly District,
Vientiane Capital, Lao PDR
Tel: (+856-21) 212 800-9
Fax: (+856-21) 212 807

◆ **EDL-Xaythany Branch:**
Road No. 10, P.O Box 309,
Xaysavang Village, Xaythany District,
Vientiane Capital, Lao PDR
Tel: (+856-21) 732 000
Fax: (+856-21) 732 249

◆ **The World Bank:**
Patou Xay, Nehru Road
Vientiane Capital, Lao PDR
Tel: (+856-21) 266 200
Email: worldbanklaos@worldbank.org
Website: http://www.worldbank.org

ໂຄງການປັບປຸງ ລະບົບຈ່າຍໄຟຟ້າ
POWER GRID IMPROVEMENT PROJECT

I. BACKGROUND

The power grid is increasingly facing new challenges related to the fast growth of electricity demand. The main challenges are persistently high distribution losses (averaging about 16 percent in 2012, with some areas experiencing losses of over 20 percent) and sub-standard electricity services, including low reliability of electricity supply due to overloading of the distribution grid particularly in major load centers as Vientiane, Savannakhet, Thakhek, and Pakse. By focusing on these new challenges in the power distribution sector, the proposed Power Grid Improvement (PGI) Project will complement the Bank's on-going assistance and help support sustainable development of the power sector in Lao PDR.

II. PROJECT OBJECTIVES

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

⇒ Smart metering and reduction of distribution losses: introduce advance metering technology in the project area to help reduce distribution losses and improve metering, billing and collection system.

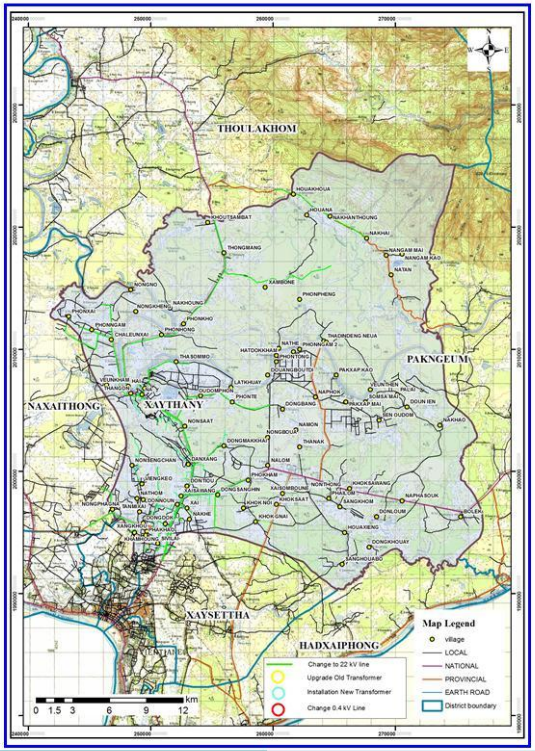
⇒ Improve reliability of power supply and reduce losses in selected parts of the distribution network through strengthening of power distribution infrastructure. The upgrading of conductors involves the rehabilitation of an estimated 366km of distribution power lines, including 127km of MV (22kV) power lines.

⇒ Management Information System: **(i)** Supply and installation of optical fiber communication links in the project area; **(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).

⇒ Institutional capacity building and technical assistance (TA).

III. PROJECT AREA

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 almost 25 percent at present. 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.



IV. SCOPE OF TECHNIQUES

1. **Technical Loss Reduction for Low Voltage (LV 0.4kV) lines and Medium Voltage (MV 22kV) lines:**
   - Upgrading conductors of LV and MV lines: 239km of LV line and 127km MV line;
   - Upgrading and adding MV transformers: 150 units;
   - Capacitor placement: of MV and LV systems: 36 sets of MV capacitor and 300 sets of LV capacitor;
2. **Commercial Loss Reduction:**
   - Introduction of Advanced Metering Infrastructure (AMI) and Electronic Meter:
     - Residential Meter: 35,000 units,
     - Smart Meter for large customers: 15,000 units
   - Recloser & Load break switches:
     - Recloser: 63 units;
     - Load break switches: 84 units;
3. **Information and Communication Infrastructure:**

   Introduction of optical fiber network for AMI and communication link between Vientiane Capital and Xaythany district (127km).

ANNEX 4:

Power Grid Improvement Project
Resettlement Policy Framework (RPF)
And Protocols for Voluntary Land Donation (VLD)

Power Grid Improvement Project
Resettlement Policy Framework (RPF)
And Protocols for Voluntary Land Donation (VLD)

Introduction

This document constitutes the Policy Framework for Compensation, Resettlement and Rehabilitation of Displaced Persons (RPF) for **Power Grid Improvement Project** of which implementation will start in the second half of 2015 in the Lao People's Democratic Republic. EDL has agreed to apply World Bank environmental and social safeguard policies in the design and implementation of this project, including OP 4.12, "Involuntary Resettlement". For this project, design and scheduling considerations make it impossible to determine the extent of resettlement planning requirements at appraisal.

This is also in line with Lao government law and regulation on compensation and resettlement. The RPF establishes principles and procedures to be followed if subsequent stages of project design or implementation are to cause land acquisition or other involuntary restrictions on access to land or other resources including voluntary land donation (VLD). In such instances, the RPF requires that a Resettlement Plan (RP) is prepared for World Bank review and approval. The RP ensures that any such potential impacts are minimized, and that any persons affected by such impacts are provided ample opportunity, through provision of compensation or other forms of assistance, to improve or at least restore their incomes and living standards. Additionally, the RPF provide guidance for cases that requires voluntary land donation (P-VLD).

Project Description

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 almost 25 percent at present.

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.

No land acquisition or physical relocation of existing residences is expected as construction work will be done on the existing power distribution infrastructure. However, a due diligence work is required to review in situ the power lines identified for rehabilitation, including access routes to associated facilities such as sub-stations, as relevant, for encroachments or other types of land use or informal land occupation which may hinder access to a safe working space or pose a safety risk to people living or working in the right-of-way. EDL will notify affected customers for any power cut requirements during project implementation in accordance with its established procedure

Policy Objectives and Key Definitions

OP 4.12 provides essential guidance on objectives and principles that are applicable in projects generating land acquisition and resettlement-related impacts. Key objectives and definitions are as follows:

Every reasonable effort will be made to avoid or minimize the need for land acquisition, and to minimize all resettlement-related adverse impacts. If land acquisition and associated adverse impacts cannot be avoided, the principle objective of the RPF is to ensure that all persons subjected to adverse impacts ("displaced persons" as defined below) are compensated at replacement cost (as defined below) for lost land and other assets and otherwise provided with any rehabilitation measures or other forms of assistance necessary to provide them with sufficient opportunity to improve, or at least restore, their incomes and living standards.

"Displaced persons" refers to all of the people who, on account of the activities listed above, would have their (1) standard of living adversely affected; or (2) right, title, interest in any house, land (including premises, agricultural and grazing land) or any other fixed or movable asset acquired or possessed temporarily or permanently; (3) access to productive assets adversely affected, temporarily or permanently; or (4) business, occupation, work or place of residence or habitat adversely affected; and "displaced person" means any of the displaced persons.

"Replacement cost" is the method of valuation of assets which determines the amount of compensation sufficient to replace lost assets, including any necessary transaction costs. Compensation at replacement cost is defined as follows: For agricultural land, it is the pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes. For land in urban areas, it is the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes. For houses and other structures, it is the market cost of the materials to build a replacement structure with an area and quality similar to or better than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes. In determining the replacement cost, depreciation of the asset and the value of salvage materials are not taken into account, nor is the value of benefits to be derived from the project deducted from the valuation of an affected asset. Where domestic law does not meet the standard of compensation at full replacement cost, compensation under domestic law is supplemented by additional measures so as to meet the replacement cost standard. Such additional assistance is distinct from resettlement measures to be provided under other clauses in OP 4.12, Para. 6.

"Land acquisition" is the process whereby a person involuntary loses ownership, use of, or aces to, land as a result of the project. Land acquisition can lead to a range of associated impacts, including loss of residence or other fixed assets (fences, wells, tombs, or other structures or improvements that are attached to the land).

"Voluntary Land Donation" is the process whereby a person voluntary donate small area of land which could be in permanent or temporary basis as a result of the project. VLD should include a clear process for the donation, and to prepare and maintain documents that demonstrate such process; this will allow the project avoid potential negative impacts.

"Rehabilitation" is the process by which displaced persons are provided sufficient opportunity to restore productivity, incomes and living standards. Compensation for assets often is not sufficient to achieve full rehabilitation.

"Cut-off Date" is the date prior to which the ownership or use establishes eligibility as displaced persons for compensation or other assistance. The cut-off date is established in

the RP. It normally coincides with the date of the census of Displaced Persons, or the date of public notification regarding the specific civil works that would cause displacement. Persons coming into the project area after the cut-off date are not eligible for compensation or other assistance.

Key Principles

World Bank's OP 4.12 establishes several key principles to be followed in resettlement planning and implementation. Of particular relevance for this RPF are the following:

a) Wherever possible, project designs and RPs should be conceived as development opportunities, so that displaced persons may benefit from the services and facilities created for, or by, project activities;
b) All displaced persons are entitled to compensation for lost assets, or to alternative but equivalent forms of assistance in lieu of compensation; lack of legal rights to the assets lost will not bar displaced persons from entitlement to such compensation or alternative forms of assistance;
c) Compensation rates as established in a RP refer to amounts to be paid in full to the individual or collective owner of the lost asset, without depreciation or deduction for taxes, fees or any other purpose;
d) When cultivated land is acquired, effort should be made to provide land-for-land replacement;
e) Replacement house plots, sites for relocating businesses, or replacement agricultural land should be of equivalent use value to the land that was lost;
f) The resettlement transition period should be minimized. Compensation for assets should be paid prior to the time of impact, so that new houses can be constructed, fixed assets can be removed or replaced, and other necessary mitigation measures can be undertaken prior to actual displacement;
g) Displaced persons are to receive support (direct assistance or allowances) to meet moving expenses or for temporary subsistence until they can resume productive activities;
h) Displaced persons should be consulted during the process of RP preparation, so that their preferences regarding possible resettlement arrangements are solicited and considered; RPs are publicly disclosed in a manner accessible to displaced persons;
i) The previous level of community services and access to resources will be maintained or improved after resettlement;
j) Responsibility must be clearly established for meeting all costs associated with land acquisition and resettlement, and for ensuring that sufficient funds are available as they become needed;
k) Clear institutional arrangements must be established to ensure effective and timely implementation of all resettlement and rehabilitation measures;
l) Adequate arrangements for effective monitoring will be made on implementation of all resettlement measures;
m) Methods by which displaced persons can pursue grievances will be established, and information about grievance procedures will be provided to displaced persons.

Lao PDR Legal and Regulatory Framework

The legal context in Lao PDR has been changing rapidly over the last few years. A Constitution was introduced in 1991, Forestry and Water Resources laws in 1996, and Land Law in 1997. While they are subject to interpretation, the various legislative initiatives provide a legal foundation for the consideration of resettlement and compensation. The policy is based on the following laws and decrees:

- Amended Electricity Law, No. 03/NA, dated 20 December 2011;
- Amended Law on Environmental Protection, No. 29/NA, dated 18 December 2012;
- Law on National Heritage, No. 08/NA, dated 9 November 2005;
- Amended Forestry Law, No 06/NA, dated 24 December 2008;
- Land Law, No 04/NA, dated 21 October 2003;
- Water and Water Resources Law, No 02-96/NA, dated 11 October 1996;
- Law on National Heritage, No. 08/NA, dated 9 November 2005;
- Road Law,No.04/99/NA, dated 3 April 1999;
- Law on Urban Plans (No. 03-99/NA, dated 3 April 1999);
- Decree on the Compensation and Resettlement of Development Projects, No 192/PM, dated 7 July 2005;
- Decree on Environmental Impact Assessment, No 112/PM dated 16 February 2010;
- Agreement on National Environmental Standards, No 2734/PMO.WREA dated 7 December 2009;
- Decree on the Compensation and Resettlement of Development Projects, No 192/PM, dated 7 July 2005;
- Decree and its Technical Guidelines on IEE Process for Development Projects, No. 8029/ MONRE, dated 17 December 2013;
- Decree and its Technical Guidelines on EIA Process for Development Projects, No. 8030/ MONRE, dated 17 December 2013;
- Regulation 1266/95 of MCTPC on Valuation of Vehicles, Houses, Built Structures and Household Facilities for Government Employees-Personnel.

Preparing and Approving RPs and VLD

For this project, overall responsibility for preparation and implementation of any necessary RPs including VLD rests with Electricité Du Laos. Other agencies or jurisdictional units with direct responsibility for acquiring land or implementing resettlement measures include provincial authority, MONRE. As relevant, Environmental Office of EDL will coordinate activities as necessary to ensure effective resettlement planning and implementation in a timely manner. (For VLD specific protocols will be followed, see Annex 5)

Once it is determined that land acquisition or any associated impacts is essential to complete any project activities, and once siting criteria establish the land area to be acquired, resettlement planning should begin. The project owner will carry out, or cause to be carried out, a census survey to identify and enumerate all displaced persons, and a socioeconomic survey to determine the range and scope of adverse impacts in the affected area. The census survey must cover 100% of the persons to be displaced; the socioeconomic survey may be undertaken on a sample basis. The surveys, which may be undertaken separately or simultaneously, determine whether a full RP or an "abbreviated" RP (as defined in OP 4.12, Annex A) is necessary. When the number of persons affected exceeds 200, a full RP is necessary. Where impacts on all displaced persons are relatively minor, or fewer than 200 people are affected, an abbreviated RP may be prepared.

Impacts are considered "minor" if the affected people are not physically displaced and less than 10% of their productive assets are lost.

If a RP is necessary, it will be prepared in accordance with the policy principles and planning and implementation arrangements set forth in this RPF. The RP is based on accurate baseline census and socioeconomic survey information, and establishes appropriate mitigation measures (e.g., compensation for assets, transitional assistance and economic rehabilitation assistance) as appropriate for all categories of adverse impacts. Depending on the categories of impacts, the RP specifically addresses the following:

a) Description of the activity causing land acquisition;
b) Range and scope of potential adverse impacts;
c) Socioeconomic survey and baseline census survey information;
d) Review of relevant laws and regulations relating to land acquisition and resettlement;
e) Specific compensation rates (or alternative measures) for all categories of affected assets;
f) Other measures, if any, necessary to provide opportunities for economic rehabilitation of displaced persons;
g) Eligibility criteria for compensation and all other forms of assistance;
h) Relocation arrangements, if necessary, including transitional support;
i) Site selection and site preparation, if necessary;
j) Restoration or replacement of community infrastructure and services;
k) Organizational arrangements for implementation;
l) Consultation and disclosure arrangements;
m) Resettlement implementation schedule;
n) Costs and budget;
o) Monitoring arrangements;
p) Grievance procedures;
q) Summary entitlements matrix.

If an abbreviated RP is to be prepared, it also must be based on principles and planning and implementation arrangements established in this RPF. An abbreviated RP normally includes the following contents:

a) A census survey of displaced persons and valuation of assets;
b) Description of compensation and other resettlement assistance to be provided;
c) Eligibility criteria;
d) Consultation and disclosure arrangements;
e) Organizational arrangements for implementation;
f) Time schedule and budget;
g) Monitoring arrangements;
h) Grievance procedures

Any RPs prepared in accordance with this RPF must be reviewed and approved by the Bank prior to awarding of contracts for the civil works causing the displacement.

If a voluntary land donation is to be prepared, it also must be based on principles and planning and implementation arrangements established in this RPF. A VLD process should include the following contents:

a) Initial assessment. Determining the appropriateness of VLD in the circumstances of the project.
b) Determining the appropriateness of VLD in the circumstances of the project.
c) Conduct a verification (surveys)
d) Disclosure and Consultation
e) Establish an informed consent
f) Documentation
g) Grievance Redress mechanism

Entitlement Policy

All displaced persons are eligible for compensation and/or other forms of assistance, as relevant to the nature of impacts affecting them. In general, people eligible for compensation would include those affected in the following ways:

Land to be permanently acquired for the project: This includes a) owners with formal legal title, b) land users eligible for formal legal title under Lao PDR law, and c) those residing on, or using, state land prior to an established cut-off date, usually the date of public notification regarding the specific civil works activity that would cause displacement. Displaced persons in categories a) and b) are entitled to compensation at replacement cost. In lieu of formal compensation, displaced persons in category c) are provided with alternative forms of assistance, in value equivalent to replacement cost.

Community compensation for distribution poles: Placement of distribution poles requires use of roughly .03m2 of land, making payment of compensation directly to individuals highly impractical. As is consistent with existing practice, EDL will provide, without charge, electrical hookups to one or more community facilities (e.g., school or temple) in lieu of individual-level compensation. This provision applies solely to land required for distribution poles. Without exception, full compensation at replacement cost remains necessary if land is taken for transmission towers or substations.

Loss of houses, other structures and fixed assets, including trees and standing crops: Owners of houses and other assets (regardless of whether they hold land title or building permits for structures erected prior to the cut-off date).

Losses associated with temporary impacts: This includes temporary loss of land, and transitional costs associated with moving, or disturbance to businesses during construction. Specifically, displaced persons will be entitled to the following types of compensation and rehabilitation measures:

1. Displaced persons losing agricultural land:

a. The preferred mechanism for compensation of lost agricultural land will be through provision of replacement land of equal productive capacity and satisfactory to the displaced person. If satisfactory replacement land cannot be identified, compensation at replacement cost may be provided;
b. Displaced persons will be compensated for the loss of standing crops at market price, for economic trees at net present value, and for other fixed assets (ancillary structures, wells, fences, irrigation improvements) at replacement cost;
c. Compensation will be paid for temporary use of land, at a rate tied to duration of use, and the land or other assets will be restored to prior use conditions at no cost to the owner or user;

2. Displaced persons losing residential land and structures:

a) Loss of residential land and structures will be compensated either in-kind (through replacement of house site and garden area of equivalent size, satisfactory to the displaced person, or in cash compensation at replacement cost;
b) If after partial land acquisition the remaining residential land is not sufficient to rebuild or restore a house of other structures of equivalent size or value, then at the request of the displaced person the entire residential land and structure will be acquired at replacement cost;
c) Compensation will be paid at replacement cost for fixed assets;
d) Tenants, who have leased a house for residential purposes will be provided with a cash grant of three months rental fee at the prevailing market rate in the area and will be assisted in identifying alternative accommodation.

3. Displaced persons losing business

a. Compensation for loss of business will involve, as relevant: (i) provision of alternative business site of equal size and accessibility to customers, satisfactory to the displaced business operator; (ii) cash compensation for lost business structures: and (iii) transitional support for loss of income (including employee wages) during the transition period.

4. Infrastructure and access to services

Infrastructure (such as water sources, roads, sewage systems or electrical supply) and community services (such as schools, clinics or community centers) will be restored or replaced at no cost to the communities affected. If new resettlement sites are established, infrastructure and services consistent with local standards will be provided at no cost to the relocated persons.

Rehabilitation Measures

Compensation may be sufficient to allow displaced persons to restore incomes if paid at replacement cost, assuming that replacement assets are available. Often, however, resettlement may require displaced persons to obtain new skills required for resuming production in a new environment, or to pursue new sources of income. The RP should assess the significance of impacts to be imposed on displaced persons, and provide measures to assist those significantly affected in adapting to new livelihood challenges.

Terms for participation in such measures, including training, extension services, or employment, along with responsibility for providing them, should be specified in the RP.

Consultation and Disclosure

To promote active project engagement and adaptation to changed living circumstances, displaced persons should be provided with opportunities to participate in planning and implementation. At minimum, displaced persons should be consulted on preferences and concerns during the resettlement planning process. All displaced persons are to be informed regarding potential impacts and proposed mitigation measures, including compensation rates. The RP will be disclosed, in a manner and location accessible to displaced persons while in draft, and subsequently disclosed again following finalization.

Implementation Arrangements

The RP reviews organizational arrangements, to ensure that implementation procedures are clear, that responsibility is clearly designated for provision of all forms of assistance, and that adequate coordination among all agencies involved in RP implementation is assured. The RP must include a detailed implementation schedule, linking the project construction timetable to resettlement-related activities. The implementation timetable should establish that compensation (in cash or in kind) should be completed at least one month prior to initiation of civil works, and at least three months before residential structures are demolished.

Costs and Budget

Each partial and full resettlement plan will include detailed cost of compensation and other rehabilitation entitlements and relocation of displaced persons, if that be the case, with a breakdown by agricultural land, residential land, business land, houses, businesses and other assets. The cost estimates will make adequate provision for contingencies. The resettlement plans will explicitly establish sources for all funds required, and will ensure that fund flow is compatible with the timetable for payment of compensation and provision of all other assistance.

Grievance Procedure

RPs will establish means for displaced persons to bring complaints to the attention of relevant project authorities. Grievance procedures should include reasonable performance standards, e.g., time required to respond to complaints, and should be provided without charge to displaced persons. The RP should also state other avenues available to aggrieved persons if the project-related procedures fail to resolve complaints.

Resettlement Monitoring

In addition to internal project monitoring arrangements, the project owner will ensure that RP implementation will be monitored by a qualified agency independent of project implementing agencies.

The RP should establish the scope and frequency of monitoring activities. External monitoring reports will be prepared for simultaneous submission to the project office and the World Bank.

Resolving Inconsistencies

As provided in legal documentation for the project, if there is any inconsistency between the laws and regulations of Lao PDR and this policy framework, the domestic law or regulation shall be waived to the extent necessary to achieve RPF requirements.

ANNEX 5:

Protocols for Voluntary Land Donation
For Power Grid Improvement Project

Protocols for Voluntary Land Donation

Rationale: VLD is the process whereby a person voluntary donate small area of land which could be in permanent or temporary basis as a result of the project. The Protocols for VLD details 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.

During project implementation, EDL will apply the following protocols:

1. ***Initial assessment. Determining the appropriateness of VLD in the circumstances of the project.*** For the installation of new poles; EDL will record and document by explaining the reasons of donation of land is appropriate for the project. EDL will take in consideration the following details for such documentation:
   - What the land will be used for;
   - How much land the project will require on both a permanent and temporary basis;
   - How much of the land will be donated;
   - What alternatives to donation exist (e.g., right of use, right of way);
   - The terms of the donation;
   - The identities of the parties who intend to donate;
   - The beneficiary of the donation; and
   - Any details that are relevant to why donation may be appropriate.

2. ***Transferring and formalizing the land.*** EDL process for land donation includes a very clear procedure that explains the process that should be followed to transfer the land, and appropriate ways to formalize the respective transfer; the process includes consideration of the legal and administrative requirements base on Lao's legal framework. The process will describe a clear decision making and transparent process.

3. ***Verification process (surveys) to identify land ownership and use.*** Given the specific issues surrounding land ownership and use, it is important that EDL carries out careful surveys to understand the type of land rights that exist in the project area, and to identify any particular issues relating to land ownership and use. Preliminary findings indicated (for the size of the land that will be donated 30X30 cm) that the land is under private landownership. Moreover, a more specific surveys under the due diligence must be conducted on each parcel of land proposed for donation to identify:
   - The owner or owners of the land;
   - The users of the land, or any parties that occupy the land (either physically or through ownership of an asset or conduct of livelihood or business activities on the land);
   - Any competing claims of ownership or use;
   - Structures and assets on the land;
   - Any encumbrances on the land.

   It is important to: (a) identify the right that is being transferred (an ownership right, a use right, a right of way, etc.); and (ii) check whether the transferee actually has the right s/he claims to have. In many circumstances where careful due diligence has not been carried out, significant conflict has arisen at a later stage when another party claims that they have the same or a competing right. In some circumstances –

but not all – the transferee will have documentary evidence of such right. Where no such evidence exists, the due diligence can establish rights by speaking with local community officials and neighbours.

4. ***Public Consultation and Disclosure.*** The decision to donate must be taken on the basis of a full understanding of the project and the consequences of agreeing to donate the land. Accordingly, the parties that will be affected by the donation (the owners and users of the land) must be provided with accurate and accessible information regarding what the land will be used for, for how long, and the impact the donation will have on them and their families. It is important that prior written notification indicating the location and amount of land that is sought be provided and that its intended use for the project is disclosed.

   Where the intention is to deprive the parties affected by the donation of the land permanently, or for a significant length of time, this must be made clear. It should be noted that in many communities the concept of alienation of land is uncommon and difficult to understand, and care needs to be taken to ensure that the implications of this are fully understood. It is also important to decide who else should be consulted about the proposed donation; for example, spouses and older children.

   There should be a clear agreement as to which party will pay the costs associated with the donated land. This could include measurement costs, documentation and notarial fees, transfer taxes, registration fees. It should also include the costs of re-measuring/re-titling the transferee's remaining land and any new documentation relating to it.

5. ***Establishing Informed Consent***
   It is crucial that the project team is confident that the decision to donate was taken in circumstances of *informed consent or power of choice.* As discussed earlier, this means being confident that the owner(s) or user(s) of the land understand:

   - What the land is going to be used for, by whom and for how long;
   - That they will be deprived of the ownership or right to use the land, and what this really means;
   - That they have a right to refuse to donate the land;
   - Whether there are alternatives to using this land;
   - What they will need to do to donate the land (e.g., execute documents, get spousal consents, pay taxes);
   - The effect of the donation on their family, and what they can do if they (or their family or heirs) want the land back.

   The right to refuse must be a legitimate right, unconditional, and the potential transferee must be capable of exercising it in the local community and political context. For this reason, it is important to be sure that the decision to donate is undertaken without coercion, manipulation, or any form of pressure on the part of public or traditional authorities. For collective or communal land, donation must be based upon the informed consent of all individuals using or occupying the land.

6. ***Proper Documentation.*** During the VLD process for new poles, it is important to distinguish between: (a) the agreement to donate the land; and (b) the document that carries out and evidences the legal transfer of the land. While it is important to have evidence of an intention and agreement to donate the land, it is equally important to ensure, where required and appropriate, that the land is legally transferred. While

the process relating to the legal transfer of the land is frequently complicated and time consuming, it must be addressed. [In specific circumstances, for example where the land is being transferred to the community, it may not be necessary to legally transfer the land. However, experience indicates that lack of formal transfer can create significant uncertainty in the future, which impacts on the sustainability of the infrastructure and services, and can have a negative effect on community relations.] **(see form 1 VLD, for reference)**

The project team should:

- Identify the appropriate documentation, including the agreement to make the transfer and any legal documentation that may be required;
- Ensure that the agreement:
  - Refers to the consultation has taken place;
  - Sets out the terms of the transfer;
  - Confirms that the decision to transfer was freely made, and was not subject to coercion, manipulation, or any form of pressure;
  - Attaches an accurate map of the land being transferred (boundaries, coordinates);
  - Sets out who will bear the costs of the transfer (e.g., notarial fees, taxes, title issues) and documenting the residual land rights;
- Ensure that all necessary parties sign the documents, including obtaining consent from spouses and children over a certain age;
- Ensure that the transfer and title is registered or recorded; and
- Ensure that the land remaining after the donated land is excised is properly titled, registered or recorded.

It is also important to maintain a record of the process that has been followed. Such documents could include the following:

- The notification indicating the location and amount of land that is sought and its intended use for the project, with a record of when and where this was made public;
- Records of the consultations that were held and what was discussed;
- A copy of the due diligence that was conducted;
- Copies of each of the formal statements of donation, establishing informed consent as described above, and signed by each owner or user involved;
- Copies of all documents, registrations or records evidencing the legal transfer of the land;
- A map, showing each parcel of land.

The project implementing agency should maintain a record with documentation for each parcel of land donated. Such documentation must be available for World Bank review, and for review in relation to any grievances that may arise.

Grievance Redress Arrangements. The project specifies means by which donors (and, potentially, persons whose use or occupancy was not recognized in the transfer of land) may raise grievances, and measures to ensure consideration of, and timely response to, grievances raised. The grievance process includes participation of reviewers not directly affiliated with the project implementing agency. The grievance process imposes no cost upon those raising grievances, and participation in the grievance process does not preclude pursuit of legal remedies under the laws of the country.

FORM 1: Voluntary Land Donation

Province:	
District:	
Kumban:	
Village:	
Sub-project ID:	
Name of CD:	

Name of land owner:	ID Number:		Beneficiary of the project: Y/N	
Sex:	Age:		Occupation:	
Address:				
Description of land that will be taken for the project:	Area affected:	Total landholding area:	Ratio of land affected to total land held:	Map code, if available:
Description of annual crops growing on the land now and project impact:				
	Details		Number	
– Trees that will be destroyed				
– Fruit trees				
– Trees used for other economic or household purposes				
– Mature forest trees				
– …				
Describe any other assets that will be lost or must be moved to implement the project:				
Value of donated assets:				
Will affected people need to be physically relocated?				

By signing or providing thumb-print on this form, the land user or owner agrees to contribute assets to the project. The contribution is voluntary. If the land user or owner does not want to contribute his/ her assets to the project, he or she should refuse to sign or provide thumb print, and ask for compensation instead.

Date:.....

Village Implementation Team representative's signature

Date:.....

Affected persons signature

(both husband and wife)

ANNEX 6:

EDL's Land Donation Procedures and
WB Voluntary Land Donation Guidance

EDL's Land Donation Procedures

(Following February Mission**)**

1. EDL Land Donation Process:

- Step 1: Conformation of Provincial and District multi-stakeholders committee;
- Step 2: Detail survey to identify the location of additional poles;
- Step 3: Official letter to inform the village head and villagers or land owner where additional pole to be installed will require land donation;
- Step 4: Village consultation. This step will proceed is under the leadership of the Village head
- Documentation: Template/Note on the land donation will be prepared for land owner, village head and EDL, as this project will be directly benefited to the people in the area, land donation for additional poles shall be volunteer donation;
- Step 5: EDL's Best practices or operational guidelines may be referred during lines upgrading and new poles installment, includes a planning and verification framework to ensure that any land donation is well-documented both in terms of its voluntary nature and the lack of any significant economic impact on villagers.

2. WB Voluntary Land Donation Guidance:

It is necessary to follow a clear process for the donation, and to prepare and maintain documents that demonstrate such process. Each step set out below should be addressed in the context of the project, and fully documented. Principles and procedures of voluntary land donations should be prepared base on this guidance.

1. *Determine and document that VLD is appropriate in the circumstances of the project.*

Base on the discussions with EDL; we confirm that VLD will be required. The consultant should record the reasons why it thinks that the donation of land is appropriate for the project. In certain cases, only some of the land the project requires will be donated or alternatives to land donation exist. The project team should identify (in as much detail as possible):

- What the land will be used for;
- How much land the project will require on both a permanent and temporary basis;
- How much of the land will be donated;
- What alternatives to donation exist (e.g., right of use, right of way);
- The terms of the donation;
- The identities of the parties who intend to donate;
- The beneficiary of the donation; and
- Any details that are relevant to why donation may be appropriate.

2. *Verify the requirements to transfer, and formalise the transfer of, the land*

It is important to understand the process that should be followed to transfer the land, and appropriate ways to formalize the transfer so as to achieve certainty for both the transferee of the land and the project. In many countries this will require consideration of the legal and administrative requirements but also, particularly in the case of customary land, local

and community processes. In some cases these will constitute two different but parallel (and overlapping) systems and a process will have to be established to ensure that the requirements of each system are satisfied. An important consideration will be how transparent the process and the decision making process actually is, and what can be done to enhance the process.

3. *Conduct a verification (surveys) on who owns and uses the land*

Given the specific issues surrounding land ownership and use, it is important that the consultant carries out careful surveys to understand the type of land rights that exist in the project area, and to identify any particular issues relating to land ownership and use. Preliminary findings indicated (for the size of the land that will be donated 30X30 cm) that the land is under private landownership. Moreover, a more specific surveys under the due diligence must be conducted on each parcel of land proposed for donation to identify:

- The owner or owners of the land;
- The users of the land, or any parties that occupy the land (either physically or through ownership of an asset or conduct of livelihood or business activities on the land);
- Any competing claims of ownership or use;
- Structures and assets on the land;
- Any encumbrances on the land.

It is important to: (a) identify the right that is being transferred (an ownership right, a use right, a right of way, etc.); and (ii) check whether the transferee actually has the right s/he claims to have. In many circumstances where careful due diligence has not been carried out, significant conflict has arisen at a later stage when another party claims that they have the same or a competing right. In some circumstances – but not all – the transferee will have documentary evidence of such right. Where no such evidence exists, the due diligence can establish rights by speaking with local community officials and neighbours.

4. *Disclosure and Consultation*

The decision to donate must be taken on the basis of a full understanding of the project and the consequences of agreeing to donate the land. Accordingly, the parties that will be affected by the donation (the owners and users of the land) must be provided with accurate and accessible information regarding what the land will be used for, for how long, and the impact the donation will have on them and their families. It is important that prior written notification indicating the location and amount of land that is sought be provided and that its intended use for the project is disclosed.

Where the intention is to deprive the parties affected by the donation of the land permanently, or for a significant length of time, this must be made clear. It should be noted that in many communities the concept of alienation of land is uncommon and difficult to understand, and care needs to be taken to ensure that the implications of this are fully understood. It is also important to decide who else should be consulted about the proposed donation; for example, spouses and older children.

There should be a clear agreement as to which party will pay the costs associated with the donated land. This could include measurement costs, documentation and notarial fees, transfer taxes, registration fees. It should also include the costs of re-measuring/re-titling the

transferee's remaining land and any new documentation relating to it.

5. ***Establishing Informed Consent***

It is crucial that the project team is confident that the decision to donate was taken in circumstances of *informed consent or power of choice.* As discussed earlier, this means being confident that the owner(s) or user(s) of the land understand:

- What the land is going to be used for, by whom and for how long;
- That they will be deprived of the ownership or right to use the land, and what this really means;
- That they have a right to refuse to donate the land;
- Whether there are alternatives to using this land;
- What they will need to do to donate the land (e.g., execute documents, get spousal consents, pay taxes);
- The effect of the donation on their family, and what they can do if they (or their family or heirs) want the land back.

The right to refuse must be a legitimate right, unconditional, and the potential transferee must be capable of exercising it in the local community and political context. For this reason, it is important to be sure that the decision to donate is undertaken without coercion, manipulation, or any form of pressure on the part of public or traditional authorities. For collective or communal land, donation must be based upon the informed consent of all individuals using or occupying the land.

6. ***Documentation***

It is necessary to distinguish between: (a) the agreement to donate the land; and (b) the document that carries out and evidences the legal transfer of the land. While it is important to have evidence of an intention and agreement to donate the land, it is equally important to ensure, where required and appropriate, that the land is legally transferred. While the process relating to the legal transfer of the land is frequently complicated and time consuming, it must be addressed. [In specific circumstances, for example where the land is being transferred to the community, it may not be necessary to legally transfer the land. However, experience indicates that lack of formal transfer can create significant uncertainty in the future, which impacts on the sustainability of the infrastructure and services, and can have a negative effect on community relations.]

The project team should:

- Identify the appropriate documentation, including the agreement to make the transfer and any legal documentation that may be required;
- Ensure that the agreement:
- Refers to the consultation has taken place;
- Sets out the terms of the transfer;
- Confirms that the decision to transfer was freely made, and was not subject to coercion, manipulation, or any form of pressure;
- Attaches an accurate map of the land being transferred (boundaries, coordinates);
- Sets out who will bear the costs of the transfer (e.g., notarial fees, taxes, title issues) and documenting the residual land rights;
- Ensure that all necessary parties sign the documents, including obtaining consent

from spouses and children over a certain age;
- Ensure that the transfer and title is registered or recorded; and
- Ensure that the land remaining after the donated land is excised is properly titled, registered or recorded.

It is also important to maintain a record of the process that has been followed. Such documents could include the following:

- The notification indicating the location and amount of land that is sought and its intended use for the project, with a record of when and where this was made public;
- Records of the consultations that were held and what was discussed;
- A copy of the due diligence that was conducted;
- Copies of each of the formal statements of donation, establishing informed consent as described above, and signed by each owner or user involved;
- Copies of all documents, registrations or records evidencing the legal transfer of the land;
- A map, showing each parcel of land.

The project implementing agency should maintain a record with documentation for each parcel of land donated. Such documentation must be available for World Bank review, and for review in relation to any grievances that may arise.

7. ***Grievance Arrangements***

The project specifies means by which donors (and, potentially, persons whose use or occupancy was not recognized in the transfer of land) may raise grievances, and measures to ensure consideration of, and timely response to, grievances raised. The grievance process includes participation of reviewers not directly affiliated with the project implementing agency. The grievance process imposes no cost upon those raising grievances, and participation in the grievance process does not preclude pursuit of legal remedies under the laws of the country.