LAO PEOPLE'S DEMOCRATIC REPUBLIC

PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY

Ministry of Energy and Mines

Electricite Du Laos **No.....……/EDL**

Vientiane Capital, Date……

Rural Electrification Project 2 (REP II)

On-grid component

Environmental Safeguards Operation Manual

March 2009

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List of Acronyms

ADB	Asian Development Bank
BOS	Branch Office Safeguard Staff
DOE	Department of Electricity
DECC	District Environment Coordination Committees
ESCBP	Environmental and Social Capacity Building Program
EMP	Environmental Management Plan
EDL	Electricite Du Laos
EFI	Environmental Field Inspector
EGAT	Electricity Generating Authority of Thailand
EGCO	Electricity Generating Public Company Ltd
EIA	Environmental Impact Assessment
ESOM	Environmental Safeguards Operations Manual
HQ EO	Head Quarter Environmental Office
FMECA	Failure Modes Effects and Criticality Analysis
GOL	Government of Lao PDR
IEE	Initial Environmental Examination
LV	Low Voltage Line
MEM	Ministry of Energy and Mines
MV	Medium Voltage Line
NGO	Non- Governmental Organization
NOL	No Objection Letter
PAP	Project Affected Persons
PEMU	Provincial Environmental Management Unit
PIU	Project Implementation Unit
PPAH	Pollution Prevention and Abatement Handbook (World Bank)
REP I	Rural Electrification Phase I
REP II	Rural Electrification Phase II
RFP	Request for Proposals
SIA	Social Impact Assessment
TOR	Terms of Reference
WB	World Bank
WREA	Water Resource and Environment Administration

1. Introduction and Environmental Consideration

1.1 REP II Program Level Environmental Consideration

The development of on-grid and off-grid components of the REP II would include MV and LV lines and SHS, Village Hydro, Biomass gasification, and Mini-Grid schemes. Land disturbance and environmental impacts associated with the development of both components are expected to be minimal. However, given the nation and approach of the development, environmental impacts cannot be fully defined from the start. Therefore, the development of the REP II will be designed in a manner such that environmental consideration is given at both the program and subproject levels.

At the program level, DOE and EDL has agreed to study and prepare Environmental Impact Assessment (EIA) for each scheme of the on-grid and off-grid component of the REP II. The EIA will be prepared in compliance with the country's Regulation of Environmental Assessment (2000) and draft Decree on the Assessment of Impact on Environmental and Society in Lao PDR (working draft 2008). The EIA will assess overall REP II impacts and identify whether environmental impact assessment is required at the subproject level. Based on experience from the REP I, environmental impacts for both the on-grid and off-grid components are expected to be minor and can be easily managed through good engineering designed and construction practices, as well as, simple easily performed good housekeeping measures during the implementation of subprojects.

At the subproject level, DOE and EDL has agreed to develop an Environmental and Social Safeguards Framework, including safeguard operations manuals for both components. On-Grid Environmental Management Framework

1.2 Objectives of ESOM REP II On-grid component

The objective of this Environmental Safeguards Operations Manual (ESOM) is to establish rules, processes and institutional arrangements to be utilized under this project with regard to identification, monitoring and mitigation of negative environmental and social impacts of project activities. Impacts which are common and typical for investment types under REP II on-grid component are described. Further the Manual provides an overview of the environmental legislation of Lao PDR, as well as World Bank requirements, and how they relate specifically to potential REP II impacts. The EMF establishes an approach for environmental management that meets the requirements of both Lao PDR laws and regulations, and the World Bank safeguards for a 'Category B' project.

Specifically, this ESOM provides detail procedures, documentation requirements and institutional responsibilities for:

- Project Identification;
- Environmental Screening;
- Environmental documentation;
- Review and approval;
- Consultation and disclosures;
- Monitoring and reporting;
- Project implementation; and
- Standard format of
  - Site Sensitivity Analysis
  - Environmental Screening and EMP/IEE Decision Template
  - Environmental Management Plan Template
  - Sample Mitigation and Monitoring Measures
  - Housekeeping measures

2. Subproject Descriptions and Potential Environmental Impacts

2.1 Subproject Descriptions

The development of the REP II on-grid component will consist of power supply installations with capacities of medium voltage (22kV) and low voltage (0.4kV) transmission and distribution lines respectively and/or transformers. The low voltage (LV) lines will be connected to individual households. The medium voltage (MV) lines will be designed to follow existing access road, wherever possible, and will be constructed in such a manner that local residents in villages through which the lines will pass have the potential for connections. Vegetation clearing will be conducted progressively along the medium voltage alignment as the construction proceeds. It is anticipated that vegetation and trees within 14 meters of right-of-way will be cleared. However, utilizing existing access road will mean that existing vegetation will likely be shrubs and bushed type vegetation and not dense and fertile type vegetation. Utilizing existing access road will minimizes the potential negative impacts of the project on environmentally sensitive areas. Environmental management plan (EMP) will be prepared in accordance with guidelines provided in this EMF in order to minimize any potential adverse environmental impacts.

Reinforced 12 meter concrete poles will be used for the MV lines and 8 meter concrete poles for the LV lines. During installation, one sixth of the LV and MV lines pole length will be buried underground. Poles will generally be spaced at a frequency of 14 poles per kilometre along existing roads and access ways, using land available within road corridors. Step-down voltage transformers will be placed on the same type of poles. The majority of the poles will be placed on government owned land, which has previously been cleared and set aside for public access. Some will be placed on privately owned lands, for which EDL will provide appropriate compensation. Compensation measures for the on-grid component of the REP II can be found in the on-grid's Resettlement Policy Framework (RPF).

2.2 Potential Environmental Impacts

The main potential environmental impacts associated with the development of the on-grid component of the REP II are expected to occur during the construction and operation and maintenance phases. Potential environmental impacts during these phases are summarized below and detail potential impacts and management measures can be found in Annex E.

Construction Phase

The main potential environmental impacts associated with the development of on-grid component are likely to occur during construction. These impacts can include:

- Elevated dust levels due to increase vehicles movement;
- Elevated noise levels due to construction and vegetation clearing activities;
- Environmental impacts associated with the establishment of construction camps including waste management and exploitation of forest resources;
- Impacts associated with land clearing, cutting and trimming of vegetation and trees for right-of-way, including erosion and sedimentation, fragmentation of wildlife habitat, and improper disposal of vegetation debris; and
- Permanent lost of land use where along the MV line alignment and particularly where MV pole to be placed.

Where possible, the alignment of the MV lines designed and constructed along existing roads. Therefore, no construction of new access roads is likely to be necessary. As a result, the impacts of the development of the on-grid component are expected to be relatively minor and mostly temporary in nature, and can be easily managed through good engineering design and construction practices, and easily performed good housekeeping measures during construction.

Operation and Maintenance Phase

The main potential environmental impacts during the operation and maintenance phase are likely to be associated with the annual vegetation clearance. These potential impacts, however, are expected to be minor and temporary in nature, but can include the disturbance of wildlife habitat, as well as, erosion and sedimentation. Through the implementation of good housekeeping and/or management measures, impacts during the operation and maintenance phase can be easily mitigated.

3. Mechanism to Satisfy Environmental Requirements

This framework integrates relevant environmental requirements of Lao PDR, as well as, the World Bank requirements for a 'Category B' project. These requirements can be found in Annex F – Legal Frameworks – of this document. By following these legal frameworks, it is believed that the development of the on-grid subproject will be carried out in a manner that will satisfy environmental requirements of the country and the Bank. The implementation structure of the on-grid ESOM is illustrated in **Figure 4.1**.

It should be noted that the Government of Laos is currently preparing a Decree on the Assessment of the Environment and Society in Lao PDR which expected to be approved in 2009. The Decree defines rules, regulations, procedures, processes and measures for assessing environment and social impacts, ensuring that all project and development activities, whether owned by the public or private sectors, are designed and managed in a manner that negative impacts are effectively prevented, minimized or mitigated. The approval of this Decree may mean that both the on-grid and off-grid components of REP II may be required to conduct environmental and social impact assessment at the subproject levels instead of the program level. In which case, Annex A – site sensitivity assessment – can be modified to be used as an Initial Environmental Examination (IEE) screening process of the subproject.

Figure 4.1: Outlines EDL's proposed environmental management implementation structure for on-grid subprojects under the REP II.

STEP 1	Discuss design of new district or village subproject with Planning Unit and Technical Unit	• Branch Office Safeguards Staff (BOS), assisted by Head Quarters (HQ) Environment Office (EO) if necessary • District Environment Coordination Committee (DECC)
STEP 2	Conduct site sensitivity screening for subproject. Is EMP screening necessary, based on results of site sensitivity analysis (Use Annex A)? YES: Go to step 3 NO: Perform housekeeping measures (see Annex C)	• BOS, in cooperation with DECC and the contractor, and assisted by HQ EO if necessary
STEP 3	Is EMP required? (Use decision table in Annex B) YES: Prepare EMP, including mitigation and monitoring plan (see Annex D) and continue with step 4. NO: Perform housekeeping measures (see Annex C)	• BOS, assisted by HQ EO if necessary
STEP 4	Conduct consultations with villagers, local governments and local NGOs, distribute information booklet, and include minutes in EMP	• BOS, in cooperation with DECC and the contractor, and assisted by HQ EO if necessary
STEP 5	Update EMP	• BOS, assisted by HQ EO if necessary
STEP 6	Review and approve EMP, and send EMP to the World Bank for no-objection.	• HQ EO
STEP 7	Disclose EMP to the affected villagers, at the relevant Branch Office and at HQ EO.	• BOS

3.1 Subproject Designing Phases

The EDL Branch Office Safeguards Staff (BOS) and the District Environment Coordination Committee (DECC), which is composed of relevant district and village authorities, are involved in the preliminary design of subprojects and participate in meetings with the BO-PIU planning and technical staff in this phase. The objective of the participation is to avoid, mitigate or minimize environmental and social impacts as much as possible. The participation of BOS and DECC during the preliminary design stage will also allow them to develop an early understanding of potential environmental and social impacts which will be valuable during the monitoring of construction and operation activities.

3.1.1 Environmetal Screenings

Environmental screening will be carried out in a "two-steps" process with an objective of eliminating unnecessary environmental screening for EMP. Site sensitivity screening will be used as a first screening step to identify whether an environmental screening for EMP is necessary for the subproject. Due to the nature and approach of the on-grid component development, it is anticipated that some subprojects may not require EMP, and that simple housekeeping measures maybe sufficient to effectively mitigate any potential environmental impacts that may occur. However, if the site sensitivity screening reveals that environmental screening for EMP is necessary, the BOS, together with DECC and the Contractor, will conduct a thorough environmental screening to identify whether an EMP is required for the subproject. Detail screening procedures, as well as, roles and responsibilities for each screening process are discussed below.

Site Sensitivity Screening

Site sensitivity screening for the on-grid component is a simple checklist developed to define the level of site sensitivity (low, moderate or high) of each subproject. Together with the DECC and the Contractor, the BOS is responsible for carrying out the site sensitivity screening. Site sensitivity screening will be carried out using available data and GIS mapping which can be carried out in each EDL Branch Office. In the event that no or little data is available, a visit to the subproject impacted area may be necessary. The BOS is required to fill out site sensitivity template (see Annex A) which has been divided into three sections based on sensitivity. The results of the screening will be used to determine whether an environmental screening for EMP is necessary. If the result of the screening reveal that the subproject impacted areas have moderate to high sensitivity, an environmental screening for EMP must be carried out (see below). On the other hand, if the result of the screening reveals that the subproject impacted areas have low sensitivity, no further screening will be required. The BOS must then carry out housekeeping measures to ensure that any potential environmental impacts are addressed (see Annex C). The BOS should request the assistance from the HQ EO during the screening if necessary.

Environmental Screening for EMP

The BOS, together with the DECC and Contractor, is responsible for the environmental screening of each subproject. The BOS, DECC and Contractor will be required to visit each subproject impacted areas, including villages, as well as, the alignment of MV and LV lines. The BOS fills out an environmental screening form, which describes potential environmental impacts of the subproject. Environmental screening for EMP template can be found in Annex B. Based on the result of the screening form, the BOS has to decide whether an Environmental Management Plan (EMP) is required. If EMP is required, The BOS must prepare EMP using template provided in Annex D. On the other hand, if EMP is not required, the BOS must carry out housekeeping measures (Annex C) to make sure that any potential environmental impacts are address.

Based on the nature of the development, it is anticipated that the majority of subprojects will not require EMP. The BOS should requests assistance from the HQ EO during the screening if necessary.

3.1.2 Environmental Management Plan (EMP)

The BOS is responsible for preparing EMP for each subproject. An EMP includes

- a description of potential environmental impacts and management measures;
- an implementation schedule coordinated with project design, bidding, construction and operation phases;
- an institutional responsibilities;
- a description of monitoring programs; and
- cost estimates and sources of funds.

Environmental Management Template found in Annex D can be used to prepare EMP. The BOS should request assistance from the HQ EO during the EMP preparation if necessary.

THE ACTIVITIES DESCRIBED BELOW ARE ONLY REQUIRED IF AN EMP IS REQUIRED

3.2 Subproject Preparation Phase

3.2.1 Consultation

The BOS, with help of the DECC and the contractor, announces, organizes, conducts and documents consultation meetings with affected individuals, villages, local authorities, community organization, and local NGOs in the project area. The purpose of these consultations is to obtain views of the local people, including of the vulnerable groups, concerning environmental and social issues related to the project which they feel are important, and to inform them about potential project impacts. The EMPs and grievance procedures are discussed. The BOS documents the comments and feedbacks in the minutes of the meeting. The BOS includes the minutes in the EMP. If necessary, the BOS can request assistance of the HQ EO.

The REP II safeguards booklets, which HQ EO will prepare before the start of the implementation of REP II, which include an overview of expected construction activities and impacts, compensation rights, compensation rates, and grievance procedures, will be distributed during consultations for reference to villagers.

3.2.2 Review and Approval

After consultations are completed and BOS has made revisions to the EMP, the HQ EO is responsible for the review and approval of the EMP. The HQ EO can either approve the EMP or provide comments requesting clarifications, revisions or additions from the BOS. After having approved the EMP, HQ EO will send the document to the World Bank for review and no-objection, prior to implementation of the subproject.

3.2.3 Disclosure

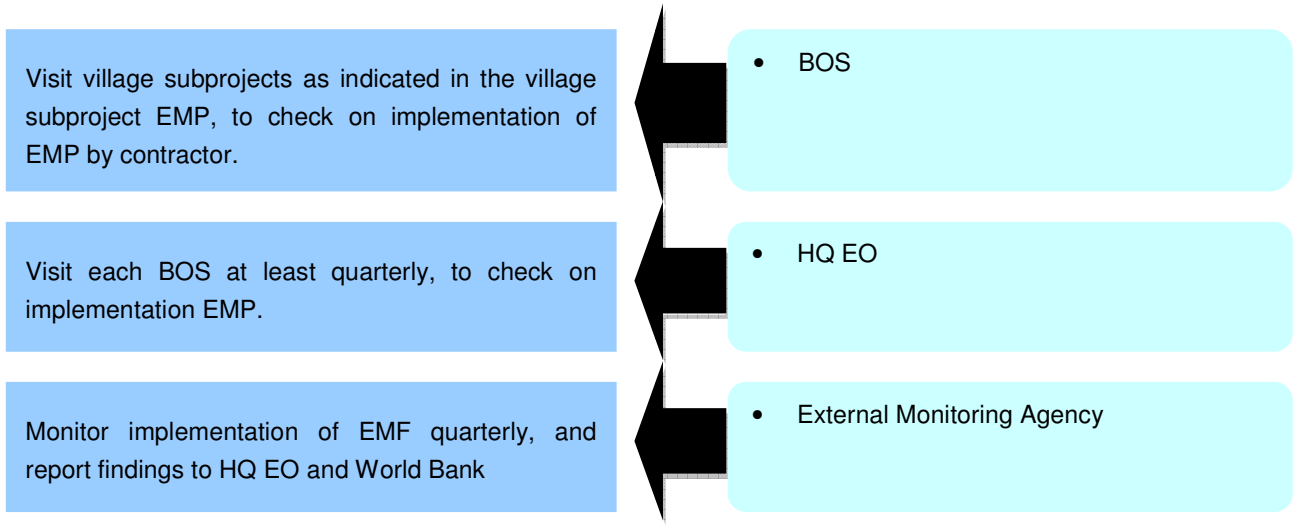
The HQ EO office is responsible for disclosing the EMF at the HQ EO office and all Branch Offices.

The BOS is responsible for disclosing the EMP to the affected villagers and both at the relevant Branch Office and the HQ EO. The approved EMP is to be placed in a public location convenient to the people living in or near the areas where the project is to be implemented or in the nearest local village.

3.3 Subproject Construction and Operation Phase

Following the requirements of the World Bank, during the project implementation, both internal and external environmental monitoring and evaluation exercises need to be carried out in order to monitor EMF and EMP implementation. The monitoring exercise will also allow the Bank to assess the adequacy of the management measures implemented to mitigate the adverse environmental impacts.

Figure 4.2: Monitoring during construction and Operation Phases



3.3.1 Internal Monitoring

The BOS is responsible for monitoring the construction work of the contractors. The BOS is required to visit project construction sites on a regularly basis, and is required to reports any findings in the Quarterly Report to the HQ EO.

The HQ EO is responsible for the monitoring and supervision of the provisions in the on-grid component EMF. The HQ EO is required to periodically review the activities undertaken by the BOS in the various Branch Offices. It is recommended that the HQ EO visits each Branch Office at least once every three month.

3.3.2 External Monitoring

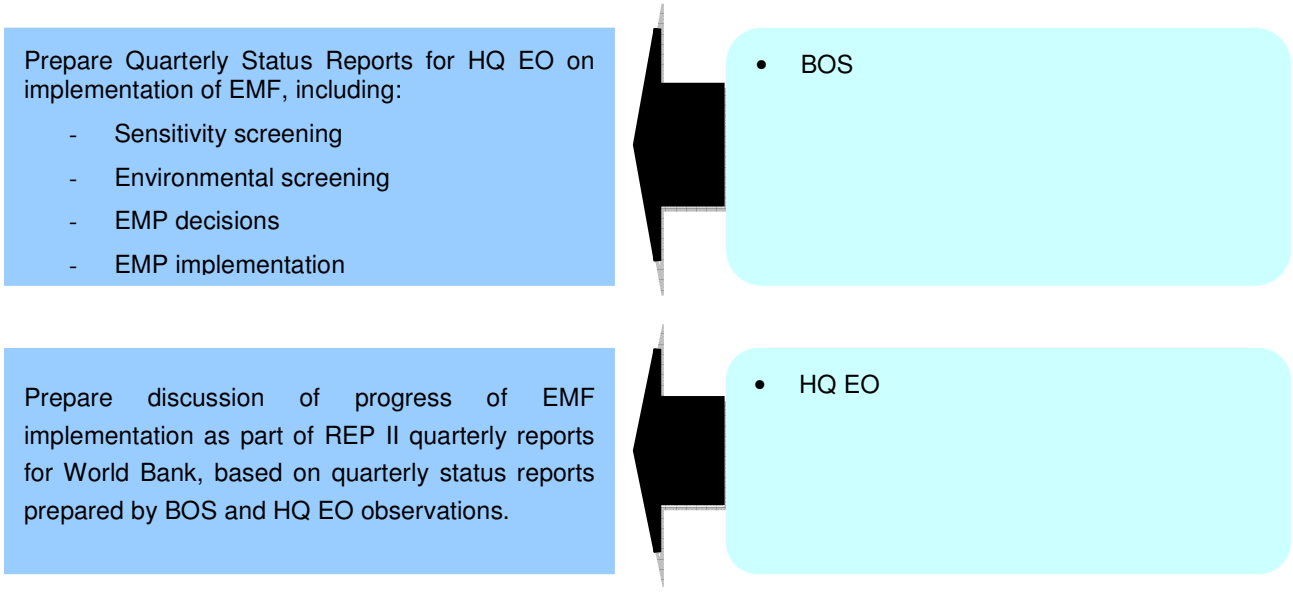
An External Monitoring Agency will be commissioned to monitor the implementation of the EMF on quarterly basis and report any findings to the HQ EO and to the World Bank. It randomly selects BOS and subprojects to visit. The External Monitoring Agency will monitor subprojects for which an EMP has been prepared more closely. The selected Agency needs to have extensive experience in environmental activities and/or monitoring of such activities.

3.4 Reporting

The BOS is responsible for preparing Quarterly Status Report on the implementation of the EMF. The Quarterly Status Report will include results of the site sensitivity and environmental screening, as well as, the results and the progress of the implementation of the EMP. The BOS is responsible for submitting the Quarterly Status Report to the HQ EO for review and approval. The HQ EO can either approve the report or provide comments requesting clarifications, revisions or additions from the BOS

Once the Quarterly Status Report has been approved, the HQ EO is responsible for preparing a REP II Quarterly Progress Report to the World Bank, detailing the results and progress of the EMF and EMP implementation. The information in the Quarterly Progress Report will be based on Quarterly Status Report and based on HQ EO observation during site inspection.

Figure 4.3: Reporting during All Phases



3.5 Grievance Mechanism

In order to address complaints and disputes in an effective and timely manner, a grievance mechanism will be set up and disclosed to project affected persons (PAP) before the commencement of the subproject development. Figure 4.4 below describes a grievance mechanism to be used for the on-grid component of the REP II Project.

According to Figure 4.4, a PAP or stakeholders can voice their complaints to the BOS directly. Once a complaint is received, the BOS, in consultation with the DECC, has the responsibility to response to the complaint. The BOS must provide a solution to the complaints within two weeks.

However, if agreement cannot be reached between the PAP and the BOS, the PAP can submit their complaints to the HQ EO. Once a complaint is received, the HQ EO has the responsibility to address to the complaint. The HQ EO must provide a solution to the complaint within two weeks.

After HQ EO has provided a solution, if the PAP still finds the solution provided by the HQ EO to be unacceptable, then the complaint can be submitted to the District Courts where final decision will be made.

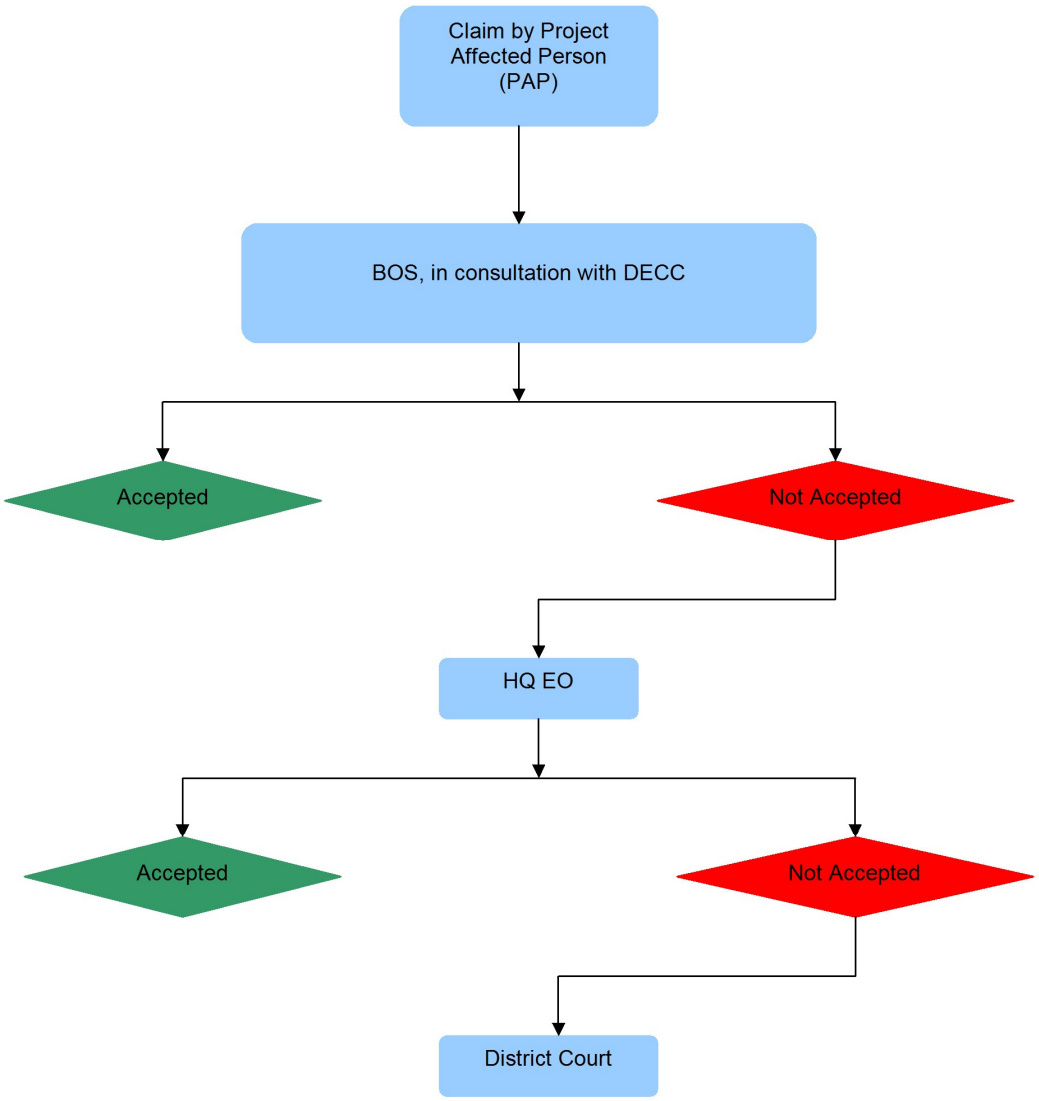


Figure 4.4: Grievance Procedure for the On-Grid Component of the REP II

4. Overview of Roles and Responsibilities for the implementation phases

EMF implementation responsibilities of each institution and unit associated with the development of Rural Electrification Phase II subprojects are outlined in Table 5.1 below. The table outlines responsibilities of EDL Head Quarter Environmental Office, EDL Branch Office, Contractors, District Environmental and Coordination Committee, District Court, World Bank and External Monitoring Agency.

Table 5.1: EDL grid component, responsibilities of institutions involved in implementation of the EMF

Institution	Unit	EMF Implementation Responsibilities
EDL Head Quarters	Environment Office (EO)	- Monitor and supervise implementation of the Environmental Safeguards Operations Manual (ESOM). - Translate ESOM to Lao language before the start of the REP II project. - Disclose ESOM at the HQ EO and all Branch Offices. - Prepare safeguards information booklet, before start of the REP II project. - Before implementation of ESOM, provide training and assistance on ESOM to the Branch Office Safeguards Staff (BOS), contractors, and District Environment Coordination Committees (DECC). During implementation, assess training needs and provide training. - Provide advice and support to BOS and DECC on taking part in project design, conducting environmental screening, deciding whether an EMP is required, in conducting consultation meetings, and in responding to complaints from villagers. - Review compliance with ESOM requirements of bidding documents and contracts with Contractors. - Prepare Quarterly Status Reports, based on progress reports from the BOS, as part of the quarterly reports to the World Bank. - Receive complaints (second instance) from PAPs or others, and respond with solution within two weeks. **ONLY IF EMP REQUIRED:** - Provide advice and support to BOS in preparing EMPs. - Review and approve EMPs, and obtain no-objection from the World Bank. - During construction and operation of projects, check performance of BOS and implementation of the ESOM periodically, and visit each Branch Office at least every three months. - Prepare discussion of progress of ESOM implementation as part of REP II quarterly reports for World Bank, based on quarterly status reports prepared by BOS and own observations.
	REP II Project	- In discussion with HQ EO, include environmental requirements in bidding documents and contracts with contractors.

EDL Branch Offices	Branch Offices Safeguards Staff (BOS)	- Together with DECC, take part in discussions about district subproject design with the planning and technical staff; if necessary with assistance of the HQ EO. - Together with the DECC and contractor, conduct site sensitivity screening and decide whether an environmental screening for EMP is required; if necessary seek assistance of the HQ EO. - Together with the DECC and contractor, conduct environmental screening, and decide whether an EMP is required; if necessary seek the assistance of HQ EO. - Receive complaints (first instance) from Project Affected Persons (PAP) or others, and respond with solution within two weeks, in consultation with the DECC. - Send Quarterly Status Reports, describing the progress in implementation of the ESOM, including during the design phase, and during the construction and operation phase (monitoring) to the HQ EO. **ONLY IF EMP REQUIRED:** - Prepare and update EMP; if necessary with assistance of the HQ EO. - Together with the DECC and the contractor, organize and conduct consultation meetings with villagers, local NGOs, and local authorities, during which the information booklet is made available. Prepare minutes and include these in the EMPs. - Disclose EMP at affected villages, at the Branch Office, and at HQ EO. - Monitor construction work by Contractors. Visit project sites as indicated in the EMP for each village subproject. **ONLY IF EMP IS NOT REQUIRED:** - Prepare environmental housekeeping measure; if necessary seek the assistance of the HQ EO. - Monitor the implementation of environmental housekeeping measures by the Contractor
	Project Implementation Unit (PIU)	- Invite BOS and DECC to discussions about district subproject design.
Contractors		- Provide bidding documents in compliance with the ESOM. - Work with the BOS and DECC on environmental screening. **ONLY IF EMP REQUIRED**: - Work with the BOS and DECC to conduct consultation meetings for villagers, NGOs and local authorities. - Conduct construction and maintenance activities in compliance with the ESOM and EMPs. **ONLY IF EMP IS NOT REQUIRED:** - Implement environmental housekeeping measures as recommended by the BOS.

District Environmental Coordination Committee (DECC)	- Together with BOS, participate in meetings with BO-PIU technical and planning staff on preliminary design of district subprojects. - Work with the BOS and the contractor to conduct the environmental screening. **ONLY IF EMP REQUIRED:** - Work with the BOS and the contractor to conduct consultation meetings for villagers, NGOs and local authorities. - Receive complaints (first instance) from PAPs or others, and respond with solution within two weeks.
District courts	- Receive complaints (last instance) from PAPs or others.
World Bank	- Review quarterly reports provided by the HQ EO. - Review and provide no-objection to EMPs.
External Monitoring Agency	- Monitor implementation of the ESOM and EMPs quarterly. - Provide quarterly report to the EDL EO and the World Bank.

5. References

Decon (2004), Evaluation of Rural Electrification, Socio-Economic Survey, Establishment of Database for Rural Electrification Planning in Lao PDR.

Ministry of Health (2003), Statistic of Electricity Consumption in the Year 2002. Vientiane, Lao PDR.

World Bank (2006), Environmental Assessment and Environmental Management Plan of the Rural Electrification (Phase I) Project in Lao PDR.

World Bank (2006), Project Appraisal Document of the Rural Electrification (Phase I) Project in Lao PDR.

ANNEX A: SITE SENSITIVITY ANALYSIS

Site No.:	
Site Name:	

Site Sensitivity	Description	Yes (Please tick √)
High	National Biodiversity Conservation Areas (National Protected Area)	
	Sensitive or critical ecosystems (wetlands, endanger wildlife habitat, wildlife breeding area)	
	Area with high degree of environmental degradation (high degree of deforestation and hunting)	
	Area with high forest fire potential (Pine forest particularly sensitive)	
	High potential for erosion (steep slopes > 35%, instable soil, important natural drainage system)	
	High risk of flooding (large watershed, drainage problems, low lying, flooding frequency < 5 years)	
	High risk for water pollution (river stream close to site, water used downstream)	
	Cultural/Historical interest areas (objects identified within or next to site)	
	High safety risk (Area known to have UXO incident)	
Medium	Buffer areas of the National Biodiversity Conservation Areas	
	Moderate sensitive ecosystems (areas known to have wildlife)	
	Moderate degree of environmental degradation (medium degree of deforestation and hunting)	
	Moderate erosion potential (15 to 35% slope)	
	Moderate risk of flooding (flooding frequency of between 5 to 10 years)	
	Presence of cultural/historical interest areas/objects < 500 meters from the project areas	
	Moderate safety risk (areas known to have UXO, but no incident have been observed)	
Low	Intervened areas outside of National Biodiversity Conservation Areas or buffer areas	
	Low biodiversity and ecological values	
	Low degree of environmental degradation (low degree of deforestation and hunting)	
	Low risk of erosion (slope < 15%)	
	Low risk of flooding (no flooding incident)	
	Absence of cultural and historical areas or objects	
	Low safety risk (areas known to have no UXO)	

EMP Screening Decision

- If there is any √ on the high and medium sensitivity, environmental screening for EMP must be carried out. Please refer to **Annex B.**
- If the subproject has low site sensitivity, environmental screening for EMP is not necessary. Proceed to **Annex C** and prepare environmental housekeeping measures.

	YES	NO
Based on the site sensitivity analysis, does the subproject require environmental screening for EMP? (please √ on "YES" or "NO" to the right)		

ANNEX B: EMP SREENING FOR REP II ON-GRID COMPONENT

Name of Subproject	
Subproject Number	
Date of Assessment	
Checklist Assessed by	
Checklist approved by	
Development status. Please tick right answer (√)	☐ Feasibility and Design Phases ☐ Construction Phase ☐ Operation and Maintenance Phases

1. Description of Potential Impacts

Potential Environment Impacts	Scale of impact, chose alternative: A) no impact; B) minor impact; C) medium impact D) significant impact; Please circle correct alternative A, B, C or D.	Description of impacts: I) **What** could the impacts of the project be? II) **Where** along the alignment could the impacts happen? III) What **kind of problems** could this lead to?	Suggested mitigation measures: I) How can the impact be prevented or minimised? II) Who should be responsible for taking action? *(Refer to sample measures in ESOM)*
EXAMPLE OF HOW TO FILL	A) no impact	**I) What impact?**	**I) How to minimize?**

IN FORM: Significant disturbance of nearby communities during construction (noise/vibration and dust) from on-going works and transports using heavy vehicles and machines.	B) minor impact C) medium impact D) significant impact	*Heavy trucks driving on dusty road to supply construction materials. Will cause dust, noise and vibration.* **II) Where?** *Road between Ban Ilay and Ban Sivilay.* **III) What kind of problems?** *Villagers disturbed, dust can cause respiratory problems.*	*Watering road* **II) Who is responsible?** *Contractor*
Impact on terrestrial vegetation, forest resources and protected areas, including village, district, provincial and national protected areas	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?
Increase erosion and sedimentation runoff during subproject construction	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?

Accidental release of oil or hydrocarbons into downstream waterways	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?
Noise impact on adjacent villages	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?
Elevated dust levels due to construction activities	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?

Increase solid waste volume	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?
Impact associated with leakage and spillage of hazardous waste and materials including PCBs	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?
Large amount of vegetation debris	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?

Potential disturbance of sites or artifacts of archaeological or cultural significance during land clearance	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?
Interference with local aesthetic characteristics	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?
Potential environmental impacts associated with the establishment of construction camp site	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?

Possible impact to public health due to UXO clearance	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?
Worker occupational health and safety during construction activities	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?
Road and traffic safety	A) no impact B) minor impact C) medium impact D) significant impact	I) What impact? II) Where? III) What kind of problems?	I) How to minimize? II) Who is responsible?

2. Decision table: Is there a need for EMP?			
Are there any potential minor, medium or significant impacts?	***Please count the number of 'Bs' in the whole of section 1 above.***	***Please count the number of 'Cs' in section 1 above.***	***Please count the number of 'Ds' in section 1 above.***
	No of Bs:_____	No of Cs:_____	No of Ds:_____
Does the project require an EMP? • ***If there are any Bs, Cs or Ds in section 1, the project will require an EMP (Please refer to Annex D for EMP Template)*** • ***If there are only As in Section 1, EMP is not required, but housekeeping measures must be implemented (Please refer to Annex C)***	☐ YES, EMP required (Mark √) ☐ NO, EMP not required (Mark √)	Key issues to consider in the EMP:	

ANNEX C: HOUSEKEEPING MEASURES

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
Feasibility and Design	Impact on terrestrial vegetation, forest resources and protected areas, including village, district, provincial and national protected areas	As much as possible, MV and LV lines should follow existing rights-of-way, and avoid environmentally sensitive areas	BOS DECC	HQ EO	N/A
	Increased erosion and sediment transport during subproject construction	Schedule construction activities during the dry season (low rainfall)	BOS DECC	HQ EO	N/A
	Noise impact on adjacent villages	Avoid schedule construction activities between 8:00 PM and 6:00 AM	BOS	HQ EO	N/A
	Potential disturbance of sites or artifacts of archaeological or cultural significance during land clearance	Conduct consultations with local authorities to identify sites or artifacts of archaeological or cultural significance	BOS/DECC Contractor	HQ EO	N/A
Construction	Impact on terrestrial vegetation, forest resources and protected areas, including village, district, provincial and national protected areas	If new access road is unavoidable, tree cutting, environmentally sensitive areas and productive land should be avoided as much as possible	BOS DECC	HQ EO	At least once during construction
		Minimize the amount of land cleared for the subproject	Contractor	BOS	During clearing activities
		Avoid clearance of mixed deciduous forest wherever possible	Contractor	BOS	During clearing activities
	Increased erosion and sediment transport during subproject construction	Minimize the areas of land cleared for subproject construction work, and retain vegetation in suitable locations (e.g. riparian) to maximize filtration of sediment from turbid runoff, during and after construction	Contractor	BOS	At least one per month

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
	Accidental release of oil or hydrocarbons into downstream waterways	Store liquid hydrocarbons (fuels, oils and lubricants) in leak-proof containers within suitably designed bunded areas	Contractor	BOS	At least once during construction
		Prohibit vehicle washing and cleaning in waterways	Contractor	BOS	At least one per month
	Noise impact on adjacent villages	Limit construction hours for specific pieces of equipment to day time hours	Contractor	BOS/DECC	At least one per month
		If evening construction activities are unavoidable, local affected people should be consulted at least one week in advance of the proposed activities	Contractor	BOS/DECC	Prior to construction
		Reduce project traffic routing through community areas wherever possible	Contractor	BOS/DECC	At least one per month
	Elevated dust levels	Minimize disturbed areas	Contractor	BOS	At least one per month
		Limit vehicle speed in village areas to minimize dust disturbance on roadside villages	Contractor	BOS/DECC	At least one per week during construction
	Large amount of vegetation debris	Minimize vegetation clearance	Contractor	BOS	At least one per month
	Potential disturbance of sites or artifacts of archaeological or cultural significance during land clearance	Minimize area disturbed during land clearing activities	Contractor	BOS	At least one per month
	Interference with local aesthetic characteristics	As much as possible, MV and LV lines should follow existing rights-of-way, and avoid disturbing additional areas	Contractor	BOS	At least one per month
		Leave vegetation buffer between roads and disturbed areas	Contractor	BOS	At least one per month

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
	Possible impact to public health due to UXO clearance	Only appropriate qualified organization will be engaged to undertake search and disposal of UXO in areas where activities are to take place.	Contractor	BOS/HQ EO	Prior to construction
	Worker occupational health and safety during construction activities	Provide safety induction training to all personnel	Contractor	BOS	Prior to construction
		Provide appropriate personal protective equipment (PPE) to all relevant employees in accordance with good international industry practices	Contractor	BOS	At least one per month
		Put in place procedures for recording and reporting of all near misses, lost time incidents and major incidents including calculation of severity rate and frequency rate	Contractor	BOS	At least one per month
		Put in place standard work/operational control procedures for activities that expose workers to hazardous conditionsl	Contractor	BOS	Prior to construction
		Put in place a procedure for periodic safety audit of subproject sites and implementation of corrective action based on the audit findings	BOS	Technical Safety	At least one per quarter
		Reporting of consolidated occupational health and safety performance to Senior Management	BOS	Technical Safety	At least one per quarter
	Security Personnel Procedure	Screening of past records of security personnel employed	Contractor	BOS	Prior to award of contract
		Laying out clear objectives and permissible actions for security personnel	Contractor	BOS	Prior to award of contract
		Training of security personnel in use of fire arms and handling various situations with clear procedures, specific dos and don'ts are laid out to avoid human right violations	Contractor	BOS	Prior to award of contract
		Recording of security incidents, investigation and implementation of corrective action	Contractor	BOS	Prior to award of contract and at least once per month during construction
		Bonafide complaints against security personnel are investigated/disciplinary actions implemented	Contractor	BOS	Prior to award of contract and at least once per

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
					month during construction
		A grievance mechanism is in place for aggrieved members of community or employees, in the event of a violation of the code for security personnel	Contractor	BOS	Prior to award of contract and at least once per month during construction
	Labor Camp/Worker Accommodation	Ensure living quarters have basic amenities (refer to guidance on Worker Accommodation) and electricity;	Contractor	BOS	At least one per month
		Provide canteen/mess facilities for food and where labor desires self cooking, provision of LPG for cooking;	Contractor	BOS	At least one per month
		Provide drinking water which meets host country potable water norms;	Contractor	BOS	At least one per month
		Provide toilets and bath including separate toilets and baths for women family members of workmen;	Contractor	BOS	At least one per month
		Provide primary medical facilities	Contractor	BOS	At least one per month
		Put in place garbage segregation, collection and disposal/composting facilities	Contractor	BOS	At least one per month
		Put a sewage collection and treatment system in place such that treated sewage meets WBG norms	Contractor	BOS	At least one per month
	Road and traffic safety	Limit vehicle speed in village areas to minimize accidental risk on roadside villages	Contractor	BOS/DECC	At least one per month
		All drivers must be fully qualified for the class of vehicle being operated	Contractor	BOS	At least one per month
		All drivers must adhere to Lao national road safety regulations and those regulations developed specifically for the subproject.	Contractor	BOS/DECC	At least one per month
Operation and maintenance	Impact on terrestrial vegetation, forest resources and protected areas, including village, district, provincial and national protected areas	Minimize the amount of land cleared for the subproject during maintenance	Contractor	BOS	At least one per week during maintenance

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
		Avoid clearance of mixed deciduous forest wherever possible	Contractor	BOS	At least one per week during maintenance
	Large amount of vegetation debris	Minimize vegetation clearing during maintenance	Contractor	BOS	At least one per week during maintenance
	Community Health and Safety	Put in place a structured awareness program on electrical safety for communities resident in the vicinity of EDL's transmission and distribution system	BOS	Technical Safety	Quarterly
	Worker occupational health and safety during construction activities	Provide safety induction training to all personnel	Contractor	BOS	Prior to construction
		Provide appropriate personal protective equipment (PPE) to all relevant employees in accordance with good international industry practices	Contractor	BOS	At least one per month
		Put in place procedures for recording and reporting of all near misses, lost time incidents and major incidents including calculation of severity rate and frequency rate	Contractor	BOS	At least one per month
		Put in place standard work/operational control procedures for activities that expose workers to hazardous conditions	Contractor	BOS	Prior to construction
		Put in place a safety committee comprised of worker representatives and managers	BOS	Technical Safety	Committee to meet at least quarterly
		Put in place a procedure for periodic safety audit of subproject sites and implementation of corrective action based on the audit findings	BOS	Technical Safety	At least one per quarter
		Reporting of consolidated occupational health and safety performance to Senior Management	BOS	Technical Safety	At least one per quarter

ANNEX D: ENVIRONMENTAL MANAGEMENT PLAN (EMP) TEMPLATE

Date of preparation of EMP: _____

Name of BOS preparing EMP: _____

Name of village subproject: _____

Subproject No.: _____

Project description:

(Present a brief description of the village subproject. Include the number of 12 meter and 8 meter poles and total length of MV and LV lines, the location, and any characteristics of the area that are of particular interest; e.g. near a protected area, area of cultural, historical, religious interest. Also, very briefly describe land general land use characteristics (rice paddies, gardens, scrub land, small industry etc.

_____
_____
_____
_____
_____

Map of subproject:

(Include map showing village subproject design).

Consultations with project affected persons, local NGOs and local authorities:

Date of consultation meeting: _____

BOS leading consultation meeting: _____

Other EDL staff participating: _____

DECC representative participating: _____

Contractor representative participating: _____

Persons attending the consultation meetings		
Name	**Organization and Position**	**Tel. or email address**

Summary of project minutes:

(Comments, question and responses by presenters; agreed actions)

_____

_____

_____

_____

_____

MITIGATION AND MONITORING PLAN

(see Annex E for potential mitigation and monitoring measures)

Potential Environmental Impact & Phase (copy from Environmental Screening Form)	**Mitigation Measure and Action Required**	**Implementing Schedule**	**Implementing Responsibility**	**Monitoring Schedule**	
Feasibility and design phase					
Construction phase					
Operation and Maintenance phase					

Institutional arrangements EMP implementation:

(Describe how monitoring data is going to be used to maintain sound environmental performance. Include information on who will collect data, who will analyze the data, who prepares monitoring reports for the HQ EO., who has the authority to change operations or to stop constructions if violation with EMP occurs. The information in this section should be similar to the information in the Mitigation and Monitoring Plan.

_____
_____
_____
_____
_____

ANNEX E: POTENTIAL ENVIRONMENTAL MANAGEMENT AND ENHANCEMENT MEASURES – REFERENCE RESOURCE FOR DEVELOPING EMP

This annex outlines the proposed environmental management measures for potential impacts of the subprojects under the REP II. The objective of the table is for each potential impact, to identify key environmental management measures that could be implemented during design, construction and operation phases of each subproject. The table designates implementation and monitoring responsibilities for the proposed measures.

Annex E should be used as a reference resource for developing EMPs for sub-projects.

Table E.1: Summary of potential environmental impacts and management and enhancement measures.

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
Feasibility and Design	Impact on terrestrial vegetation, forest resources and protected areas, including village, district, provincial and national protected areas	As much as possible, MV and LV lines should follow existing rights-of-way, and avoid environmentally sensitive areas	BOS DECC	HQ EO	N/A
		Identify sensitive habitats and important NTFP areas close to construction areas and designate these as 'no go' areas	BOS DECC	HQ EO	N/A
	Increased erosion and sediment transport during subproject construction	Schedule construction activities during the dry season (low rainfall)	BOS DECC	HQ EO	N/A
	Noise impact on adjacent villages	Develop a mechanism to record and respond to noise related complaints	BOS	HQ EO	N/A
	Potential disturbance of sites or artifacts of archaeological or cultural significance during land clearance	Conduct consultations with local authorities to identify sites or artifacts of archaeological or cultural significance	BOS/DECC Constractor	HQ EO	N/A
		Prior to construction activities, sites or artifacts of archaeological or cultural significance will be identified in the Environmental Management Plan and the necessary control measures established in consultation with villagers and relevant government authorities to avoid their disturbance	BOS/DECC	HQ EO	N/A
		Develop a Chance Find Procedure for previously unidentified PCR	BOS	HQ EO	N/A

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
	Possible impact to public health due to UXO clearance	Conduct UXO safety risk assessment prior to the start of any construction; if the construction areas are known to have UXO risk, UXO surveys will be carried out prior to the commencement of construction activities.	BOS/DECC	HQ EO	N/A
Construction	Impact on terrestrial vegetation, forest resources and protected areas, including village, district, provincial and national protected areas	If new access road is unavoidable, tree cutting, environmentally sensitive areas and productive land should be avoided as much as possible	BOS DECC	HQ EO	At least once during construction
		Minimize the amount of land cleared for the subproject	Contractor	BOS	During clearing activities
		Avoid clearance of mixed deciduous forest wherever possible	Contractor	BOS	During clearing activities
		Prohibit staff and contractors from hunting or trading of wildlife as well as the collection of timber and NTFPs	Contractor	BOS	At least one per month
		Minimize project-related in-migration to the subproject area to minimize exploitation of forest resources and wildlife	Contractor	BOS	At least one per month
	Increased erosion and sediment transport during subproject construction	Minimize the areas of land cleared for subproject construction work, and retain vegetation in suitable locations (e.g. riparian) to maximize filtration of sediment from turbid runoff, during and after construction	Contractor	BOS	At least one per month
		Monitor land clearance activities throughout the construction phase to ensure that vegetation is not cleared beyond pre-defined project boundaries	BOS DECC	HQ EO	At least one per month
		Install drainage control structures at suitable locations to divert clean runoff away from disturbed land surfaces	Contractor	BOS	At least one per month
		Install erosion and sediment control structure such as silt fences and sediment ponds at suitable locations to filter or collect eroded sediments from turbid runoff, where necessary	Contractor	BOS	At least one per month

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
	Accidental release of oil or hydrocarbons into downstream waterways	Store liquid hydrocarbons (fuels, oils and lubricants) in leak-proof containers within suitably designed bunded areas	Contractor	BOS	At least once during construction
		Provide temporary shelters to prevent rainfall entering bunded areas.	Contractor	BOS	At least once during construction
		Store spill response kits at suitable locations, in case of spills outside bunded areas	Contractor	BOS	At least once during construction
		Conduct regular maintenance of vehicles and equipment to prevent hydrocarbon leaks	Contractor	BOS	At least one per month
		Conduct vehicle / equipment maintenance in designated areas where contaminated runoff can be contained.	Contractor	BOS	At least one per month
		Prohibit vehicle washing and cleaning in waterways	Contractor	BOS	At least one per month
	Noise impact on adjacent villages	Limit construction hours for specific pieces of equipment to day time hours	Contractor	BOS/DECC	At least one per month
		If evening construction activities are unavoidable, local affected people should be consulted at least one week in advance of the proposed activities	Contractor	BOS/DECC	Prior to construction
		Select equipment with lower sound power levels	Contractor	BOS/HQ EO	Prior to construction
		Install suitable mufflers on engine exhausts	Contractor	BOS	Prior to construction
		Reduce project traffic routing through community areas wherever possible	Contractor	BOS/DECC	At least one per month
	Elevated dust levels	Minimize disturbed areas	Contractor	BOS	At least one per month
		Sprinkle/spray disturbed areas with water, particularly during hot, dry and windy conditions	Contractor	BOS	At least one per week during construction

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
		Restriction of construction activities on high wind days	Contractor	BOS	At least one per week during construction
		Limit vehicle speed in village areas to minimize dust disturbance on roadside villages	Contractor	BOS/DECC	At least one per week during construction
	Increased solid waste volumes	Minimize the production of solid wastes	Contractor	BOS	At least one per month
		Segregating different waste streams to enable recovery of recyclables	Contractor	BOS	At least one per month
		Properly dispose of non-hazardous waste in designated waste pit located above the water table and at least 50 m from any water body and covered with at least 30 cm of earth every time dispose	Contractor	BOS	At least one per month
		Only combustible solid waste may be burnt within designate pits; burning of waste must be supervised at all times	Contractor	BOS	At least one per month
		No waste materials will be disposed above ground	Contractor	BOS	At least one per month
	Impact associated with leakage or spillage of hazardous materials and wastes including PCBs	Segregating hazardous waste from other waste materials	Contractor	BOS	At least one per month
		Hazardous materials storage areas must meet the following standards: 1. Located at least 50 m from any water body 2. Liquids to be stored in securely sealed containers, within a bunded area at least twice the volume of the largest container 3. Solid hazardous wastes to be stored in covered, securely sealed containers 4. Check storage containers regularly for signs of leakage or damage. 5. Label all containers clearly as "HAZARDOUS"	Contractor	BOS	At least one per month
		All hazardous waste must be removed from the subproject areas once construction activities completed	Contractor	BOS	At least one per month

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
		Any hazardous materials or chemicals involved in the operations must be declared and approved by the EDL Environmental Management Unit	Contractor	BOS/HQ EO	Prior to construction
		Forbidden the use and purchase of any equipments and materials containing PCBs	Contractor	BOS/HQ EO	Prior to construction
	Large amount of vegetation debris	Tree tops and branches will be cut into lengths that can be manually collected, and stockpiled in the logging area.	Contractor	BOS	At least one per month
		Burning of logging debris must be supervised Vegetation debris from land clearing will be stacked and burned in designated areas. A firebreak of at least 30 m must be cleared around the stockpile. Burning will not be undertaken (i) during severe wind conditions and (ii) within 5 km of village Following completion of the burn, construction supervisor will inspect and certify that the fire has been extinguished.	Contractor	BOS	At least one per month
	Potential disturbance of sites or artifacts of archaeological or cultural significance during land clearance	Minimize area disturbed during land clearing activities	Contractor	BOS	At least one per month
	Interference with local aesthetic characteristics	As much as possible, MV and LV lines should follow existing rights-of-way, and avoid disturbing additional areas	Contractor	BOS	At least one per month
		Leave vegetation buffer between roads and disturbed areas	Contractor	BOS	At least one per month
	Potential environmental impacts associated with the establishment of construction camp site	Camp rules will be prominently displayed in the camp site. These rules apply to all workers	Contractor	BOS	At least one per month
		Provide environmental induction training to all camp personnel	Contractor	BOS	Prior to construction
		The camp site will be kept in a tidy and clean condition	Contractor	BOS	At least one per month

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
		There will be no hunting, possession of wildlife, fishing, harvesting of plants or trees, or harvesting of any forest product for consumption or sale. Workers are not allowed to possess any hunting or fishing equipment including firearms, snares, or traps.	Contractor	BOS	At least one per month
		Ensure living quarters have basic amenities (refer to guidance on Worker Accommodation) and electricity;	Contractor	BOS	At least one per month
		Provide canteen/mess facilities for food and where labor desires self cooking, provision of LPG for cooking;	Contractor	BOS	At least one per month
		Provide drinking water which meets host country potable water norms;	Contractor	BOS	At least one per month
		Provide toilets and bath including separate toilets and baths for women family members of workmen;	Contractor	BOS	At least one per month
		Provide primary medical facilities	Contractor	BOS	At least one per month
		Put in place garbage segregation, collection and disposal/composting facilities	Contractor	BOS	At least one per month
		Put a sewage collection and treatment system in place such that treated sewage meets WBG norms	Contractor	BOS	At least one per month
		All waste must be disposed in proper facilities in camp.	Contractor	BOS	At least one per month
	Possible impact to public health due to UXO clearance	Only appropriate qualified organization will be engaged to undertake search and disposal of UXO in areas where activities are to take place.	Contractor	BOS/HQ EO	Prior to construction
		Training will be given to construction workers regarding safety risk associated with disturbance of UXO and procedures to be followed if potential items of UXO are identified during construction activities	Contractor	BOS	Prior to construction
	Worker occupational health and safety during construction activities	Provide safety induction training to all personnel	Contractor	BOS	Prior to construction
		Provide appropriate personal protective equipment (PPE) to all relevant	Contractor	BOS	At least one per

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
		employees in accordance with good international industry practices			month
		Provide appropriate personal protective equipment (PPE) to all relevant employees in accordance with good international industry practices	Contractor	BOS	At least one per month
		Put in place procedures for recording and reporting of all near misses, lost time incidents and major incidents including calculation of severity rate and frequency rate	Contractor	BOS	At least one per month
		Put in place standard work/operational control procedures for activities that expose workers to hazardous conditionsl	Contractor	BOS	Prior to construction
		Put in place a procedure for periodic safety audit of subproject sites and implementation of corrective action based on the audit findings	BOS	Technical Safety	At least one per quarter
		Reporting of consolidated occupational health and safety performance to Senior Management	BOS	Technical Safety	At least one per quarter
	Road and traffic safety	Limit vehicle speed in village areas to minimize accidental risk on roadside villages	Contractor	BOS/DECC	At least one per month
		All drivers must be fully qualified for the class of vehicle being operated	Contractor	BOS	At least one per month
		All drivers must adhere to Lao national road safety regulations and those regulations developed specifically for the subproject.	Contractor	BOS/DECC	At least one per month
		All vehicle must be clearly numbered and traceable to operator	Contractor	BOS/DECC	At least one per month
Operation and Maintenance	Impact on terrestrial vegetation, forest resources and protected areas, including village, district, provincial and national protected areas	Minimize the amount of land cleared for the subproject	Contractor	BOS	At least one per week during maintenance
		Avoid clearance of mixed deciduous forest wherever possible	Contractor	BOS	At least one per week during maintenance
	Large amount of vegetation debris	Tree tops and branches will be cut into lengths that can be manually collected, and stockpiled in the logging area.	Contractor	BOS	At least one per week during maintenance

Phases	Potential Environmental Impacts	Mitigation Measures	Implementing Responsibilities	Monitoring Responsibilities	Monitoring Frequency
		Burning of logging debris must be supervised Vegetation debris from land clearing will be stacked and burned in designated areas. A firebreak of at least 30 m must be cleared around the stockpile. Burning will not be undertaken (i) during severe wind conditions and (ii) within 5 km of village Following completion of the burn, construction supervisor will inspect and certify that the fire has been extinguished.	Contractor	BOS	At least one per week during maintenance
	Community Health and Safety	Put in place a structured awareness program on electrical safety for communities resident in the vicinity of EDL's transmission and distribution system	BOS	Technical Safety	Quarterly
	Worker occupational health and safety during construction activities	Provide safety induction training to all personnel	Contractor	BOS	Prior to construction
		Provide appropriate personal protective equipment (PPE) to all relevant employees in accordance with good international industry practices	Contractor	BOS	At least one per month
		Put in place procedures for recording and reporting of all near misses, lost time incidents and major incidents including calculation of severity rate and frequency rate	Contractor	BOS	At least one per month
		Put in place standard work/operational control procedures for activities that expose workers to hazardous conditions	Contractor	BOS	Prior to construction
		Put in place a safety committee comprised of worker representatives and managers	BOS	Technical Safety	Committee to meet at least quarterly
		Put in place a procedure for periodic safety audit of subproject sites and implementation of corrective action based on the audit findings	BOS	Technical Safety	At least one per quarter
		Reporting of consolidated occupational health and safety performance to Senior Management	BOS	Technical Safety	At least one per quarter

ANNEX F: LEGAL FRAMEWORKS

F.1 Lao PDR Legal Frameworks

Lao PDR laws and regulations stipulate the protection of environmental values for land, water and air. Key regulatory requirements relevant to the development under the REPII are detailed in Table F.1 below.

Table F.1 Key relevant Lao PDR laws and regulations

Document No: 1	**Environmental Protection Law (1999)**
The Environmental Protection Law is the main piece of environmental legislation in Lao PDR. The law specifies principles, rules and measures to [Article 1]: o Manage, monitor, restore and protect the environment, public health, natural resources and biodiversity; and o Ensure the sustainable socio-economic development of the nation. Environment protection consists of all activities that contribute to the protection of the environment and do not cause damage to the environment, which ensure a clean and pollution-free environment and which do not cause negative impacts to human, animal, plant and ecological health [Article 3]. Of relevance to the development under REP II Project, the basic principles of environmental protection are that [Article 5]: o All persons and organizations residing in Lao PDR have an obligation to protect the environment. o Whoever causes damage to the environment is responsible for the impact under the law. o Natural resources, raw materials and energy shall be used in an economical manner, which minimizes pollution and waste and allows for sustainable development. Important provisions of the Law include: o Development projects and activities that have the potential to affect the environment shall require an Environmental Impact Assessment report … for issuance of an environment compliance certificate before starting the project [Article 8] (also refer to Regulation on Environmental Assessment). o Obligation of all organizations to control pollution in accordance with environmental quality standards [Article 22] (also refer to Regulation on Ambient Environmental Standards).	
Document No: 2	**Regulation on Environmental Assessment in Lao PDR (2000)**
The purpose of the Regulation is to [ref: Article 1]: o To establish uniform environmental assessment requirements and procedures to ensure that environmental conservation is integrated into all socio-economic development projects in Lao PDR. o Within two years of the enactment of this regulation, all line ministries responsible for planning and implementing socio-economic development projects shall issue guidelines for environmental impact assessment for activities within their sector area responsibilities. The Regulation outlines the general principles and requirements for Environmental Assessment [ref: Article 3] including the organizational responsibilities of the Project Owner, the Development Project Responsible Agency (DPRA) and STEA [ref: Article 4]. The steps in the EA process described in the Regulation are as follows: o Project Description; o Screening of Project Description; o Initial Environmental Examination (IEE) Procedures; o Review and Approval of IEEs; o Scoping and Terms of Reference; o Content and format of the EIA Report; and o Review and approval of the EIA Report.	

The Regulation also outlines requirements for the following:

- Environmental Management Plans;
- Environmental Monitoring and Evaluation; and
- Public Involvement.

Prior to the commencement of construction the Project Owner and developer shall have received an environmental compliance certificate for the EIA and EMP [ref: Article 14].

The Project Owner shall implement the EMP during the entire duration of the project and shall include and shall include the terms and conditions of the EMP in all contracts, operation and closure of the project [ref: Article 14].

The EMP shall detail the environmental monitoring requirements of the project which shall include [ref: Article 15] submission of a monthly monitoring report to the DPRA and STEA.

Document No: 3	**Electricity Law (1997)**

The Electricity Law is the over-arching legislation relating to electricity production and transmission in Lao PDR. This law refers to environmental assessment and management in the following clauses:

Article 14. Environmental Impact Evaluation

1. Along with the economic-technical analysis, the investor shall submit an environmental impact evaluation, which shall consist of the following components:
2. Environmental impact evaluation shall describe all potential damages to the environment along with possible solutions or strategies in reducing such detrimental consequences to the environment, the ecological system, society, and natural habitat of wildlife.
3. The estimated costs of potential damages and relocation of local residents who may be affected as a result of such electricity production project.
4. Strategies to limit the risks of flooding in areas below the hydropower dam, which may be potentially high during the rainy season. Strategies may include the use of irrigation canals or other means in order to divert the flow of water through alternate routes when necessary.

Document No: 4	**Law on Water and Water Resources (1996)**

The role of the Water and Water Resource Law is to [ref: Article 1] provide principles, regulations and any mitigation measures governing the management, development, exploitation and use of water and water resources within Lao PDR; with the aim to protect and sustain water resources and water particularly with regard to the assurance of water in sufficient quantity and of sufficient quality to satisfy the national needs in terms of domestic, agricultural, industrial uses and the uses of other sectors in such manner as to protect the natural environment.

Of relevance to the development under REP II Project, the Law defines the following:

- Organisations are responsible for the protection of water and water resources in such way as not to adversely effect the environment [ref: Article 29].
- Organisations must observe the regulations concerning the control of polluted water. Activities likely to damage water resources, the environment or quality of human life are prohibited [ref: Article 42].

Document No: 5	**Land Law (2003)**

The purpose of the Land law is to determine the rules relating to the management, protection and use of land to make contribution to the acceleration of the national socio-economic development, protection of the environment, and national security [ref: Article 1].

Land is under the ownership of the national community in which the State is charged with management. No persons or organisations can take land as a commodity for the purpose of buying and selling [ref: Article 3].

Of relevance to the development under REP II Project, the Law defines the following:

- All individuals and organizations shall have the obligation to protect the land in order to keep it in good condition in which there is no soil erosion, land slip and soil degradation, and in a quality which is suitable to each category of land [ref: Article 6].
- Land is classified according to use [ref: Article 11]. Users of industrial land shall comply with the following [ref: Article 30]:
    - Causing no harm to the environment

- Repairing land surface and improving the land condition in order to allow the land to be returned in its original condition after giving up the use as in the case of mining land.

- The land user has the following obligations [ref. Article 66]:
  - Not causing damage to land quality and not causing harmful impacts on the natural or social environment
  - Not violating the rights or interests of other persons
  - Paying the lease on the land and other fess relating to land
  - Complying fully with land regulations

Document No: 6	**MIH Department of Electricity – Environmental Management Standard for Electricity Projects (2003)**

The *Environmental Management Standards for Electricity Projects* were initially prepared in 2001 in response to the *Implementing Decree of the Environmental Protection Law, 2001*. Initially, in 2001, the Department of Electricity produced three relevant standards:

- Environmental Impact Assessment for Electricity Projects
- Social Impact Assessment for Electricity Projects
- Environmental Management Plans for Electricity Projects

In 2003, these standards were updated and synthesised into the *Environmental Management Standard for Electricity Projects*, which is comprised of five (5) different sections:

- Environmental Screening;
- Social Impact Assessment;
- Resettlement;
- Environmental Management Guideline from Socio-Economic and Culture; and
- Responsibilities.

Document No: 7	**Regulation on the Management of the National Biodiversity Conservation Areas, Aquatic and Wild Animals (2001)**

The purpose of the Regulation is to [ref: Article 1]:

- Identify rules principles and measures on the establishment, management and utilization of all types of forest land areas located in NBCAs.
- Protect NBCAs, aquatic and wild animals, for the benefit of sustainable development, eco-tourism and scientific research.
- Protect locations of geographical, historical and cultural significance.
- Implement the Regulation in accordance with other international and regional agreements on NBCA, aquatic and wild animal management, that have been signed by the Government

Of relevance to the development under REP II Project, the important provisions of the Regulation include:

- Individuals, state organisations and private sectors are obliged to protect the forest, forest land, water resources, aquatic and wild animals, and also to contribute to the protection and prevention of all forms of forest fire and destruction of forest resources in NBCAs [ref: Article 3].
- Prohibited activities within a NBCA including exploitation timber, mining, construction activities and road construction [ref: Article 16].
- Prohibited activities such as wildlife trade, hunting and breeding [ref: Article 17].
- Identification of protected aquatic resources and wild animals [ref: Article 18, 19].

Document No: 8	**Forest Law (1996, amended 2007)**

The Forestry Law determines the basic principles, regulations and measures on inventory survey, management planning, management, conservation, development and utilization of forest resources and forest land; promotion of regeneration; tree plantation; and increase of forest resources in Lao PDR [ref: Article 1]

The vision of the Law is that forests in Lao PDR [ref: Article 1]:

- Maintain natural equilibrium so that forest and forest land can sustain people's livelihoods;

- Ensure the protection and conservation of watersheds;
- guard against soil erosion ;
- Protect plant and wildlife species and the environment; and
- Contribute to the national socio-economic development.

Of relevance to the development under REP II Project, the Forestry Law requires organisations, households and individuals to [Article 7]:

- preserve and develop forests, forest resources and forestland, water sources, biodiversity and environment in accordance with the country's laws and regulations;
- refrain from causing forest degradation and forest depletion; and
- prevent forest fire and any form of forest and forestland destruction

Document No: 9	**Law on aquatics and wildlife (2007)**

This law determines the rules, regulations and measures that should be taken concerning the conservation and sustainable use of aquatic and wild animals. The purpose of the law is to inform people about their role to participate in the management and monitoring, conservation, protection and sustainable use of aquatic and wild animals [ref: Article 1].

The overall aim of the law is to ensure the conservation of aquatic and wild animals and the sustainable use of this resource to help increase livelihoods and socio-economic development [ref: Article 1].

Of relevance to the development under REP II Project, the Law on Aquatic and Wild animals requires all person and entities both domestic and international in Lao PDR must manage, conserve, protect, sustainably develop and use the aquatic and wild animals and wild life in natural and residential areas. [ref: Article 8]

Document No: 10	**Law on national heritage (2005)**

The Law sets out regulations for organisations and individuals in the protection and conservation of natural heritage [ref: Article 47-55] - the heritage formed by nature which is of outstanding value from the point of view of landscape scenery, biodiversity of a pure, original nature, [and] aesthetics. [ref Article 3].

Of relevance to the development under REP II Project, The law applies to Lao citizens, aliens and apatrids residing in the territory of Lao PDR and foreigners and tourists entering Lao PDR [ref: Article 5]

Document No: 11	**Decree on the Preservation of Cultural, Historical and Natural Heritage (1997)**

The Decree outlines the regulations and measures for the management, conservation, preservation and use of national heritage, including movable and immovable assets with historical or cultural or natural value [ref: Article 1].

Of relevance to the development under REP II Project, key provisions of the decree include:

- Persons or entities have the obligation to contribute to the management, conservation, preservation and restoration of the national heritage and the national cultural, artistic and cultural values [ref: Article 4].
- Any removal within the country or export of moveable assets constituting a national heritage shall require the approval of the Ministry of Information and Culture and any import of cultural materials and artefacts shall similarly require approval from the Ministry of Information and culture [ref: Article 13].
- Persons or entities are forbidden to damage artefacts, artistic sites, whether immovable, movable or natural, constituting the national heritage, whether by committing a wilful offence or out of negligence [ref: Article 15].
- Persons or entities are forbidden to sell, purchase or transfer artefacts of national heritage value without the approval of the Ministry of Information and Culture [re: Article 16].
- Persons or entities discovering artefacts, archaeological sites, ancient historical sites … shall notify the relevant administrative authorities within three days from such discovery [re: Article 18].
- Persons or entities are forbidden to exploit / excavate for artefacts or objects of historical, artistic, scientific, technical or archaeological value without approval from the Ministry of Information and Culture [re: Article 19].

Document No: 12	**Regulation on Industrial Waste Discharge (1994)**

The purpose of the Regulation is to control hazards arising from the discharge of industrial waste water and the waste which may affect water quality, the health of the citizens and other kinds of life [Article 1].

Key provision relevant to the development under REP II Project include:

- Owners shall be responsible for providing a waste treatment system for their operations [ref: Article 7].
- The government is authorized to enter in any location to inspect, observe, measure and collect wastewater samples

[ref: Article 13]

- The government is authorized to temporary suspend industrial wastewater discharge … in the event of compliance failure [ref: Article 16].

Document No: 13	**Guidelines on Public Involvement for Environment Assessment in Lao PDR (Draft) (2000)**

The Public Involvement Guidelines were drafted and intended to be an annex to the Regulation on Environmental Assessment in Lao PDR (2000) for use by project proponents and the GoL. The Guidelines are yet to be annexed.

The Guideline provides broad considerations and generic methods for the integration of projected affected groups into project decision-making during planning, implementation and operational phases.

The Guidelines on Public Involvement for EA provide guidance under the following areas:

1. **Establish institutional arrangements** – A committee or advisory group consisting of key stakeholder groups from all levels should be convened for discussions. Key stakeholders would be reps from project management; national, provincial and regional institutions within the government as well as mass organisation and community representatives.
2. **Recruitment of Personnel** – the number of PI specialist depends on the project size although at least two positions are needed for all projects.
3. **Identify Stakeholders** – a number of surveys and preliminary consultations are required to identify surveys.
   - Discussions with various government departments, mass organisations, NGOs and local communities are required for identifying all stakeholders.
   - Surveys also need to be conducted and the guidelines outline the data that is required to formulate a proper PI strategy and plan.
   - Identified stakeholders should be grouped in terms of those of level effect from the project and in terms of their relative resources and ability to deal with potential impacts and change (see matrix provided in Section 3)
4. **Develop General Objectives** – after stakeholders have been identified, agreements on strategies and objectives should be worked out in cooperation with the general project goals.
5. **Integrated Public Involvement Plan** – an ongoing process and a plan that should form parts of many project plans with a series of mechanisms to ensure that proper information is disseminated to the general public and stakeholders and that feedback loops are created.
6. **Coordination of PI** – PI team leader is required to take responsibility and to coordinate efforts of PI; hold regular meetings; continually integrate PI into project programs and implementation strategies
7. **Training Village-based field workers** – in larger projects where field workers are required it is recommended that PI tap into existing village structures, employing headmen, assistants etc).
8. **Information briefings** – info about the project needs to be made available to the general public and all stakeholders.
9. **Workshops and public meetings** - should be regular and recorded
10. **Grievance Committees** and procedure is outlined in the guidelines
11. **Integration of PI into monitoring** – should continue for many years after project is constructed. Evaluation of all aspects of project activities is an important part of continued PI. Monitoring between authorities responsible for the implementation of the EMP and monitoring should be regular

F.2 World Bank Safeguard Policies

Environmental and social policies of the World Bank provide additional guidance for REP II projects regarding the establishment and implementation of environmental and social safeguards.

According to the World Bank's Project Appraisal Document for Rural Electrification Phase I Project (Report No.: 30961), the Bank identified the following safeguard policies as relevant to the development of the REP I Project. It is believed that the

same safeguard policies will be relevant to the management of environmental issues of the subproject under the REP II Project. These safeguard policies include:

- Environmental Assessment (OP/BP/GP 4.01)
- Natural Habitats (OP/BP 4.04)
- Pest Management (OP 4.09)
- Physical and Cultural Resources (OP 4.11)
- Involuntary Resettlement (OP/BP 4.12)
- Indigenous Peoples (OP 4.10)
- Forest (OP/BP 4.36)
- Safety of Dams (OP/BP 4.37)

These safeguard policies are summarized in Table F.2 below.

Table F.2 Description of current World Bank Safeguard Policies

Document No: 1	**OP/BP/GP 4.01 Environmental Assessment (October 1998, updated 2007)**
The IFC requires environmental assessment of projects for IFC financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making. The scope of environmental assessment includes the natural environment (air, water, and land); human health and safety; and social aspects (involuntary resettlement, indigenous people and cultural property); and transboundary and global aspects. The project sponsor is responsible for carrying out the environmental assessment. The guidelines address the following aspects of environmental assessment: o Environmental Screening: Determines the appropriate extent and type of environmental assessment. IFC classifies the proposed project into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts. o Public consultation: The project sponsor consults project-affected groups and local non-government organizations about the project's environmental aspects and takes their views into account. o Disclosure: The project sponsor provides relevant material in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted. o Implementation: During project implementation, the project sponsor reports on compliance with (a) measures agreed with IFC on the basis of the findings and results of the EA; (b) the status of mitigate measures; and (c) the findings of monitoring programs. The guidelines provide an outline of (i) the content of an Environmental Assessment Report; and (ii) Environmental Action Plan.	
Document No: 2	**OP/BP 4.04 Natural Habitats (June 2001, revised August 2004)**
This policy contributes to the Bank's mission of poverty reduction and sustainable development by supporting the conservation of natural habitats. It applies to all borrowers and to subprojects under sectoral loans or loans to financial intermediaries. The Bank supports the protection, maintenance, and rehabilitation of natural habitats and their functions in its economic and sector work, project financing, and policy dialogue. The Bank expects borrowers to apply a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. This document outlines specific policies and requirements regarding the conservation of natural habitat in world bank funded projects.	
Document No: 3	**OP 4.09 Pest Management (1998)**
WB supports a strategy that promotes the use of biological or environmental control methods and reduces reliance on synthetic chemical pesticides. In Bank-financed projects, the borrower addresses pest management issues in the context of the project's environmental assessment.	
Document No: 4	**OP 4.11 - Physical and Cultural Resources (July 2006)**
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.

The objective of this OP on Physical and Cultural Resources is to assist countries to avoid or mitigate adverse impacts on physical cultural resources from development projects that it finances.

This Operational Policy applies to all projects financed by World Bank.

The OP 4.11 details borrower obligations in regards to physical and cultural resources. It requires the borrower to addresses impacts on physical cultural resources in projects proposed for Bank financing, as an integral part of the environmental assessment (EA) process.

Document No: 5	**OP/BP 4.12 Involuntary Resettlement (2002, updated 2004)**

The policy describes the obligations of the borrower (proponent) in the event that the project results in involuntary resettlement.

Involuntary resettlement may cause severe long-term hardship, impoverishment, and environmental damage unless appropriate measures are carefully planned and carried out. For these reasons, the overall objectives of the World Bank's policy on involuntary resettlement are the following:

(a) Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.

(b) Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.

(c) Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

The scope of the policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by:

a) The involuntary taking of land resulting in: (i) relocation or loss of shelter; (ii) lost of assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or

b) The involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

Required Measures: In the event of the above the policy requires that the borrower prepares a resettlement plan or a resettlement policy framework. The scope of the resettlement plan or resettlement policy framework is described in the policy.

Eligibility for Benefits: Upon identification of the need for involuntary resettlement in a project, the borrower develops a procedure, satisfactory to the Bank, for establishing the criteria by which displaced persons will be deemed eligible for compensation and other resettlement assistance.

Resettlement Planning, Implementation and Monitoring: The borrower is responsible for preparing, implementing, and monitoring a resettlement plan, a resettlement policy framework, or a process framework (the "resettlement instruments"), as appropriate, that conform to this policy.

Document No: 6	**OP 4.10 Indigenous Peoples (July 2005)**

This policy contributes to the Bank's mission of poverty reduction and sustainable development by ensuring that the development process fully respects the dignity, human rights, economies, and cultures of Indigenous Peoples. For all projects that are proposed for Bank financing and affect Indigenous Peoples, the Bank requires the borrower to engage in a process of free, prior, and informed consultation. The Bank provides project financing only where free, prior, and informed consultation results in broad community support to the project by the affected Indigenous Peoples. Such Bank-financed projects include measures to (a) avoid potentially adverse effects on the Indigenous Peoples' communities; or (b) when avoidance is not feasible, minimize, mitigate, or compensate for such effects. Bank-financed projects are also designed to ensure that the Indigenous Peoples receive social and economic benefits that are culturally appropriate and gender and inter-generationally inclusive.

As described in the guidelines, a project proposed for Bank financing that affects Indigenous Peoples requires:

- screening by the Bank to identify whether Indigenous Peoples are present in, or have collective attachment to, the project area;

- a social assessment by the borrower;
- a process of free, prior, and informed consultation with the affected Indigenous Peoples' communities at each stage of the project, and particularly during project preparation, to fully identify their views and ascertain their broad community support for the project;
- the preparation of an Indigenous Peoples Plan or an Indigenous Peoples Planning Framework; and
- disclosure of the Indigenous Peoples Plan or Indigenous Peoples Planning Framework.

Document No: 7	**OP/BP 4.36 Forest (November 2002, updated 2004)**

The World Bank Operational Policy for Forests outlines the requirements for the management, conservation, and sustainable development of forest ecosystems and their associated resources are essential for lasting poverty reduction and sustainable development, whether located in countries with

The objective of this policy is to assist borrowers to harness the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development, and protect the vital local and global environmental services and values of forests.

This policy applies to the following types of Bank-financed investment projects:

- Projects that have or may have impacts on the health and quality of forests;
- Projects that affect the rights and welfare of people and their level of dependence upon or interaction with forests; and
- Projects that aim to bring about changes in the management, protection, or utilization of natural forests or plantations, whether they are publicly, privately, or communally owned.

The Operational Policy for Forests outlines World Bank Financing conditions:

- The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical natural habitats.
- The Bank does not finance projects that contravene applicable international environmental agreements.

The OP on Forests requires that In accordance with OP/BP 4.01, *Environmental Assessment*, the environmental assessment (EA) for an investment project addresses the potential impact of the project on forests and/or the rights and welfare of local communities.

Document No: 8	**OP/BP 4.37 Safety of Dams (2001)**

For the life of any dam, the owner has full responsibility for the safety of the dam. The IFC is concerned about the safety of new dams it finances.

When the Bank finances a project that includes the construction of a new dam, it requires that the dam be designed and its construction supervised by experienced and competent professionals. It also requires that the borrower adopt and implement certain dam safety measures for the design, bid tendering, construction, operation and maintenance of the dam and associated works.

The guidelines distinguish between small dams (normally less than 15 meters in height), for which generic dam safety measures designed by qualified engineers are usually adequate. For large dams, that are between 10 and 15 meters or higher, and present special design complexities – the bank requires:

- Reviews by independent panel of experts.
- Preparation and implementation of detailed plans.
- Prequalification of bidders during procurement and bid tendering.
- Periodic safety inspections of the dam after completion