



**INDONESIA SECOND POWER TRANSMISSION
DEVELOPMENT PROJECT (IPTD-2)
AND
CAPACITY BUILDING FOR SMART GRID INVESTMENT
FOR TRANSMISSION AND DISTRIBUTION**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT
FRAMEWORK**

February, 2013

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1. Introduction

PT Perusahaan Listrik Negara (PLN) Persero, the state owned national power utility, is embarking on an ambitious and comprehensive upgrade of the transmission infrastructure on grids in Java-Bali, Sulawesi and Kalimantan. The Government of Indonesia (GoI) has requested a loan from the World Bank for the IPTD 2 project, which involves a large number of subprojects to upgrade, expand or build new substations.

The purpose of the ESMF is to address the environmental safeguards policies of the World Bank¹, and provide standard processes and tools to apply to the subprojects as they are presented for funding.

1.1 Project Description

The development objective of IPTD2 is to assist the GoI to meet growing electricity demand and increase access to electricity in a sustainable manner. It will achieve this objective by strengthening and expanding the capacity of the power transmission networks in Java-Bali and other large islands in East and West Indonesia and improving PLN's capacity to plan and operate the transmission and distribution network in an efficient and transparent way through introduction of smart grid technologies.

This is a follow-up operation of the on-going Indonesia Power Transmission Development Project (IPTD). The proposed project will continue expansion of 150 kV sub-transmission systems in Java-Bali and Sumatra, which has been partly covered by the IPTD and support extension of the existing 150 kV sub-transmission systems in Kalimantan and Sulawesi to meet the increasing demand and to increase access rates in these islands.

The proposed project includes a single component with two parts as described below. It aimed at improving 150 kV and 70 kV sub-transmission network in Java-Bali, East Indonesia and West Indonesia. The project involves infrastructure investment and requires safeguards instruments.

- Extension and rehabilitation of selected existing 150/20 kV substations and 70/20 kV substations in the Project Area, including adding one or more new transformers and associated equipment; and/or replacing existing transformers with new transformers and associated equipment with higher capacity and
- Construction of selected new 150/20 kV substations in the Project Area, including installation of transformers and associated equipment.

Subprojects under the project will be prepared and implemented in two groups. Group 1 includes all the subprojects which are of priority and in an advanced state of preparation. All subprojects in Group 1 will have EMP prepared and will be fully appraised by the time of approval of the IPTD2 project by the World Bank and GoI.

Group 2 includes subprojects that are either a) preliminarily identified but where their precise siting alignments are not known during preparation or b) new subprojects that can be brought forward by

¹The social safeguards policies are addressed through separate frameworks: The Land Acquisition and Resettlement Framework and the Indigenous Peoples Framework.

PLN during implementation. The subprojects in Group 2 are subject to appraisal in accordance with a set of the eligibility criteria, which will be agreed during subproject preparation. The subprojects that meet the eligibility criteria will be financed on a first-come, first-appraised basis until all allocated funds are committed.

This ESMF covers all subprojects that will be funded under Group 2.

1.2 Summary of Subproject Types and Potential Environmental and Social Impacts

Two types of subprojects are identified as follow:

For **upgrade and expansion** subprojects, the key activity is to install new transformers and associated equipment or replace existing transformers and associated equipment with new ones with higher capacity in the existing 150/20 kV and 70/20kV substations. Rehabilitation does not require land acquisition and will be implemented within the premises of these substations. While most of expansion subprojects do not require land acquisition, some subprojects will require limited additional pieces of land, which is normally adjacent to the existing substations.

For **new substations**, the key activity is to construct new 150/20kV substations which have one or two transformers and associated equipment at 150 kV and 20 kV, a control room and ancillary equipment. Typically a new substation requires a short 150 kV transmission line (1-5 km long) to connect the substation to the existing network and, in a few cases, may require upgrading of an existing road. In some cases, new substations may be part of a new transmission line route. A new substation requires an enclosed, levelled site free of any vegetation or human habitation (except for substation operators), typically measuring about 150m x 100m. For substations that involve construction of connecting 150 kV transmission lines or upgrading of existing access road, these structures require additional permanent and temporary land acquisition. New subproject sites can be, and normally are, selected flexibly within a certain area to minimize the scale of such structures and impacts on environment or land acquisition.

The following is a summary of the key potential environmental and social impacts that may arise from any subproject.

Table 1 Summary of Potential Environmental and Social Impacts from New Substations, Upgrades or Extensions

Phase	Activity	Potential impact
Construction – all sites.	Earthworks and construction	Noise, dust, vibration on neighboring properties
		Exposure of construction workers to EMF
	Storage, handling, use and disposal of hazardous materials such as transformer oils	Soil and water contamination Health and safety risks
	Disposal or reuse of old transformers	Soil and water contamination
	Risk of finding PCBs	Soil and water contamination

Construction – new site (in addition to the list above)	Removal of vegetation and earthworks and construction activities create access ways and construction platforms	Soil erosion and water contamination Removal of habitat and / or productive land
	Acquisition of new land	Land acquisition, involuntary resettlement and compensation for lost assets (i.e. trees or crops)
Operation and maintenance	Storage, handling, use and disposal of hazardous materials such as transformer oils	Soil and water contamination
	EMF	Exposure to workers and community

1.3 Purpose of the Environmental and Social Management Framework (ESMF)

The IPTD2 project allows a large number of subprojects to be financed during implementation provided they meet the agreed eligibility criteria that will help ensure the subprojects meet good international practice in technical, environmental and social terms and meet minimum levels of financial and economic performance.

The purpose of the ESMF is to ensure that subprojects in the Group 2 to be financed under IPTD2 meets World Bank safeguard policy requirements². The framework provides guidance for preparation, appraisal and implementation of Environmental Management Plans and the roles and responsibilities of each institution.

It is expected that the subprojects will also meet all relevant environment requirements and processes under Indonesian regulations and laws. Note that for the type and scale of the projects, no AMDAL (EIA) is required under the Indonesian regulations and laws for any of the proposed activities. For the new substations, a UPL / UKL (EMP and Environmental Monitoring Plan) is required and there are no approval requirements for substation upgrades and extensions.

2. World Bank Safeguards Policies

The World Bank's environmental and social safeguard policies are a cornerstone of its support to sustainable poverty reduction. The objective of these policies is to prevent and mitigate undue harm to people and their environment in the development process. These policies provide guidelines to the WB and borrowers in the identification, preparation, and implementation of programs and projects.

The environmental and social safeguards that are relevant to IPTD2 are discussed below.

OP/BP 4.01 Environmental Assessment: In World Bank operations, the purpose of Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable, and that potentially affected people have been properly consulted. To meet this objective, the World Bank policy defines procedures for environmental screening, impact

²Noting that group 1 subproject EMPs have already been through appraisal.

assessment, consultation, disclosure and implementation and supervision commitments relation to the environmental assessment and management plans.

For the purposes of the IPTD2, *all projects will require an EMP.*

OP/BP 4.04 Natural Habitats: The Natural Habitats safeguard seeks to ensure that World Bank-supported infrastructure and other development projects take into account the conservation of biodiversity, as well as the numerous environmental services and products which natural habitats provide to human society.

Natural habitats are defined as land and water areas where the ecosystems' biological communities are formed largely by native plant and animal species, and human activity has not essentially modified the area's primary ecological functions.

It is unlikely that any projects will occur in these areas, because there is flexibility in selecting the location of new infrastructure. For the purposes of the IPTD2, *a subproject will not be eligible for financing if it is determined that the Natural Habitats safeguard policy applies.*

OP/BP 4.11 Physical Cultural Resources: The objective of this policy is to avoid, or mitigate, adverse impacts on cultural resources from development projects that the World Bank finances. Physical cultural resources include movable or immovable objects, sites, structures, groups of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance.

It is unlikely that any subprojects will impact on physical cultural resources because of the flexibility of site selection. For the purposes of the IPTD2, *a subproject will not be eligible for financing if it is determined that the Physical Cultural Resources safeguard policy applies.*

OP / BP 4.10 Indigenous Peoples – The Bank recognizes that the identities and cultures of Indigenous Peoples are inextricably linked to the lands on which they live and the natural resources on which they depend. These people are frequently among the most marginalized and vulnerable segments of the population.

For IPTD2, there may be groups of Indigenous Peoples in one or more new sites (yet to be confirmed). The Indigenous Peoples Plan will address the process of identification, consultation and social impact assessment.

OP / BP 4.12 Involuntary Resettlement – The objectives of the policy are to avoid involuntary resettlement where feasible, and otherwise be conducted so that displaced persons are meaningfully consulted and have opportunities to participate in the planning and implementing of resettlement programs. Displaced persons should be assisted to improve their livelihoods or at least to restore them to pre-displacement levels.

The policy covers direct and indirect economic and social impacts from the involuntary taking of land resulting in relocation or loss of shelter; lost assets or access to assets; or loss of income or sources of livelihood; or the involuntary restriction of access to designated parks and protected areas.

For IPTD2 the Land Acquisition and Resettlement Policy Framework will provide the mechanisms to address the issues of people affected by involuntary resettlement.

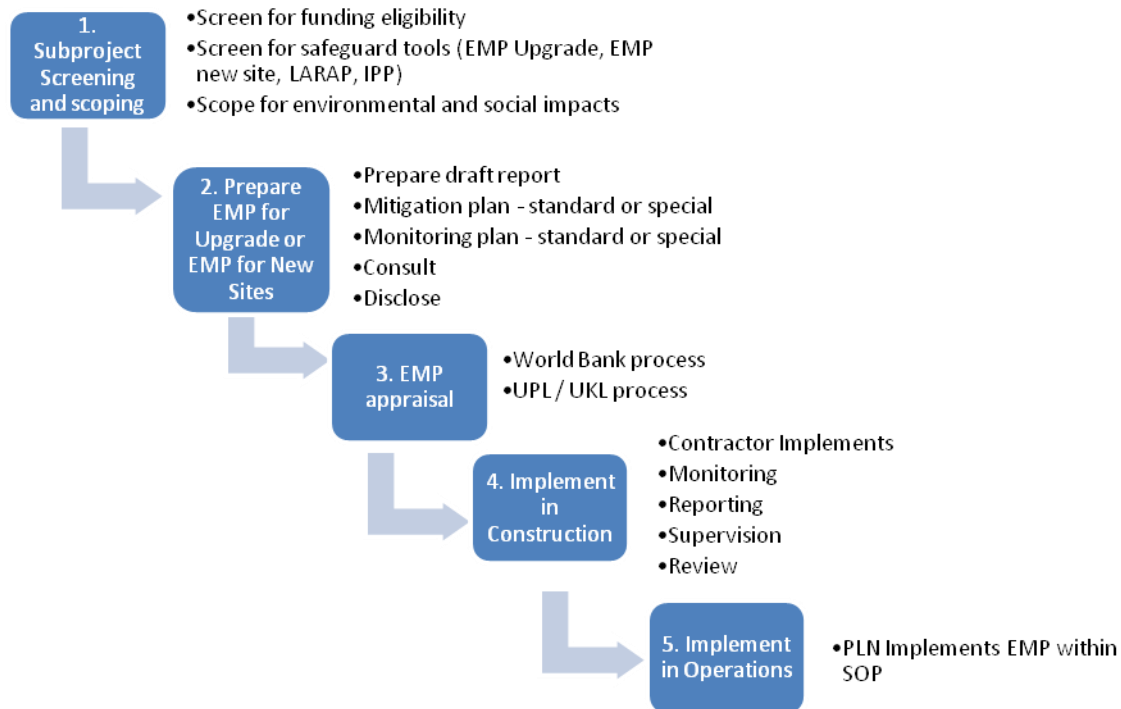
World Bank Policy on Access to Information – The Bank recognizes that transparency and accountability are of fundamental importance to the development process and to achieving its mission to alleviate poverty. The safeguards documents prepared by PLN are provided to the Bank with the understanding that the Bank will make them available to the public through their website www.worldbank.org.

3. EMP Preparation and Implementation

3.1. Overview

All subprojects will require an EMP. Each subproject will go through the same screening and scoping process to determine the type and detail of the EMP.

Figure 1 EMP Process for Subprojects



3.2. Step 1 Subproject Screening and Scoping

All subprojects will go through the screening and scoping checklists in Annex 1 to determine:

- eligibility in the IPTD2 project;
- the type of EMP that is required and the type of mitigation and monitoring (standard or special); and
- whether a LARAP or IPP is required (to prepared under the LARPF and IPF respectively)

The screening and scoping outcomes are determined by the type of subproject (upgrade / expansion or new site) and the potential types of environmental and social impacts.

3.3. Step 2 EMP Preparation

For the IPTD2 project there are two types of EMP; 1) EMP for New Sites and 2) EMP for Upgrades.

EMP for New Sites: A new ‘stand alone’ EMP will be prepared for each subproject that involves the development of a new site. The template is attached in Annex 4.

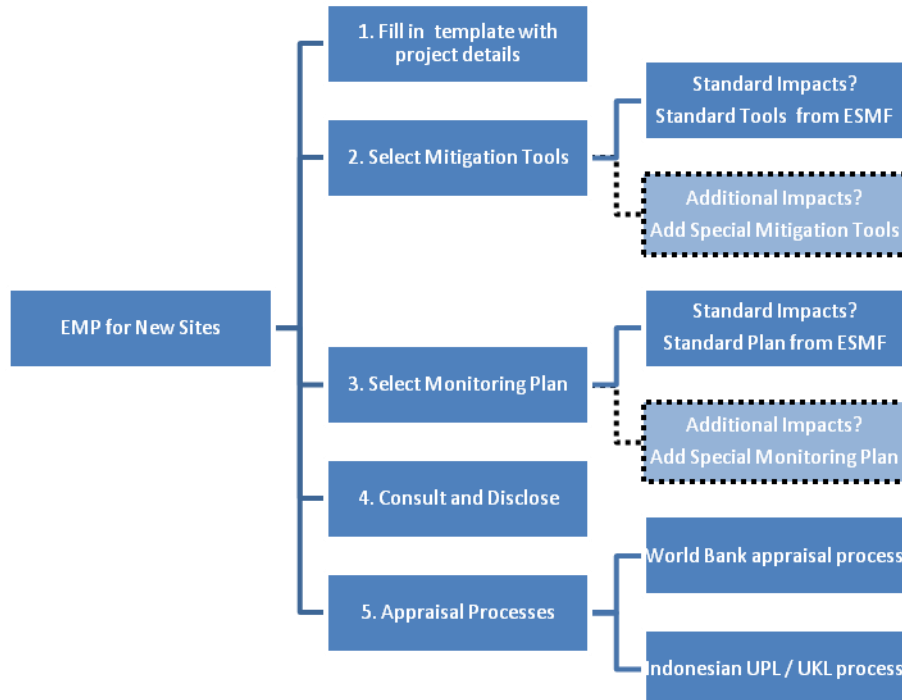
The EMP will closely follow the Indonesian UKL / UPL model, with Annexes to meet the World Bank OP / BP 4.01 policy for Environmental Management Plans.

EMP for Upgrades: This EMP contains all of the subprojects that involve an upgrade or extension. Because the screening and scoping for upgrade and extension subprojects is likely to identify that the environmental and social risks are likely to be similar, and low, for most (if not all) of the subprojects, they will be covered by the same EMP.

In most cases, the emphasis of the EMP for Upgrades and the EMPs is the construction phase. Once the substation is operational, the EMPs will be implemented with PLN’s Standard Operating Procedures.

3.3.1 Preparation of EMP for New Sites

It is responsibility of PLN to prepare the EMPs and submit them to the World Bank for appraisal. The Template for New Sites (Annex 4) will be used as follows:

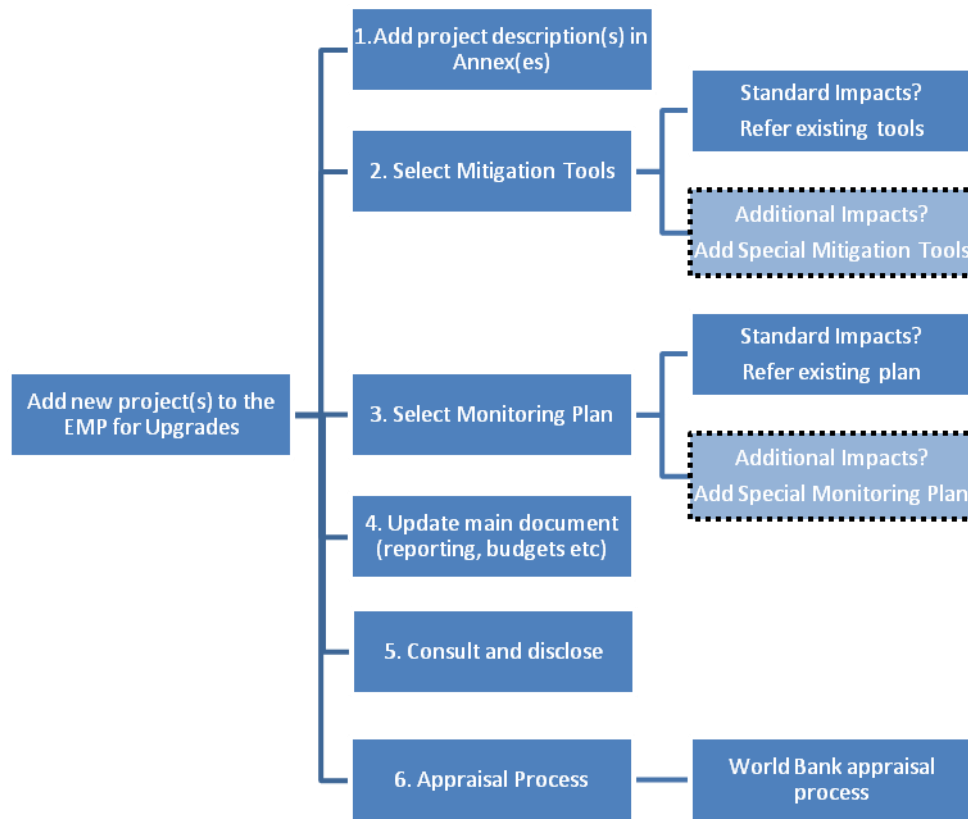


Standard process

Additional process if site-specific impacts and issues are identified in the scoping process

3.3.2 Update of EMP for Upgrades

It is the responsibility of PLN to update the EMP for Upgrades throughout the IPTD2 project, and submit the revised document to World Bank for appraisal. The EMP for Upgrades has been prepared for Group 1 subprojects and will be updated with the addition of Group 2 subprojects as they are ready for implementation. The process is as follows:



Standard process

Additional process if site-specific impacts and issues are identified in the scoping process

3.3.3 Consultation

All subprojects require at least one public consultation and the results of the consultation require documentation in the EMP. The public consultation can be conducted either prior to preparing a draft EMP in order to discuss key environmental issues and proposed management actions to be included in the EMP, or after a draft EMP is completed to act as a basis of discussion and to elicit any additional environmental issues that may be of concern to affected groups. In either case, early consultation is preferred.

Consultation guidelines are provided in Annex 7.

3.3.4 Disclosure

PLN is responsible for disclosing the EMPs at a public location near the subproject sites (for example at the local government office or village gathering place) and on line.

PLN should provide a letter to the World Bank indicating: (a) where the EMP was disclosed and (b) the date(s) of disclosure. In addition, PLN should provide the World Bank Jakarta Office with English language versions of these documents, with verification that the English language versions are consistent with the Indonesian language versions. The World Bank Jakarta Office will disclose the documents on Infoshop.

3.4. Step 3 Appraisal

PLN will include the EMPs as part of the information package it submits to the World Bank when proposing the subproject(s) for financing. The Safeguards team of the World Bank will review the EMPs as part of the appraisal process. PLN will be responsible for completing any appraisal process for UPL / UKL through the Indonesian regulations for any new sites.

3.5. Step 4 EMP Implementation – Construction

The responsibility for the compliance with the EMPs and all Indonesian laws remains PLN's at all times, however during the construction phase the implementation of the EMP is often delegated to the lead contractor.

EMP Implementation

The lead contractor has the responsibility to ensure that the EMP is being complied with. The contract between PLN and the lead contractor will contain Environmental Codes of Practice (COP) that outline the contractors obligations (refer to Annex 6).

EMP Monitoring, Supervision and Oversight

The Contractor is responsible for monitoring the effectiveness of the EMP mitigation measures, including implementing the EMP monitoring plan.

PLN is responsible for supervision of EMP performance, including those of all contractors and subcontractors. This includes ensuring the quality and consistency of implementing the mitigation measures, monitoring, capacity of contractors, and reporting. PLN staff will visit the sites to observe implementation of the EMP, and otherwise receive regular reports from the contractors.

The World Bank will have an oversight role of the supervision undertaken by PLN and will conduct site checks or audits as necessary, and otherwise will receive six monthly reports from PLN. The World Bank will report their findings to the Safeguards team as part of their overall reporting on IPTD2 project performance.

3.6. Step 5 EMP Implementation – Operations

EMP implementation is the responsibility of the relevant PLN substation operator. Under most situations the EMP will be implemented under the PLN SOP, and become business as usual. Compliance monitoring and reporting will continue under the SOP.

3.7. EMP Review

Any EMP will be reviewed when:

- A non-compliance with the EMP occurs
- A serious environmental or health and safety incident occurs

- The subproject changes significantly (design changes lead to more work being done on site, the site is expanded etc.)

A review requires PLN staff to re-read the EMP to see if it can be improved to prevent the incident / non-compliance from happening again, or to prevent or minimise a new risk.

4. Consultation and Disclosure

The draft ESMF will be disclosed and consulted with the public. The outcomes of the consultation will be included in the final ESMF document.

5. Monitoring and Reporting

The type of reports, frequency and responsibilities for reporting for EMP and the ESMF are summarized in the reporting program below.

Table 2 Reporting Program

Type of report, and purpose	Frequency and timing of reporting	Who is responsible for preparing the report?	Who is responsible for receiving the report?	What are the actions / outcomes from reporting?
Construction Environmental Management Report Details of implementation of the EMP.	Once prior to construction starting, then monthly until the end of construction.	Contractor	PLN Regional Offices	Improvements to mitigation measures if necessary.
Incident report Incident may include (but not limited to) = oil spills, serious accidents, chance discovery of physical cultural resource, public complaint.	Construction phase: Within 1 week of the incident occurring	Contractor	PLN Project Office	PLN and / or contractor to remedy incident. PLN to notify authorities if relevant. PLN to review EMP if relevant.
Environmental Performance Monitoring Report A record of all activities and outcomes from the implementation of all EMP for all subprojects in the region in the preconstruction and construction phase including incidents, monitoring data, photos, contractor's monitoring records and records of PLN site visits.	Six monthly, for the duration of IPTD2.	PLN Project Office	PLN Head Office	Improvements to environmental mitigation and management if necessary. Review and update of the EMP if necessary.
Combined Environmental Performance Monitoring Report One report combining information from the above reports. This will include: A list of new subprojects developed or approved and the status of the EMP; Status of all subprojects and their EMP implementation;	Six monthly for the duration of the IPTD2.	PLN Head Office	World Bank	Rewards to staff or contractors for full compliance.

Type of report, and purpose	Frequency and timing of reporting	Who is responsible for preparing the report?	Who is responsible for receiving the report?	What are the actions / outcomes from reporting?
A summary of significant issues.				
Operational Compliance Reporting	During operation	Operation Unit	Indonesian authorities	

6. Institutional Responsibilities

Table 3 Summary of Responsibilities

Action	Institutional Responsibility and Subproject Phase		
	Pre - Construction	Construction Phase	Operational Phase
Preparing EMPs	PLN Project Office		
Implementing EMPs	PLN Project Office	Contractor	PLN Operation Office
Supervision of EMPs	PLN Project Office	PLN Project Office	PLN Project Unit
Monitoring Data Collection and Analysis	PLN Project Office	PLN Project Office	PLN Operation Office
Three monthly Construction Environmental Management Report	PLN Project Office	PLN Project Office	PLN Operation Office
Action	Institutional Responsibility throughout the IPTD2 Project		
Six Monthly Environmental Performance Monitoring Report	PLN Project Office		
Review and Update of EMPs	PLN Project Office		
Review and Update of ESMF	PLN Head Office		
Oversight of EMP implementation	World Bank		

The PLN project offices employ experienced, qualified and resourced environmental professionals (most are Environmental Engineers). Though the project PLN needs to ensure that sufficient resources and capacity are dedicated to the preparation, implementation, monitoring and supervision of all EMP, including:

- training of personnel;
- preparing EMP for New Sites and updating the EMP for Upgrades;

- Ensure that all monitoring data is recorded and organized in a systematic and replicable manner;
- Supervising the EMPs during construction and during operation;
- Allow for audits and checks of EMP implementation by the World Bank; and
- Reporting to World Bank.

The foreseeable requirements for capacity building are:

- Specific training on the implementation and supervision of the EMP for the IPTD2 project.
- Specific training on monitoring and reporting on the EMP.
- Specific training on preparation of the EMP for New Sites and updating the EMP for Upgrades prior to the Group 2 projects are ready for funding.

7. ESMF Budget

The following is approximate summary of the impact on the project budget for implementing the ESMF:

Item	Cost estimate
ESMF consultation	Minor , borne by PLN
EMP preparation (staff or consultant costs)	Minor
EMP monitoring and reporting (staff or consultant costs)	Minor , borne by PLN
Staff training	Borne by World Bank

8. ESMF Review

The ESMF will be reviewed when:

- A serious environmental, social or health and safety incident occurs
- The IPTD2 project changes significantly (funding requirements change or the scale or scope of subprojects changes)

A review requires PLN staff to re-read the ESMF to see if it can be improved to prevent the incident / non-compliance from happening again, or to prevent or minimise a new risk. If a new version of the ESMF is prepared it will subject to consultation, disclosure and then appraisal by the World Bank.

Annex 1 Project Screening and Scoping Checklists

All projects go through the following:

Step 1. Is the subproject eligible for the IPTD2 program, based on the Environmental Screening Criteria?

Step 2. What safeguards tools are required for each subproject? EMP for Upgrades or EMP for New Sites, LARAP, IPP.

Step 3. Will the environmental and social issues of the subproject be covered by the standard mitigation plan templates, or will further mitigation measures be required? Use the EMP Impact Scoping Checklist.

Step 1: Eligibility Criteria

ELIGIBILITY SCREENING CRITERIA	APPLIES, YES OR NO (tick ✓)		Eligibility for the IPTD2 program
<p>Natural Habitats</p> <p><i>Natural habitats are defined as land and water areas where the ecosystems' biological communities are formed largely by native plant and animal species, and human activity has not essentially modified the area's primary ecological functions.</i></p>			
1. Is the subproject located within any National or Provincial protected areas?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, subproject is ineligible
2. Will the subproject result in significant degradation or conversion of natural habitats and/or forests in protected areas, proposed protected areas or areas that are considered of special ecological significance?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, subproject is ineligible
<p>Indigenous Peoples</p> <p><i>The objective is to identify indigenous peoples, consult with them, ensure that they participate in, and benefit from the subprojects in a culturally</i></p>			

ELIGIBILITY SCREENING CRITERIA	APPLIES, YES OR NO (tick ✓)		Eligibility for the IPTD2 program
<i>appropriate way and that adverse impacts on them are avoided, or where not feasible, minimized or mitigated.</i>			
Are indigenous people present/reside in the subproject area?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, an Indigenous Peoples Plan (IPP) will be prepared in accordance with IP Framework (IPF).
<p>Physical Cultural Resources</p> <p><i>Physical cultural resources include movable or immovable objects, sites, structures, groups of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance.</i></p>			
1. Will the subproject cause temporary or permanent relocation or any other type of impact on physical cultural resources known to be of local, regional or national significance based on national or Provincial lists, proposed national or Provincial lists and/or identified during public consultation with local affected groups?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, subproject is ineligible
2. Are any physical cultural resources considered especially important or sensitive particularly to local groups (e.g. gravesites)	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, the subproject is ineligible
<p>Involuntary Resettlement</p> <p><i>Involuntary resettlement includes those situations involving involuntary taking of land and involuntary restrictions of access to legally designated parks and protected areas. The policy aims to avoid involuntary resettlement to the extent feasible, or to minimize and mitigate its adverse social and economic impacts.</i></p>			
1. Is any land used by people/organizations likely to be acquired as a result of the	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, a Land Acquisition and

ELIGIBILITY SCREENING CRITERIA	APPLIES, YES OR NO (tick ✓)		Eligibility for the IPTD2 program
subproject?			Resettlement Action Plan (LARAP) will be prepared in accordance with the Land Acquisition and Resettlement Policy Framework (LARPF)
2. Will any subproject activity involve restrictions of use on adjoining land?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
3. Is land ownership affected by the subproject?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
4. Will there be a loss of housing or assets or incomes of local people/organizations?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
5. Will any social or economic activities be affected by land use related changes?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
<p>Forests</p> <p><i>Forest is defined as an area of land not less than 1.0 hectare with tree crown cover of more than 10 percent that have trees with the potential to reach a minimum height of 2 meters at maturity in situ and includes forests dedicated to production, protection, multiple uses or conservation.</i></p>			
1. Will the subproject cause temporary or permanent reduction or degradation to the ecosystem function of, or resources within, a forest as defined above?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, subproject is ineligible

Step 2: Safeguard Screening Checklist

Safeguard Screening Criteria	APPLIES, YES OR NO (tick ✓)		Which EMP is required?
Is the subproject an upgrade or extension to an existing PLN substation site?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, the subproject will be covered under an update to the EMP for Upgrades.
2. Is the subproject a new site?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, an EMP for new site will be prepared.
Does the subproject require land acquisition, involuntary resettlement and / or compensation for lost assets?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, a LARAP will be prepared, under the LARPF.
Does the subproject involve the resettlement of indigenous peoples?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, an IPP will be prepared under the IPF.

Step 3: Environmental and Social Impact Scoping Checklist

Complete the following scoping checklist to confirm whether the standard template for mitigation is suitable for each subproject, or whether additional mitigation measures are required.

Environmental and Social Impact Scoping	APPLIES, YES OR NO (tick ✓)		Outcome for EMP
Will the subproject involve any of the following?			If the answer to any one of the questions is yes, the standard mitigation plan and monitoring plan will apply to this subproject.
Evidence of oil contamination on the soil?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Neighbours within 50m of the construction site?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	

Environmental and Social Impact Scoping	APPLIES, YES OR NO (tick ✓)		Outcome for EMP
Old transformers that will be replaced?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Potential for PCB to be present in old transformers (transformers >10 years old)?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Solid and / or hazardous waste that will require removal during construction?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Vegetation clearance?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Earthworks?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Waterways within 50m of the site that will receive site storm water?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Does the subproject have any predicted environmental or social impacts not listed above?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, then additional mitigation and monitoring measures will be developed for the subproject in the EMP.
Does the subproject have any of the following additional activities?			If yes, then the EMP must include the mitigation and monitoring of environmental and social impacts from the additional works.
Access Road Upgrade	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
New Access Road	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
New Transmission Line	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Transmission line extensions / upgrades	YES <input type="checkbox"/>	NO <input type="checkbox"/>	

Environmental and Social Impact Scoping	APPLIES, YES OR NO (tick ✓)		Outcome for EMP
Office block / toilet block and amenities	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Other associated infrastructure	YES <input type="checkbox"/>	NO <input type="checkbox"/>	

Annex 2 Standard Impact and Mitigation Plans

Pre-Construction – All Sites

Environmental or social impact	Pre-Construction Mitigation Actions	Costs	Responsible	Start	End
Soil and water contamination as a result of transformer leak	Include in tender documentation if any leakage of transformer oil, Contractor should rehabilitate.	Moderate, included in Construction Cost	PLN Project Office	Design phase	Award of construction tender.
Soil and water contamination as a result of transformer leak	For new installations, include as a requirement in the subproject design: The installation of oil collectors made in compliance with standard design solution and made of precast concrete and reinforced concrete elements. The reinforced concrete slab will be made of sulfate-resistant cement. Damp proofing will be done underneath the slab.	Moderate, included in Construction Cost	PLN Project Office	Design phase	Award of construction tender.
PCB(polychlorinated biphenyls)	Tender documents will prohibit procurement of equipment containing PCB	No cost, Included in construction contract	PLN Project Office	Tender preparation	Award of construction tender.
Noise	Tender documents for equipment procurement will specify the following: The emission of noise from the transformer and the cooling fan must be meet environmental regulation.	Minor, Included in tendering costs	PLN Project Office	Tender preparation	Selection of preferred supplier
General / all impacts	The Environmental Codes of Practice for Construction (COP) will be included in the Contractors specification. The tender evaluation will include the quality of the Contractors response to the COP.	Minor, included in tendering costs	PLN Project Office	Tender preparation	Award of construction tender.
General / all impacts	All Indonesian laws and regulations relating to the environment will be followed during the construction phase.	Minor, included in construction contract	Construction contractor	Tender preparation	End of construction

Construction – All Sites

Environmental or social impact	Construction Mitigation Actions	Costs	Responsible	Start	End
Dust	The construction site will be sprinkled with water, especially during dry and windy conditions.	Minor, Included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction
Noise	Construction activities will be performed only during normal working hours (from 8 a.m. till 6 p.m.). If construction activities have to be performed before or after the specified time limits, the local community must be notified about it at least one week in advance.	No cost	Construction Contractor	In the beginning of construction	After completion of construction
	On arrival at site, and prior to installation, the contractor will confirm that the equipment meets the standard for noise emissions as stated in the tender documents.	Minor, Included in Operation Cost	Contractor	Prior to equipment installation	Prior to equipment installation
Toxic and Hazardous wastes	Hazardous Waste will be maintain through Indonesia Hazardous regulation (B3) by contractor .	Minor, Included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction
PCB (polychlorinated biphenyls)	On arrival at site, and prior to installation, the contractor shall confirm that the equipment does not contain PCB.	No cost, included in construction contract.	Construction contractor	During procurement	Prior to installation
Waste oil	Waste oil will be handled, stored and disposed of according to Indonesian regulations.	Minor, included in construction contract.	Construction contractor	In the beginning of construction	After completion of construction
Old transformers and other equipment	Old transformers and other equipment will be stored on site until they are required for reuse on another site. Oil containment will be placed beneath the transformers to capture any leaks.	Minor	PLN substation	During construction	

Environmental or social impact	Construction Mitigation Actions	Costs	Responsible	Start	End
Oil spill or leaks from construction equipment	Vehicles working on site shall be in good working order and not have leaks.	Included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction
	Oil sorbents will be kept on-site to contain any spills, and staff shall be trained in spill procedures.	Minor, included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction
	Any contaminated soils as a result of construction activities will be removed by licensed contractor and disposed to landfill sites approved by local authorities. Records to be kept of the amount of material, contaminants, and destination of the waste material.	Moderate (if required), included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction
Soil and water contamination from transformer oil	Oil containment devices will be constructed as per the tender documents. In the immediate location where old transformers will be replaced, and where obvious signs of soil contamination are present , the soil will be rehabilitated according to Indonesian regulations prior to the installation of the replacement transformer.	Moderate, included in construction contract	Construction Contractor	Prior to the beginning of construction	After completion of construction
	The transfer or filtering of transformer oil will be carried out according to Indonesian Regulations.	Moderate, included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction

Environmental or social impact	Construction Mitigation Actions	Costs	Responsible	Start	End												
Construction worker safety from existing electromagnetic fields	<p>Worker hours will be limited in accordance with WHO :</p> <table border="0" data-bbox="439 323 994 596"> <tr> <td>EMF Intensity (kV/M)</td> <td>Admissible exposure time (min)</td> </tr> <tr> <td>Up to 5</td> <td>No limits</td> </tr> <tr> <td>5-10</td> <td>Up to 180</td> </tr> <tr> <td>10-20</td> <td>Up to 30</td> </tr> <tr> <td>20-25</td> <td>Up to 10</td> </tr> <tr> <td>>25</td> <td>Prohibited</td> </tr> </table>	EMF Intensity (kV/M)	Admissible exposure time (min)	Up to 5	No limits	5-10	Up to 180	10-20	Up to 30	20-25	Up to 10	>25	Prohibited	Included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction
EMF Intensity (kV/M)	Admissible exposure time (min)																
Up to 5	No limits																
5-10	Up to 180																
10-20	Up to 30																
20-25	Up to 10																
>25	Prohibited																
Construction worker health and safety	All construction workers will have site inductions by PLN on health and safety in an EMF environment.	Included in PLN operational procedures	PLN substation	In the beginning of construction	After completion of construction												
	All workers will be provided with hard hats and covered boots.	Included in construction contract	Contractor	In the beginning of construction	After completion of construction												

Construction Mitigation: New Sites*

*May also be relevant for some expansion sites.

Environment or social impact	Construction (New Sites) Mitigation Actions	Costs	Responsible	Start	End
Land acquisition, involuntary resettlement and / or compensation for lost assets	<p>The area required for temporary or permanent access roads, transmission and distribution lines, substations and any other works will be minimised.</p> <p>Physical construction will not start until after the compensation process has been completed.</p>	Budget allocation in the LARAP	PLN project office	Pre construction	Pre construction
Soil conservation	<p>The area to be cleared for construction, access ways and right of ways for distribution and transmission lines will be minimised. The fertile soil layer will be removed and stored in an isolated area at least 20m from a water way, on flat ground, under plastic cover to prevent erosion and protect the contamination of water ways from sediment discharges. Stormwater will be diverted around stockpiles. After construction is complete the fertile soil layer will be placed back to its original location and original vegetation will be restored.</p>	Minor, Included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction
Soil erosion and stormwater contamination	<p>Work in steep areas will be undertaken during the dry season.</p> <p>Prepare drainage channels to divert stormwater from the construction area in order to avoid flooding, and contamination of stormwater with sediment.</p> <p>Control and treat stormwater from the construction area through drainage channels, filter material (textile, straw bales), and settlement ponds, prior to discharge to water ways.</p> <p>Soil and debris from earthworks will not be stored or deposited within 20m of a water way.</p>	Minor, included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction
Vegetation removal	<p>The area of vegetation removal will be minimised.</p> <p>All vegetation will be removed mechanically or manually – no herbicides will be used.</p> <p>Materials of value will be offered to the community.</p> <p>All other vegetation will be disposed at a composting facility or a landfill approved by local government authorities.</p>	Minor, included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction

Environment or social impact	Construction (New Sites) Mitigation Actions	Costs	Responsible	Start	End
Accidental Find of Culturally Significant Artefacts	On discovery of a potential artefact, all construction activity works shall be suspended and the Chance Find Procedures invoked.	Minor, included in construction contract	Construction Contractor	In the beginning of construction	After completion of construction
Site restoration and landscaping	Disturbed areas will be rehabilitated with top soil and replanted with grasses or native species. There will be no exposed areas or stockpiles at the end of construction.	Minor, included in construction contract	Contractor	As required during construction	Prior to site handover.

Operation Mitigation – All Sites

Environmental or social impact	Operation Mitigation Actions	Costs	Responsible	Start	End
EMF	All high voltage equipment will be wire-fenced or placed in enclosures. For security reasons the following stationary protection will be used: <ul style="list-style-type: none"> • shielding-sheds over the disconnecting operating mechanisms, • circuit breaker control cubicles, • terminal boxes; • shielding-sheds over walkways of routine inspection • Warning signs in areas of high electric/magnetic field strength 	Minor, Included in Construction and Operation Cost	PLN operation unit	During operation	Continuous
	Max EMF intensity allowed outside the protected area is 5 kV/m.	Minor, Included in Operation Cost	PLN operation unit	During operation	Continuous
	Maximum magnetic field outside the protected area is 5 microtesla	Minor, Included in Operation Cost	PLN operation unit	During operation	Continuous
Soil and water contamination from transformer oil	Oil collectors and separators, and any stormwater treatment devices, will be regularly checked and maintained. Equipment will be regularly checked and maintained to prevent leaks.	Minor, included in Operation Cost	PLN operation unit	During operation	Continuous

Environmental or social impact	Operation Mitigation Actions	Costs	Responsible	Start	End
Fire prevention	Refer to PLN SOP.	Minor, included in Operation Cost	PLN operation unit	During operation	Continuous
Solid wastes	Solid wastes shall be transported to the special disposal places.	Minor, included in Operation Cost	PLN operation unit	During operation	Continuous
PCB's	No PCBs will be used in any replacement of transformer oil.	None	PLN operation unit	During operation	Continuous
Waste oil	All waste oil will be stored in leak proof containers under cover / inside a building.	Minor, included in Operation Cost	PLN operation unit	During operation	Continuous
Hazardous wastes (not including oil)	All hazardous wastes will be stored in leak proof containers under cover / inside a building and be transported for disposal at special disposal places.	Minor, included in Operation Cost	PLN operation unit	During operation	Continuous
Emergency Preparedness and Response	Refer to PLN SOP.	Included in Operation Cost	PLN operation unit	During operation	Continuous
Worker Health and Safety	Refer to PLN SOP.	Included in Operation Cost	PLN operation unit	During operation	Continuous
Complaints from the neighbors and local community	Complaints shall be recorded and followed up through a complaints process.	Minor, Included in Operation Cost	PLN operation unit	During operation	Continuous

Annex 3 Standard Monitoring Plans

Construction Monitoring – All Sites

Environment or social impact	Monitoring parameter	Place of monitoring	Monitoring method	Monitoring schedule	Cost	Responsible	Start	End
Dust	Daily inspection	Construction site and access road	Visual inspection	Daily	Included in construction contract	Construction Contractor	The beginning of construction	The end of construction
Noise	dBA	At the location of the complaint	Measurements to be made by following the Indonesian regulations for noise monitoring.	Within 2 weeks following a complaint	Minor to moderate, Included in construction contract	Construction Contractor	The beginning of construction	The end of construction
Non-toxic solid wastes (metal, packing and used equipment, etc.)	Clarification of Contractor's license expiration date	Prior to access to construction site	Visual inspection	Prior to granting access to construction site	Included in construction contract	Construction Contractor	The beginning of construction	The end of construction
PCB (polychlorinated biphenyl)	Invoice for equipment	At delivery site	Visual inspection	When equipment has been delivered	Included in construction contract	Construction Contractor	Arrival of equipment	Arrival of equipment
Oil spill or leaks from construction equipment	Vehicles inspected for leaks	On-Site	Visual	Weekly and following a complaint	Included in construction contract	Construction Contractor	The beginning of construction	The end of construction
Worker safety from existing electromagnetic fields	Worker exposure limits followed	On-Site	Employee timesheets	Weekly	Included in construction contract	Construction Contractor	The beginning of construction	The end of construction

Construction Monitoring – New Sites

Environment impact	Monitoring parameter	Place of monitoring	Monitoring method	Monitoring schedule	Cost	Responsible	Start	End
Soil erosion	Evidence of soil erosion	Substation site	Visual inspection	Daily, during rainy days	Included in construction contract	Construction Contractor Project supervisor	The beginning of construction	The end of construction
Soil conservation	Methods and place of fertile soil storage	Fertile soil storage areas	Visual inspection	Weekly	Minor, Included in construction contract	Construction Contractor Project supervisor	The beginning of construction	The end of construction
Soil contamination	Evidence of soil contamination (discolouration of soil, oil sheen)	Underneath transformers and / or at location of construction	Visual inspection.	Once, prior to construction starting	Minor, included in construction contract	Construction Contractor Project supervisor	Prior to construction	Prior to construction
	Contaminant concentrations	Underneath transformers, and / or at location of construction	Soil sampling, to be carried out to international standards by a suitably qualified environmental consultant.	If visual inspection identifies potential contamination, soil sampling should be undertaken to confirm the nature of contamination prior to construction starting, and following any clean up.	Moderate	Contractor	Prior to construction	Prior to construction
Site restoration and landscaping	Vegetation has established and there are no exposed areas	Construction site	Visual inspection	Once at the end of the construction period	Minor, included in construction contract	Construction Contractor	The end of construction	The end of construction

Operation Monitoring Plan

Environment impact	Monitoring parameter	Place of monitoring	Monitoring method	Monitoring schedule	Cost	Responsible	Start	End
Noise	dBA	2 meters from equipment	Measurements to be made by specialized company holding an appropriate licence, consistent with Indonesian regulations for noise monitoring.	Once annually and within 2 weeks following a complaint	Minor, included in Operation Cost	PLN Operation Unit	Start of operation	Continuous
EMF	Electric and Magnetic Field intensity	In the area of operation and at the fence	Electro meter and Gauss meter	Six monthly	Included in Operation Cost	PLN Operation Unit	Start of operation	Continuous
Soil and ground water contamination as a result of transformer leak	Requirements of SOP	Over the surface and underneath the oil containing equipment	Requirements of SOP	Requirements of SOP	Included in Operation Cost	PLN Operation Unit	Start of operation	Continuous
Fire prevention	Requirements of SOP	At substation site	Requirements of SOP	Requirements of SOP	Included in Operation Cost	PLN Operation Unit	During operation	Continuous
Emergency Preparedness and Response	Requirements of SOP	At substation site	Requirements of SOP	Requirements of SOP	Included in Operation Cost	PLN Operation Unit	During operation	Continuous
Worker Health and Safety	Requirements of SOP	At substation site	Requirements of SOP	Requirements of SOP	Included in Operation Cost	PLN Operation Unit	During operation	Continuous

Annex 4 Template for EMP for New Sites

Notes for the preparation of EMP for New Sites:

This template is based on MENLH-13-2010, the Indonesian Regulations for UKL-UPL and includes additional information required in accordance with World Bank Environmental Safeguard OP.4.01 Environmental Assessment Annex C Environmental Management Plan.

EMP Contents

I. INTRODUCTION

Project Owner Identity

Background to the IPTD2 and the subproject.

II. BUSINESS PLAN AND/OR ACTIVITY

Name and location of business plan and/or activity.

Project site plan.

Description of the subproject:

- Description of the substation, and the associated connected projects (transmission lines, access roads etc)
- Document the phases (preconstruction, construction and operation).
- Provide detail on the components of the substation construction and operation likely to have environmental or social impact.
- Provide the scale of business and/or activity, including the size of the footprint of the substation and the capacity of the transformers.

III. POTENTIAL ENVIRONMENTAL IMPACTS

For each phase of the project (pre construction, construction and operation), provide brief and clear description of:

1. Activity of the source of environmental impact;
2. Type of environmental impact;
3. Size, stating the extent of impact; and
4. Other matters need to be put forward in order to describe the environmental impact.

Summarise impacts in the following table:

SOURCE OF IMPACT	TYPE OF IMPACT	SIZE OF IMPACT	REMARKS
<i>Write down activities having environmental impact. Example:</i>	<i>Write down potential impacts. Example:</i>	<i>Write down the size which is able to state the extent of impact. Example:</i>	<i>Write other information necessary to describe potential environmental</i>

<i>Transfer / replacement of transformer oil</i>	<i>Pollution of soil and water. Risk to human health.</i>		<i>impact.</i>
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IV. ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM

Environmental Management Plan

Insert the relevant mitigation tables from Annex 2 of the ESMF **adapted with any additional specific mitigation and monitoring required that is unique to this subproject site.**

Environmental Monitoring Plan

Insert the relevant monitoring plan tables from Annex 3 of the ESMF **adapted with any additional specific mitigation and monitoring required that is unique to this subproject site.**

V. SIGNATURE AND SEAL (Optional)

If the document will be used for the UKL-UPL, the initiator must sign and affix seal of the relevant business and/or activity.

EMP Annex 1 PLN Standard Operating Procedures for Environmental Management, Emergency Preparedness and Response and Health and Safety

Include reference to the relevant clauses that will provide evidence that the mitigation measures in the tables above will be met by the Standard Operating Procedures.

EMP Annex 2 Environmental Codes of Practice for Construction

Include the standard Environmental Codes of Practice for Construction from Annex 6 of the ESMF.

EMP Annex 3 Institutional Arrangements for Environmental Management

Update the following table from the ESMF:

Action	Institutional Responsibility and Subproject Phase		
	Pre- Construction	Construction Phase	Operational Phase
Implementing EMPs	PLN Project Office	Contractor	PLN Operation Unit
Consultations	PLN Project Office	PLN Project Office	PLN Operation Unit
Supervision of EMP	PLN Project Office	Contractor	PLN Operation Unit
Monitoring Data Collection and Analysis	PLN Project Office	Contractor	PLN Operation Unit
3 monthly Construction Environmental Management Report	PLN Project Office	PLN Project Office	PLN Operation Unit
Six Monthly Environmental Performance Monitoring Report	PLN Project Offices		
Review and Update of EMP	PLN Project Offices, PLN Head Office		

Oversight of EMP implementation	PLN Head Office, World Bank
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EMP Annex 4 Reporting

Update the following table from the ESMF:

Type of report, and purpose	Frequency and timing of reporting	Who is responsible for preparing the report?	Who is responsible for receiving the report?	What are the actions / outcomes from reporting?
Construction Environmental Management Report Details of implementation of the EMP.	Once prior to construction starting, then monthly until the end of construction.	Contractor	PLN Project Office	Improvements to mitigation measures if necessary.
Incident report Incident may include (but not limited to) = oil spills, serious accidents, chance discovery of physical cultural resource, public complaint.	Construction phase: Within 1 week of the incident occurring	Contractor	PLN Project Office	PLN and / or contractor to remedy incident. PLN to notify authorities if relevant. PLN to review EMP if relevant.
Environmental Performance Monitoring Report A record of all activities and outcomes from the implementation of all EMP for all subprojects in the region in the preconstruction and construction phase including incidents, monitoring data, photos, contractor's monitoring records and records of PLN site visits.	Six monthly, and at least once during the project.	PLN Project Office	PLN Head Office	Improvements to environmental mitigation and management if necessary. Review and update of the EMP if necessary. Rewards to staff or contractors for full compliance.

EMP Annex 5 Consultation and Disclosure Plan and Results

Include the plan for consultation. Include evidence of public disclosure (copies of advertisements etc.), a list of all of the consultation events, a list of participants, a list of feedback, and details of how feedback was incorporated into the final EMP.

EMP Annex 6 Budget

Include a budget (or indicative budget) for **key** items identified in the mitigation program. For example, this may include:

- Staff training
- Purchase of monitoring equipment
- Consultants fees
- Consultation costs

EMP Annex 7 EMP Review

Use the following statement or similar:

The EMP will be reviewed when:

- A non-compliance with the EMP occurs
- A serious environmental or health and safety incident occurs
- The subproject changes significantly (design changes lead to more work being done on site, the site is expanded etc.)

A review requires the Environmental Officer to re-read the EMP to see if it can be improved to prevent the incident / non-compliance from happening again, or to prevent or minimise a new risk.

EMP Annex 8 Chance Find Procedures

Insert the Chance Find Procedures from Annex 7 the ESMF.

EMP Annex 9 Environmental Scoping Checklist

Insert a copy of the completed scoping checklist from Annex 1 of the ESMF.

Annex 5 Physical Cultural Resource Chance Find Procedures

Definitions

Physical cultural resources are the sites, areas, objects, or artefacts that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural, religious or spiritual significance to a commune, religious group, ethnic group and / or the wider public or nation. They include movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes, for example:

- Sacred landmarks
- Sacred burial sites or human remains
- Pilgrimage sites or routes
- Fossils
- Rock drawings
- Ancient structures
- Places of worship

Chance Find Procedures

If any person working on the subproject discovers a physical cultural resource (site or item) the following procedures should be followed:

- Stop the activities in the area of the chance find;
- Delineate the discovered site or area (e.g. fencing);
- Secure the site to prevent any further disturbance, damage or loss. In cases of removable antiquities or sensitive remains, arrange for guards or wardens to watch the site until the responsible local authorities take over;
- Prohibit the collection of objective by the workforce or outsiders;
- Notify the closest local cultural management agency and the local authority within 24 hours;
- Alert all subproject personnel of the find and the temporary protection measures;
- Any objects that are found must be handed over to the local cultural management agency.
- Keep records of all chance finds and actions taken.

The local cultural management authority has the responsibility for studying and evaluating cultural heritage sites / areas and documenting the requirements for protection and preservation. This will require an evaluation of the finding to be performed by archaeologists.

Management measures could include changes to the project layout (such as when finding an irremovable remain of cultural or archaeological importance), or conservation, preservation, restoration and / or salvage of the site or item.

The decision concerning the management of the finding will be communicated in writing by the local cultural management agency.

Project works can resume only after written instruction is provided from the responsible local cultural management agency. Everyone must comply with the conditions of the written instruction.

The subproject developer / owner is responsible for cooperating with the local cultural management agency and local authorities to monitor all works to ensure that the protection measures are adequate and the cultural heritage sites are protected.

Annex 6 Environmental Code of Practice for Construction

How to use the COP

The following specifications must be included in both the bidding documents and construction contracts under the Indonesia Second Power Transmission Development Project (IPTD2). The specifications will become contractual obligations for Contractors and can be enforced by PLN.

Environmental Duties of Contractor

- a. Compliance with all relevant legislative requirements in Indonesia;
- b. Implement the EMP for the duration of the construction period;
- c. Undertake monitoring of the effectiveness of the implementation of the EMP and keep records;
- d. Report the monitoring records to PLN Project office;
- e. Employ and train suitably qualified staff to take responsibility for the EMP;
- f. Comply with the Chance Find Procedures for Physical Cultural Resources; and
- g. Stop construction activities upon receiving instructions from the PLN Project Office, and propose and carry out corrective actions and implement alternative construction method, if required, in order to minimize the environmental impacts.

Prohibitions

- a. Cutting of trees for any reason outside the approved construction area;
- b. Disturbance to anything with architectural or historical value;
- c. Indiscriminate disposal of rubbish or construction wastes or rubble;
- d. Spillage of potential pollutants, such as petroleum products; and
- e. Burning of wastes and/or cleared vegetation.

Dust

- a. Use water as often as required to dampen dusty areas during windy conditions.

Noise

- a. Construction activities shall be scheduled in daytime only (8am to 6pm).
- b. Any work that must be carried out after hours shall be notified to the community at least one week in advance.

Waste Management

- a. Establish and enforce daily site clean-up procedures, including maintenance of adequate storage, recycling and disposal facilities for litter, solid waste, soil and construction debris.
- b. All solid waste that cannot be recycled shall be transported by an approved waste handler, disposed of offsite at an approved / licensed disposal site.
- c. Waste oil and other hazardous wastes (including contaminated soil and oil spills) shall be stored under cover and separated from other wastes. They shall be removed by a licensed transporter to a licensed disposal facility.
- d. Once the job is completed, all construction -generated debris should be removed from the site.

PCB

- a. Confirm that new equipment does not contain PCB.
- b. Confirm, prior to disposal, that old equipment does not contain PCB.

Oil spills and contamination

- a. Maintain vehicles and equipment to prevent leaks and spills.
- b. Keep spill kits on site and have staff trained to use them.
- c. The transfer of transformer oil shall be undertaken as per PLN Standard Operating Procedures and Indonesian regulations.

Worker Health and Safety

- d. The contractor will comply with all Indonesian regulations and PLN Standard Operating Procedures for worker exposure to EMF.
- e. All staff will be provided with suitable personal protective equipment (i.e. hard hats and high visibility clothing).

Clearing of New Sites

- a. Land clearance should only begin once all LARAP procedures have been completed;
- b. Before clearing of vegetation, ensure that all litter and non-organic material is removed from the area to be cleared;
- c. Stockpile and protect topsoil for reuse in site rehabilitation;
- d. The application of chemicals for vegetation clearing shall be avoided.

Erosion and Sediment Management

- a. Disturb as little ground area as possible and stabilize that area as quickly as possible.
- b. Direct storm water around the work site using temporary drains.
- c. Install sediment control structures where needed to slow or redirect runoff and trap sediment until vegetation is established. Sediment control structures include sediment catchment basins, straw bales, brush fences, and fabric silt fences; and
- d. In areas where construction activities have been completed and where no further disturbance would take place, re-vegetation should commence as soon as possible.

Re-Vegetation and Site Restoration

- a. The construction site and surrounds shall be landscaped and any necessary remedial works shall be undertaken without delay, to the satisfaction of PLN.

Annex 7 EMP Consultation Guidelines

All documents will be publicly disclosed for at least two weeks and comments will be sought from the public.

Disclosure notices will be broadcast online and through newspapers at the locations of the PLN Offices. Documents will be available from PLN in Bahasa (hard and soft copy) for the public to read and comment on.

For the new projects at least one public meeting will be held at or near the proposed site for affected stakeholders to attend. Affected stakeholders will receive an invite.

All feedback will be received by a given date, and recorded in the final versions of the documents.

Table 4 Summary of Consultation

Draft Documents in Bahasa	Disclosure:	Informed Staff Available to Respond to Public Enquires	Open Office	Stakeholder Meetings	Public meeting	Feedback
	Online. Hard Copy at PLN HQ, Regional Offices and Provincial Offices	PLN HQ, Project Offices and Provincial Project Sub-Offices	Provincial Project Sub Offices	At the location of the stakeholders	At or near the proposed site	Received and recorded in the final documents
EMP for Upgrades	√	√	√	On request		√
Stand alone EMPs	√	√	√	On request	√	√
LARAP	√	√	√	√	√	√
IPP	√	√	√	√	√	√

Responsibilities

Regional Project Offices will organise and lead consultation in their respective regions.

Provincial Project Sub Offices will be responsible for holding copies of the documents for public view and holding 'open office' days, under the direction of the Regional Offices.

Feedback and Record Keeping

- The following details will be recorded from meetings and open office days: names, roles and contact details of people who attended, discussion points, and any specific queries to be passed back to the project team for consideration.
- All feedback (verbal or written) received within 2 weeks following a meeting / open day, and within two weeks of the first advertisement in the newspapers / online.
- Copies of written submissions will be provided to the project team.

- All feedback will be reviewed during the completion of the final version of the relevant documents.
- A record of all consultation and feedback will be inserted as an Annex to the relevant documents.

Materials

- PowerPoint presentation or presentation posters for meetings
- Draft reports in Bahasa (hard copies and electronic)
- Webpage where the project can be explained and online reports can be downloaded
- an email address where people can contact for electronic copies
- Public advertisement in the newspaper(s).

Public Notice for New Site Consultation

A public notice in the newspaper and on the PLN website will include the following:

- Brief details of the subproject (location, purpose)
- information on where the public can view the documents (PLN website, PLN office details)
- purpose of, and invitation to, public meetings or open offices (dates, times, location)
- invitation to provide feedback on the documents to PLN (written submission or verbal feedback), within a clearly stated timeframe (provide address / email address / phone number for comment)

Schedule

Timeframe	Tasks	Materials to be prepared
<i>E.g. 12 Dec.</i>	<i>Newspaper ads written</i>	<i>Newspaper ad content</i>