

*(Official Translation))*



**PT. PLN (Persero)**

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**INDONESIA SECOND POWER TRANSMISSION**

**DEVELOPMENT PROJECT (IPTD-2)**

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**ENVIRONMENTAL MANAGEMENT PLAN (EMP)**

**DEVELOPMENT OF SUBSTATION II**

**August 2016**

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## **1 Introduction**

One of the primary objectives of Second Power Transmission Development Project (IPTD 2) Group 2 is to strengthen and to increase the electricity transmission network capacity in Java-Bali Sumatera, Kalimantan and Sulawesi. This project include the improvement and expansion of the existing power station and development of new power station. IPTD group 2 is the follow-up of the running Second Power Transmission Development Project (IPTD 2) Group 1.

The Environmental Management Plan (EMP) to this improvement, includes all sub-projects in Group 2 under IPTD 2 consisting of improvement and / or expansion to the existing power station and development of new power stations/ This EMP is in accordance with the Guidance of Social and Environmental Protection of World Bank.

### **1.1 Approach of EMP**

This EMP includes sub-projects of improvement and / or expansion to power stations and development of new power stations. These projects are still substantially available in the location of the existing power stations, in which the impact of environmental and social damage is low. Potential issues of environment and social of the most sub-projects are very similar. Thereafter, as all assets will be owned by PLN, the EMP aspects that cover: institutional arrangement, work

health and safety, as well emergency responsiveness and the handling system is stipulated by PLN, and will be similar for all sub-projects.

EMP contains standard plan of mitigation and monitoring for special impact of equipment replacement and installation of new equipment in power station, including work health and safety, and hazardous and solid waste management. This EMP also includes standard processes of monitoring, reporting and reviewing of EMP to simplify and unify the processes in project and sub-project offices.

However, each sub-component is unique meaning that: (a) it is situated at particular location, (b) public consultation will engage all impacted residents and related stakeholders, and (c) it needs public consultation to obtain environment issues and special social issue. Therefore there is screening process for each footprint to specify whether there are social and/or environmental risks outside as covered in control plan and standard monitoring. Prevention plans and additional specific monitoring will be developed for the footprints with such unique situation.

## **1.2 Structure of EMP**

Project description is available in the relevant Attachments, together with mitigation and monitoring plan, that is specific for each location. The attachments referred to are:

- Attachment 1 Regional Sumatera
- Attachment 2 Western Regional of Java
- Attachment 3 Central Regional of Java
- Attachment 4 Eastern Regional of Java and Bali
- Attachment 5 Regional Kalimantan
- Attachment 6 Regional Sulawesi and Nusa Tenggara

The management plan, standard mitigation, standard for consultation, monitoring, supervision, reporting and reviewing of EMP are available in document and along with the Attachments thereof.

#### **Contact Detail**

Contact detail of the person in charge for EMP are:

Name:

- a. Head Division of Safety, Work Health, Security and Environment (KDIVK3L)

Responsible for the review of EMP and EMP implementation evaluation

- b. Head Division of Construction of Regional Sumatera (KDIVKRSUM)

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Responsible for the EMP implementation during the construction process in Regional Sumatera.

c. Head Division of Construction of Western of Java  
(KDIVKRJBB)

Responsible for the EMP implementation during the construction process in Western Regional of Java

d. Head Division of Construction of Central Regional of Java  
(KDIVKRJBT)

Responsible for the EMP implementation during the construction process in Central Regional of Java

e. Head Division of Construction of Regional Kalimantan  
(KDIVKRKAL)

Responsible for the EMP implementation during the construction process in Regional Kalimantan

f. Head Division of Construction of Regional Sulawesi and  
Nusa Tenggara (KDIVRSNT)

Responsible for the EMP implementation during the construction process in Regional Sulawesi and Nusa Tenggara

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### **1.3 Version**

This is version of final document

## **2 Project Description**

### **2.1 A Glance of IPTD2 Group 2**

The purpose of Development of IPTD2 (Second Power Transmission Development Project) Group 2 is to fulfill the increase of electricity demand and to increase the access to electricity in sustainable basis, by strengthening and improving electricity capacity of 150 kV and 500 kV transmission network in Sumatera, Java-Bali, Kalimantan and Sulawesi.

This is a continued project of Power Transmission Development Project (IPTD2 Group 1) which is already running. Three components of IPTD-2 Group will support infrastructure and it needs guidance of Social and Environment protection: 1) development of 150 kV and 500 kV power station in Java-Bali System, 2) development of 150 kV and 500 kV power station in Sumatera, 3) development of 150 kV and 500 kV power station in Kalimantan and 4) development of 150 kV and 500 kV power station in Sulawesi.

### **Component 1: Development of 150 kV Power Station in Java-Bali Area**



In this component, a number of selected 150/20 kV and 500/150 kV power stations in Java-Bali will be developed by adding one or more transformers and other related instrumentation in each power station; to replace one or two old transformers with the new ones and any related instrumentation with larger capacity. There is one power station that needs area expansion, so that it needs additional work namely land clearance and land development. These power stations are located in Java and Bali islands.

#### **Component 2: Development of 150 kV Power Station in Sumatera**

##### **Area**

In this component, a number of 150/20 kV power stations in Sumatera will be developed by adding one or more new transformers and any related instrumentation in each power station or to replace one or more old transformers with the new ones and any related transformers with larger capacity.

#### **Component 3: Development of 150 kV Power Station in Kalimantan**

##### **Area**

In this component, a number of 150/20 kV power stations in Kalimantan will be developed by adding one or more new transformers and any related instrumentation in each power station or to replace one or more old transformers with the

new ones and any related transformers with larger capacity. These power stations are located in South Kalimantan.

**Component 4: Development of 150 kV Power Station in Sulawesi Area**

In this component, a number of 150/20 kV power stations in Sulawesi will be developed by adding one or more new transformers and any related instrumentation in each power station or to replace one or more old transformers with the new ones and any related transformers with larger capacity. These power stations are located in Central Sulawesi and Southeast Sulawesi.

**Type Summary of Sub-Project and Environmental Impact and Social Potential**

For sub-project category, the improvement and expansion thereof, the main activity of which is to install new transformer and related equipment or to replace the old transformer and any related equipment with the new ones with higher capacities in the existing 150/20 kV power stations. The improvement needs land clearance and will be conducted in the existing land of such power stations. However, there are power stations that need land addition so that land clearance and maturation must be conducted.

### 3 Environmental Impact and Social Potential

The following is summary of the major impact against environment and social possibly arising out from each subproject. The complete list of potential impact against environment and social can be included into Mitigation Plan. Environmental and social impact of particular location that is not included in standard list is set forth in Attachment 1 to 5 for the related sub-project.

**Table 1. Summary of Potential Impact against Environment**

Phase	Activity	Potential impact
Pre-Construction	Land clearance	Decrease of Asset Value
		Loss of Livelihood
Construction	Land development	Noise, dust, vibrant to surrounding properties, reduced vegetation
	Equipment and material mobilization	Noise, dust, vibrant to surrounding properties, society perception
	Entrenchment and construction	Noise, dust, vibrant to surrounding properties
		EMF exposure (electromagnetic field) towards workers
	Storage, handling,	Soil and water

	usage and hazardous waste disposal such as former transformer oil, dust cloth ex, electrolyte liquid, used batteries	contamination Health and safety risks
	PCB finding risk	Soil and water contamination
Operation and maintenance	Storage, handling, usage and hazardous waste disposal such as transformer oil	Soil and water contamination
	Electromagnetic fields	Exposure towards workers and people

#### 4 Mitigation Plan and Monitoring

Standard mitigation plans for each sub-project are as follows:

##### 4.1 Pre-Construction Mitigation Plan

Environmental and Social Impact	Pre-Construction Mitigation Action	Cost	Person in Charge	Start	Finish
Asset value decrease	CSR Implementation around the project location.	Medium, to be included into unit budget	UIP	Construction Stage	COD Period
Loss of livelihood	Compensation provision in accordance with the application regulation.	High, to be included into unit budget	UIP	Pre-Construction Stage	Prior to contract process
Society	Socialization	Low, to be	UIP	Pre-	Operation

(Official Translation))

perception	implementation at the project location.	included into unit budget		Construction Stage	
Soil and water pollution resulting by transformer leaking	Procurement document will require environment clause if there occurs soil and water pollution resulted by transformer leaking. Contractor will carry out rehabilitation into normal condition. Installation of oil collector will require procurement of non-PCB	Medium, to be included into unit budget	PLN	Procurement planning	Prior to contract

(Official Translation))

	contained equipment.				
PCB (polychlorinated biphenyls)	Procurement document will require procurement of non-PCB contained equipment.	No cost. To be included into construction contract.	PLN	Procurement planning	Prior to contract
Noise	Procurement document will require contain equipment specification such as transformer and cooling fan that comply with Indonesian standard quality.	Small, to be included into tender cost.	PLN	Procurement planning	Prior to contract
General / all impacts	Mitigation plan in EMP document is an inseparable part in the	Small, to be included into tender	PLN	Procurement planning	Prior to contract

(Official Translation))

	contract articles for Contractor.	cost.			
General / all impacts	All laws and regulations in Indonesia related to environment will be complied with during construction stage	Small, to be included into construction contract	PLN	Procurement planning	Prior to contract

#### 4.2 Construction Mitigation Plan

Environmental and Social Impact	Construction Mitigation Action	Cost	Person in Charge	Start	Finish
Dust	Watering at	Low, to be	Construction	At the	After the



(Official Translation))

	construction location, particularly during dry and windy condition. To close construction material carrier truck with tarpaulin.	included into construction contract	Contractor	initial construction	construction is completed
Noisy	Construction activity will be conducted only during working hour (from 8 a.m. to 6 p.m.). If construction work must be conducted before or after the time limit specified, the local residents must be given notice	Free of charge	Construction Contractor	Initial construction	After construction is completed

(Official Translation))

	within at least 1 week prior.				
	At the arrival time in location, and prior to the installation, contractor will provide confirmation that the equipment is in accordance with the noisy emission standard as listed in tender document.	Free of charge	Contractor	Prior to equipment installation	Prior to installation of equipment
	The vehicles used have roadworthy permission	Free of charge	Contractor	Initial construction	After the construction is completed
Hazardous toxic	B3 waste management by	Low, to be	Construction	Initial	After the

(Official Translation))

waste (B3) other than former transformer oil	contractor will be required in Contract Document.  Data regarding material number, contaminator and waste disposal destination will be kept.	included into construction contract	Contractor	construction	construction is completed
Household Waste	Waste Disposal Place (TPS) Provision  Provision of area for leftover construction material storage  Provision of good sanitation facility  Leftover construction	Low	Construction Contractor	Initial construction	After the construction is completed

(Official Translation))

	material will be cleaned immediately after the construction is completed pursuant to the applicable rule.				
PCB (polychlorinated biphenyls)	Contractor submit statement letter that the material is free of PCB.	Free of charge, to be included into construction contract	Construction Contractor	During goods procurement	Prior to installation
Former transformer oil	Oil waste will be managed pursuant to the provision of applicable legislation.	Low, to be included into construction contract	Construction Contractor	Initial construction	After construction completed

(Official Translation))

Oil spill or leakage from construction equipment	The vehicles operating in project footprint must be in good condition and has not leakage.	to be included into construction contract	Construction Contractor	Initial construction	After construction completed
	Oil absorber will be placed at project footprint to absorb any spill whatsoever, to prepare emergency response procedure against oil spill and contractor staff must acknowledge the procedure to handle spill	Low, to be included into construction contract	Construction Contractor	Initial construction	After construction completed

(Official Translation))

	Contaminated soil resulted by construction will be recovered by contractor.	Medium	Construction Contractor	Initial construction	After construction completed
Construction worker security from the existing electromagnetic fields	Working hour will be limited in accordance with PLN policy refers to WHO Standard: EMF Exposure Intensity time (kV/M) allowed (min) Up to 5 Unlimited 5-10 Up to 180 10-20 Up to 30	To be included into construction contract	Construction contractor	Initial construction	After construction completed

(Official Translation))

	20-25 Up to 25 >25 Prohibited Warning board will be placed in the area having high electromagnetic.				
Health and safety of construction workers	All of construction workers will obtain direction regarding work health and safety procedure.	To be included into PLN operational procedure	PLN power stations	Initial construction	After construction completed
	All workers will be equipped with Self Protection Tools (APD) in accordance with work type.	To be included into construction contract	Contractor	Initial construction	After construction completed

#### 4.3 Operation Mitigation Plan

Environmental and Social Impact	Construction Mitigation Action	Cost	Person in Charge	Start	Finish
Electromagnetic Fields (EMF)	<p>a. All high voltage equipment will be fenced by wire and to be placed in a closed place.</p> <p>b. For security reason, then equipment grounding system will be used for:</p> <ul style="list-style-type: none"><li>• Breaker cubicle (PMS)</li></ul>	<p>Low, to be included into construction cost and Operation</p>	PLN Operation Unit	During Operation	



	<ul style="list-style-type: none"><li>• Circuit breaker cubicle (PMT)</li><li>• Terminal box</li></ul> <p>c. Warning board in the area with high electromagnetic field</p>				
	EMF maximum intensity allows outside of a protected area is 5 kV/m.	Low, to be included into operating cost	PLN Operation Unit	During Operation	
	Maximum electromagnetic field outside of a protected area is 5 microtesla.	Low, to be included into operating	PLN Operation Unit	During Operation	

(Official Translation))

		cost			
Fire prevention	It refers to SOP of PLN.	Low, to be included into operating cost	PLN Operation Unit	During Operation	
Grass cutting and twigs pruning	Grass and plants around Power station will be trimmed, plants and grass cut will be removed from power station area to the disposal place stipulated.	Low, to be included into operating cost	PLN Operation Unit	During Operation	
Solid waste	Solid waste must be removed to special	Low, to be included	PLN Operation	During Operation	

(Official Translation))

	disposal place.	into operating cost	Unit		
PCB	There is no OCB will be used in replacement of any transformer oil whatsoever.	None	PLN Operation Unit	During Operation	
Former transformer oil waste	Oil waste will be handled, stored, and disposed pursuant to the applicable provision.	Low, to be included into operating cost	PLN P3B Sumatera	During Operation	
Hazardous toxic waste (B3) other than former	a. B3 waste management will refer to the regulation regarding B3 waste management.	Low, to be included into operating	PLN P3B Sumatera	During Operation	

(Official Translation))

transformer oil	b. Data regarding material amount, contaminator and waste disposal destination will be maintained.	cost			
Readiness and emergency responsiveness	It refers to SOP PLN	to be included into operating cost	PLN P3B Sumatera	During Operation	
Workers' Health and Safety	Refers to SOP PLN	to be included into operating cost	PLN P3B Sumatera	During Operation	

(Official Translation))

Complaints from the surrounding and local community	Complaints must be recorded and followed-up during the complaint process.	Low, to be included into operating cost	PLN P3B Sumatera	During Operation	
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#### 4.4 Pre-Construction Monitoring Plan

Environmen tal and Social Impact	Monitoring Parameter	Monitoring Place	Monitoring Method	Monitoring Schedule	Cost	Person in Charge	Start	End
Asset Value Decrease	Total of CSR Program implemented and quality of	Location of constructio n and surrounding settlement	CSR Report Document Review	Once before expiration of pre- constructi	Medium , to be includ ed	PLN Project Unit	Initial of Pre- Construct ion Period	Prior to the commencem ent of construct

(Official Translation))

	achievement			on period	into unit budget			ion
Loss of Livelihood	Total of compensatio n provided in accordance with stakeholder identificat ion	Location of constructio n and surrounding settlement	Compensati on Report Document Review	Once before expiration of pre- constructi on period	Medium , to be includ ed into unit budget	PLN Project Unit	Initial of Pre- Construct ion Period	Prior to the commencem ent of construct ion
Community perception	Implementat ion of project socializati	Constructio n location	Evidence of socializati on	Once before expiration of pre-	Medium , to be includ	PLN Project Unit	Initial of Pre- Construct ion	Prior to the commencem ent of

(Official Translation))

	on for community		implementa tion	constructi on period	ed into unit budget		Period	construct ion
Soil and water pollution resulted by transforme r leakage	Procurement document listing the clause of soil and water pollution management	Constructio n location	Procuremen t document checking	Once before expiration of pre- constructi on period	Medium , to be includ ed into unit budget	PLN Procurem ent Division	Arrival of equipment	Arrival of equipment
PCB	Procurement document listing the clause of	PLN Office	Procuremen t document checking	Once before expiration of pre-	Medium , to be includ	PLN Procurem ent Division	During Preparati on of Procureme	During Preparati on of Procureme

(Official Translation))

	PCB prohibition in transformer			constructi on period	ed into unit budget		nt Document	nt Document
Noisy	Procurement document listing the clause of noise quality standard requirement	PLN Office	Procuremen t Document review	Once before expiration of pre- constructi on period	Medium , to be includ ed into unit budget	PLN Procurem ent Division	During Preparati on of Procureme nt Document	During Preparati on of Procureme nt Document

#### 4.5 Construction Monitoring Plan

Environment	Monitoring	Monitoring	Monitoring	Monitoring	Cost	Person	Start	End
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(Official Translation))

and Social Impact	Parameter	Place	Method	Schedule		in Charge		
Dust	Air quality standard: 150 microgram/m <sup>3</sup> for 24 period (IFC Standard)	Location of construction and surrounding settlement	Gravimeter	Semester	To be included into construction contract	Construction contract	Initial construction	End of Construction
Noise	dBA Quality Standard: 70 dBA	Location of construction and surrounding	Measurement by using Sound Level Meter	Semester	Low to medium, to be included into	Construction contract	Initial construction	End of Construction

(Official Translation))

		g settlement			construc tion contract			
Hazardous toxic waste (B3) other than transformer oil (used batteries, electrolyte liquid, dust cloth ex, Neon Lamp)	Log Book	Constructi on location	Inspection	Pre- Semester	To be included into construc tion contract	Construc tion contract	Initial construc tion	End of Construc tion
PCB	Equipment	At	Visual	When	To be	Construc	Arrival	Arrival

(Official Translation))

(polychlorinated biphenyls)	Invoice	delivery location	inspection completed with Minutes	equipment is delivered	included into construction contract	tion contract	of equipment	of equipment
Oil spill or leakage from construction equipment	Vehicles to be inspected to know leakage	At occurrence location	Visual	Weekly and after there is complaint	Low, to be included into construction contract	Construc tion contract	Initial construc tion	End of Construc tion
Worker safety from electromagnetic fields	Quality standard of Electromag	At project location	Workers Schedule	Pre-Semester	To be included into construc	Construc tion contract	Initial construc tion	End of Construc tion

(Official Translation))

	netic Wave permitted				tion contract			
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#### 4.6 Operation Monitoring Plan

Environment and Social Impact	Monitoring Parameter	Monitoring Place	Monitoring Method	Monitoring Schedule	Cost	Person in Charge	Start	End
Noise	dBA  Quality Standard:  70 dBA	Project location and surroundin g settlement	Measuremen t by using  Sound Level Meter	Per  Semester	Low to medium, to be included into construct ion contract	PLN  Operati on Unit	Start of operation	Continu ous
Electro	Intensity	At	Electro	Per	To be	PLN	Start of	Continu

(Official Translation))

magnetic Fields (EMF)	of electricity and electromagn etic	operation area and at fence	meter and Gauss meter	Semester	included into operation cost	Operati on Unit	operation	ous
Fire prevention	SOP requirement	At power station area	SOP requiremen t	SOP requiremen t	To be included into operation cost	PLN Operati on Unit	During operation	Continu ous
Preparednes s and emergency response	SOP requirement	At power station area	SOP requiremen t	SOP requiremen t	To be included into operation cost	PLN Operati on Unit	During operation	Continu ous
Workers'	SOP	At power	SOP	SOP	To be	PLN	During	Continu

(Official Translation))

Health and Safety	requirement	station area	requirement	requirement	included into operation cost	Operation Unit	operation	ous
Solid Waste	Evidence of Solid Waste	At power station area	Visual	Daily	To be included into operation cost	PLN Operation Unit	During operation	Continu ous
Waste/Disposal from Pit Oil	Quality Standard Oil and Grease of 10 ppm (mg/liter) -Regulation	At power station area which there is Oil Pit	Gravimeter	At the time there is disposal (non-routine disposal	To be included into operation cost	PLN Operation Unit	During operation	

	of Environment Minister 5/2014 Waste Water Quality Standard Attachment XLVII			assumption )				
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## 5 Reporting

Type of report, frequency, and responsibility of report is to be summarized in reporting program below:

**Table 1. Reporting Program**

(Official Translation))

Type of report, and purpose	Frequency and reporting time	The person in charge to prepare report	The person in charge to receive report	Action/result of report
Construction Environment Management Report	Six monthly up to the end of construction	Contractor	PLN Project Implementer Unit	Improvement of mitigation measures if necessary
Incident Report Incident can be in the form (but not limited to this) = oil spill, work accident, incidental finding of physical cultural resource,	Construction Stage Within 1x24 hours after an incident occurs	Contractor	PLN Project Implementer Unit	PLN and/or contractor handles the incident. PLN reports to any related authority if necessary. PLN reviewing EMP if necessary



public complaint				
Environment Performance Monitoring Report Data of all activities and implementation result of all EMP for all sub- projects in such area in pre- construction and construction stage including incidents, monitoring data,	Six monthly, during the IPTD 2 project duration	PLN UIP	PLN Project Implementer	Improvement towards environment management and mitigation if necessary Review and update of EMP if necessary Award to staff or contractor for EMP implementation with full conformity.

(Official Translation))

photographs, monitoring data from contractor, and footprint visit data by PLN				
Combined Environmental Performance Monitoring report Report will incorporate information of the above reports from PLN project Report contains: List of new sub-	Six monthly, during duration	PLN Central Office	PLN Pusmankom	

project will be constructed or authorization from EMP status or Status of all sub- projects and EMP implementation Summary of great issues				
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**6 Consultation and Announcement**

Consultation and public announcement will be implemented in accordance with guidance in ESMF.

**7 Institutional Responsibility**

**Table 2. Person in Charge of Activity**

(Official Translation))

Action	Institutional Responsibility and Sub-Project Stage		
	Pre-Construction	Construction Stage	Operation Stage
EMP Application	PLN Powerhouse Development Unit	Contractor	PLN Operation Executive Unit
Consultation	PLN Powerhouse Development Unit		PLN Operation Executive Unit
EMP Supervision	PLN Powerhouse Development Unit	PLN Powerhouse Development Unit	PLN Operation Executive Unit
Collection and analysis of monitoring data		PLN Powerhouse Development Unit	PLN Operation Executive Unit
Quarterly report of Construction environment Management		PLN Development Unit	PLN Operation Executive Unit
Environment Performance Monitoring Report each Six Month	PLN Powerhouse Development Unit		

(Official Translation))

EMP Update and Review	Central PLN
EMP Application Supervision	PLN Central Office, World Bank

## 8 Finance and Program

The following is estimated finance for EMP application:

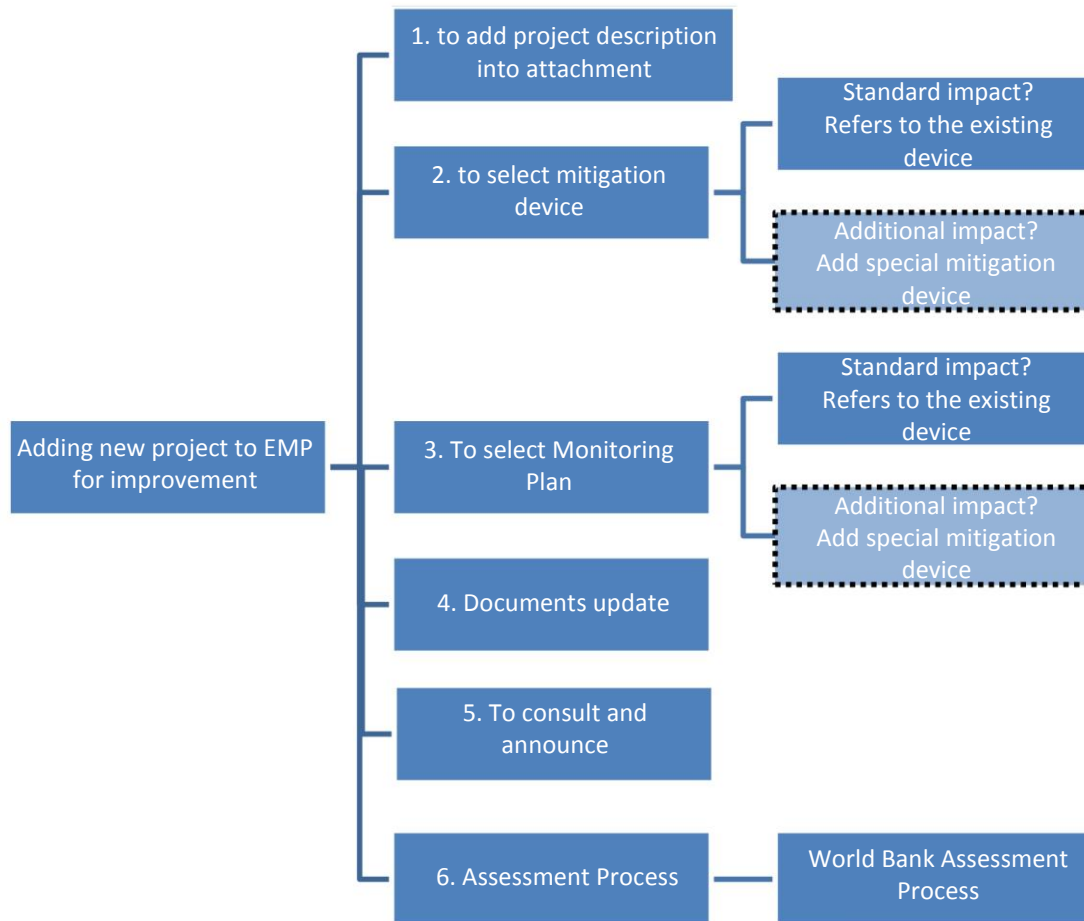
Activity	Estimated Cost
Consultation	Low, burdened by PLN
EMP Update	Low, burdened by PLN
EMP Reporting and monitoring (Consultant or staff cost)	Low, burdened by PLN
EMP Training	Low, burdened by PLN and World Bank

## 9 Update, Review, and Version Control from EMP

### 9.1 Update

(Official Translation))

EMP will be renewed when one or more sub-projects of update type or expansion is proposed for funding and application, as the following Process:



## **9.2 Review**

In addition to update, EMP will be reviewed if:

- There is any incompatibility to EMP
- An environmental incident or serious health and safety occurs
- IPTD2 Group 2 Project significantly changes (any sub-project added or eliminated)

A review requires a relevant Environment Staff and / or representative from Head Office to read again EMP to see whether EMP can be improved to prevent the occurrence again of incident/inconformity, or to prevent or to minimize any new risk.


## **9.3 Document Control**

Each document revision will have new revision number. Each revised document will be distributed to PLN Head Office, PLN Project Offices and other relevant Shareholders. The previous revision will be no longer valid.


**Attachment 1. Regional Sumatera**


No.	Power Station	Sub Project Scope	Description of Location and Surrounding Environment
A.	SUMBAGSEL		-
1	Seputih Banyak	Expansion of the existing GI (Power Station) 150/20 KV (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- Power Station is located at the existing land so it does not require any land acquisition</li><li>- Located at Siswa Bangun Village, SB 16 Governmental Village, Seputih Banyak Sub-Regency, Lampung Tengah Regency, Lampung Province.</li><li>- The location around power station is the settlement area, Cassava and rubber farms</li><li>Western side: bordering with cassava farm and several rubber trees</li><li>Southern side: bordering with Sumatera East Cross Road</li><li>Northern side: bordering with cassava farm and several rubber trees</li></ul>




			<p>Eastern side: bordering with cassava farm and several rubber trees</p> <ul style="list-style-type: none"><li>- The power station is not equipped by oil pit yet</li><li>- Scope of work: land uses 70/20 kV and road access is available</li></ul> 
2	Tagineneng	Power Station Improvement (Upgrading 60 MVA)	<ul style="list-style-type: none"><li>- Power Station is located at the existing land so it does not require any land acquisition</li><li>- It is located at Bumi Agung Village, Tegineneng Sub-</li></ul>


		transformer)	<p>Regency, Pesawaran Regency, Lampung Province</p> <ul style="list-style-type: none"><li>- The nearest settlement location is at + 200 m behind the Power Station location</li></ul> <p>Western side: bordering with cassava farm, coconut and rice field</p> <p>Southern side: bordering with cassava farm, coconut and rice field</p> <p>Northern side: bordering with PLTD (Diesel Plant)</p> <p>Eastern side: bordering with cassava farm, coconut and rice field</p> <ul style="list-style-type: none"><li>- The power station is not equipped by oil pit yet</li><li>- Scope of work: Land is available and road access is also available</li></ul>
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3	Sungai Liat	Power Station expansion GI existing 150/20 kV (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- Power Station is located at the existing land so it does not require land acquisition</li><li>- It is located at Bukit Semut District, Parit Padang Village, Sungai Liat Sub-Regency, Bangka Regency, Bangka Belitung Province</li><li>- The nearest settlement location is at 25 m around the power station</li></ul> <p>Western side: bordering with the road access towards the</p>

			<p>resident housing</p> <p>Southern Side: bordering with the Main Road</p> <p>North: bordering with hill and residents houses</p> <p>East: bordering with residents' houses</p> <ul style="list-style-type: none"><li>- The power station is not equipped by oil pit yet</li><li>- Scope of work: Land is available, road access is available</li></ul> <p>Photos</p> 
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4	Air Anyir	Power Station expansion existing 150/20 kV (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- It is located at Air Anyir District, Air Anyir Village, Merawang Sub-Regency, Bangka Regency, Bangka Belitung Province</li><li>- The nearest settlement location is at a distance of 2 KM from the Power Station</li><li>Western Side: bordering with the empty land</li><li>South Side: bordering with PLTU (Steam Plant)</li><li>North: bordering with PLTD (Diesel Power Plant) Sewa</li><li>East: bordering with PLN Office Bangka Sector</li><li>- The power station is not equipped by oil pit yet</li><li>- Scope of work: Does it need land development? Land procurement? Access road improvement?</li><li>- Photo of project footprint</li></ul>
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5	Pangkal Pinang	Power Station expansion of the existing 150/20 kV (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- It is located at Kampak District, Kerabut Village, Gerunggang Sub-Regency, Pangkal Pinang Municipality, Bangka Belitung Province</li><li>- The nearest settlement location is at a distance of 20m from the Power Station and surrounded by banana farm and Main Road</li></ul> <p>Western Side: bordering with banana farm</p>

			<p>Southern Side : bordering with the main road</p> <p>North: bordering with the banana farm</p> <p>East: bordering with the resident' houses and banana farm</p> <ul style="list-style-type: none"><li>- The power station is not equipped by oil pit yet</li><li>- Scope of work: Land is available</li></ul> 
6	Betung	<ul style="list-style-type: none"><li>- Power Station expansion of the existing</li></ul>	<ul style="list-style-type: none"><li>- It is located at Suka Mulya Village, Betung Sub-Regency, Banyuasin Regency, South Sumatera Province</li><li>- The nearest settlement location is at a distance of +</li></ul>

(Official Translation))

		275/150 kV (1 Additional Bay Transformer) - 150 kV Power Station Improvement (Upgrading 60 MVA Transformer)	200 m around the Power Station location.  Western Side : bordering with Paper Factory  Southern Side : bordering with Rubber Farm  North : bordering with Sekayu - Banyuasin Regency Cross Road  East : bordering with 275 kV Power Station and rubber plantation  - The power station is not equipped by oil pit yet  - Scope of work: construction process for 275 kV, 150 kV land is available
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7	Tarahan	Power Station improvement (uprating 60MVA transformer)	<ul style="list-style-type: none"><li>- It is located at Batu Serampok District, Srengsem Village, Panjang Sub-Regency, Bandar Lampung Regency, Lampung Province.</li><li>- Settlement location is at the distance of 100m around the Power Station location.</li></ul> <p>Western Side: bordering with Paper Factory</p> <p>Southern Side: bordering with PLTU (Steam Plant) Tarahan</p> <p>North: bordering with PLTD (Diesel Plant) Tarahan</p>


(Official Translation))


			<p>East: bordering with PT Bukit Asam</p> <ul style="list-style-type: none"> <li>- The power station is not equipped by oil pit yet</li> <li>- Scope of work: Land is available</li> </ul> 
8	Auduri	Power Station improvement (uprating 60 MVA transformer)	<ul style="list-style-type: none"> <li>- It is located at Mendalo darat Village, Jambi Luar Kota Sub-Regency, Muaro Jambi Regency, Jambi Province</li> <li>- The nearest settlement location is at a distance of + 100 m around the Power Station location.</li> </ul>

(Official Translation))


			<p>Western Side: bordering with residents' houses and yard with coconut trees</p> <p>Southern Side: bordering with Sumatera cross road</p> <p>North: bordering with Forest and residents' yard</p> <p>East: bordering with PT Citra Beton</p> <ul style="list-style-type: none"><li>- The power station is not equipped by oil pit yet</li><li>- Scope of work: Land and access road are available</li></ul> 
9	Mariana	Improvement of GI	<p>- It is located at Prajen Village, Mariana Sub-Regency,</p>

		(Uprating trafo 60 MVA)	<p>Banyuasin Regency, South Sumatera Province</p> <ul style="list-style-type: none"><li>- The nearest settlement location is at a distance of + 100 m around the Power Station location.</li></ul> <p>Western Side: bordering with swamp with wood plants</p> <p>Southern Side: bordering with swamp</p> <p>North: with Jalan Inpres prajen mariana</p> <p>East: bordering with rawa gelam swampt</p> <ul style="list-style-type: none"><li>- The power station is not equipped by oil pit yet</li><li>- Scope of work: Land and access road are available</li></ul>
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<b>B</b>	<b>SUMBAGUT</b>		
1	Langsa	Uprate 60 MVA AIS - 150/20 kV	<ul style="list-style-type: none"><li>- It is located at Jl. Utama, No. 5, Lorong Seri Alur Dua Langsa, Langsa Baro, Langsa City, Aceh Province</li><li>- Location around the power station is settlement area.</li><li>West: bordering with community settlement</li><li>South: bordering with community settlement</li><li>North: bordering with road</li></ul>

			<p>East : bordering with small street/alley and community settlement</p> <ul style="list-style-type: none"><li>- The existing power station is not equipped by oil pit yet</li><li>- For Transformer Upgrading does not need land acquisition, it is only to replace the existing transformer.</li><li>- Access road is available.</li><li>- Photo of project footprint (transformer to be replaced):</li></ul> 
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2	Pangkalan Brandan	Uprate 60 MVA AIS - 150/20 kV	<ul style="list-style-type: none"><li>- It is located at Jl. Piturah Lingkungan Paya Glugur, Alur Dua Village, Sei Lapan Sub-Regency, Pangkalan Brandan, Langkat City - 20857, North Sumatera Province</li><li>- Location around the power station is the settlement area.</li></ul> <p>West: bordering with community settlement</p> <p>South: bordering with community settlement and yard</p> <p>North: bordering with community settlement and official</p>

(Official Translation))

			<p>housing</p> <p>East: bordering with community settlement</p> <ul style="list-style-type: none"><li>- The existing power station is not equipped by oil pit yet</li><li>- For Transformer Upgrading does not need land acquisition, it is only to replace the existing transformer.</li><li>- Photo of project footprint (transformer to be replaced):</li></ul> 
3	Rantau Prapat	Extension 60 MVA AIS - 150/20 kV	<ul style="list-style-type: none"><li>- It is located at Jl. WR. Supratman, Janji Village, Bilah Barat Sub-Regency, Labuhan Batu Induk Sub-Regency, North</li></ul>



			<p>Sumatera Province</p> <ul style="list-style-type: none"><li>- Location around the power station is the settlement area and palm oil plantation belongs to PTPN 3.</li></ul> <p>West: bordering with approximately 3 residents' houses and cross road</p> <p>South: bordering with palm oil plantation belongs to PTPN 3</p> <p>North: bordering with cross road and residents' shops</p> <p>East: bordering with palm oil plantation belongs to PTPN 3</p> <ul style="list-style-type: none"><li>- The existing power station is not equipped by oil pit yet.</li><li>- Extension requires land acquisition, with the covering area of ± 600 m2.</li><li>- Access road is available.</li><li>- Photo of project footprint (the area able to be expanded</li></ul>
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(Official Translation))


for trafo bay addition)




4	Sei Rotan	Uprate 60 MVA AIS - 150/20 kV	<ul style="list-style-type: none"><li>- It is located at Jl. Medan - Batang Kuis Km. 11, LR. VII, Sei Rotan, Percut Sei Tuan, Deli Serdang, North Sumatera Province.</li><li>- Location around the power station is settlement area and rice fields.  West : bordering with community rice fields  South: bordering with community rice fields  North: bordering with community settlement  East : bordering with community settlement and rice fields</li><li>- The existing power station is not equipped by oil pit yet</li><li>- Transformer Uprating does not need land acquisition, only to replace the existing transformer.</li><li>- Access road is available.</li><li>- Photo of project footprint (transformer to be replaced)</li></ul>
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(Official Translation))

			 
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5	Maninjau	Extension 60 MVA AIS - 150/20 kV	<ul style="list-style-type: none"><li>- It is located at Jl. Raya Maninjau - Lubuk Basung KM.8, Lubuk Sao, Tanjung Raya Sub-Regency, Agam Regency, West Sumatera Province - 26471</li><li>- Location around the power station is empty land belongs to PLN</li></ul> <p>West: is empty land belongs to PLN and riverside.</p> <p>South: bordering with river and 150 kV tower</p> <p>North: bordering with PLTA (Water Plant)</p> <p>East: empty land belongs to PLN.</p>

(Official Translation))

			<ul style="list-style-type: none"><li>- The existing power station is not equipped by oil pit yet.</li><li>- Extension requires land acquisition with the covering area of ±600 m2 uses the sufficient remaining land at the Eastern Side of the Power Station.</li><li>- Access road is available.</li><li>- Photo of project footprint (the area able to be expanded for trafo bay addition)</li></ul> 
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6	PIP	Extension 60 MVA AIS - 150/20 kV	<ul style="list-style-type: none"><li>- It is located at Jl. By Pass KM.25, Kasang Bintungan, Batang Anai Village,..... City, West Sumatera Province.</li><li>- Location around the power station is industrial area. The entire location is surrounded by Industrial area.</li><li>- The existing power station is not equipped by oil pit yet.</li><li>- Extension requires land acquisition with the covering area of ±600 m2.</li><li>- Access road is available.</li></ul>

(Official Translation))

			<p>- Photo of project footprint (the area able to be expanded for trafo bay addition)</p>  
7	Bagan Batu	Extension 60 MVA AIS - 150/20 kV	<p>- It is located at Jl. Hasantiro, Dusun Bahtera Makmur, Simpang Pujud, Bagan Batu City, Riau Province</p>



(Official Translation))


			<ul style="list-style-type: none"><li>- The location around power station is settlement area. West: bordering with cross road South: bordering with community settlement North: bordering with community settlement East: bordering with lands belong residents</li><li>- The existing power station is not equipped by oil pit yet.</li><li>- Extension requires land acquisition with the covering area of ±600 m2.</li><li>- Access road is available.</li><li>- Photo of project footprint (the area able to be expanded for trafo bay addition)</li></ul>
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(Official Translation))

			
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Attachment 2. Western of Java Regional

No.	Power Station	Sub Project Scope	Description of Location and Surrounding Environment
1	Taman Rasuna Sepatan	Expansion of the existing Power station 150/20 kV (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- The power station is located next the existing area but it needs Land acquisition</li><li>- Address : Jl. Raya Mauk Km.13, Pisangan Jaya, Sasakan Village, Tangerang Regency</li><li>- The location around power station is settlement area, plantation/rice field</li><li>Northern Side : Settlement</li><li>Western Side : Settlement</li><li>Southern Side : plantation/rice fields</li><li>Eastern Side : plantation/rice fields</li><li>- The land covering area needed for transformer addition and its supporting facility is ±5000 m<sup>2</sup></li><li>- The power station is already equipped by oil pit</li><li>- Scope of work : New land opening</li><li>- Photos of project footprint:</li></ul>


			 <ul style="list-style-type: none"><li>- The main access road for transformer mobilization is sufficient, using Jalan Raya Mauk with the width of <math>\pm 6</math> m.</li><li>- However it is needed additional access road and fence demolition inside the existing Power station.</li></ul>
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2	Salira Indah	Expansion of the existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- Power station is located in the existing area so it does not need any acquisition</li><li>- Address : Jl. Raya Bojonegara, Mangunreja Village Km.10, Pulau Ampel Sub Regency, Serang Regency</li><li>- The location around power station is an industrial area</li></ul> <p>Northern Side: Industry</p> <p>Western Side: Industry</p>



			<p>Southern Side: Industry</p> <p>Eastern Side: Industry</p> <ul style="list-style-type: none"><li>- the land covering area needed for transformer addition and its supporting facility (is still sufficient).</li><li>- The power station is already equipped by oil pit</li><li>- Scope of work: Land development</li><li>- The main access road for transformer mobilization is sufficient, using Jalan Raya Bojonegara width ±8 m.</li><li>- While the road to project location uses Industrial Area access road with the width of ±8 m.</li></ul>
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3	Millenium (PT Power Steel)	Expansion of the existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- The power station is located in an existing area so it does not need any acquisition</li><li>- Address : Millenium Industrial Estate Area, Peusar Village, Panongan Sub-Regency, Tangerang Regency</li><li>- The location around power station is an industrial area</li></ul> <p>Northern Side : Industry</p> <p>Western Side: Industry</p> <p>Southern Side: Industry</p> <p>Eastern Side: Industry</p>

(Official Translation))



			<ul style="list-style-type: none"><li>- the land covering area needed for transformer addition and its supporting facility (is still sufficient)</li><li>- The power station is already equipped by oil pit</li><li>- Scope of work: Land development</li><li>- Photos of project footprint:</li></ul> 
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			<div data-bbox="1077 193 1608 550"></div> <div data-bbox="1037 587 2047 911"><ul style="list-style-type: none"><li>- The main access road for transformer mobilization is sufficient, using Jalan Raya Penda Tigaraksa with the width of <math>\pm 16</math> m.</li><li>- While the road to project location uses Industrial Area access road with the width of <math>\pm 16</math> m.</li></ul></div> <div data-bbox="1077 949 1682 1339"></div>
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(Official Translation))

4	Gambir Lama	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- The power station is located in an existing area so it does not need any acquisition</li><li>- Address : Jl. M.I Ridwan Rais No.1 Central Jakarta</li><li>- The location around power station is office area and settlement  Northern Side : Main Road and Office Area Western Side : Office Area Southern Side : Office Area and Settlement East Area : Office Area</li><li>- The land covering area needed for transformer addition and its supporting facility (is still sufficient)</li><li>- Power station is already equipped by oil pit</li><li>- Scope of work: Land development</li><li>- Photos of project footprint:</li></ul>
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			  <ul style="list-style-type: none"><li>- The main access road for transformer mobilization is sufficient, using Jalan M.I Ridwan Rais, Gambir with the width of <math>\pm 20</math> m.</li></ul> <p>While the road to project location uses PLN Disjaya access road with the width of <math>\pm 6</math> m.</p>
5	Antasari/CSW	Expansion of existing	<ul style="list-style-type: none"><li>- The power station is located in an existing area</li></ul>


(Official Translation))


	2/Kemang Village	150/20 kV Power station (1 Additional Bay Transformer)	<p>so it does not need any acquisition</p> <ul style="list-style-type: none"><li>- Address : Jl. Kemang Selatan, Cipete Selatan Village, South Jakarta</li><li>- The location around power station is the settlement</li></ul> <p>Northern Side: Settlement</p> <p>Western Side: Settlement</p> <p>Southern Side: Settlement</p> <p>Eastern Side: Settlement and Main Road</p> <ul style="list-style-type: none"><li>- The land covering area needed for transformer addition and its supporting facility (is still sufficient)</li><li>- Power station is already equipped by oil pit</li><li>- Scope of work: Land development</li><li>- Photos of project footprint:</li></ul>
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6	Tanah Tinggi	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- The power station is located in an existing area so it does not need any acquisition</li><li>- Address : Jl. Pramuka No.3 Rawasari, Rawasari Sub-Regency, Central Jakarta</li><li>- The location around power station is settlement<ul style="list-style-type: none"><li>Northern Side : Settlement</li><li>Western Side: Settlement</li><li>Southern Side: Settlement</li><li>Eastern Side: Settlement</li></ul></li><li>- The land covering area needed for transformer addition and its supporting facility (is still sufficient)</li></ul>

(Official Translation))

			<ul style="list-style-type: none"><li>- Power station is already equipped by oil pit</li><li>- Scope of work: Land development</li><li>- Photos of project footprint:</li></ul>  <ul style="list-style-type: none"><li>- The main access road for transformer mobilization is sufficient, using Jalan Pramuka Jaya, Rawasari, with the width of ±24 m.</li></ul>
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7	Dukuh Atas	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- The power station is located in the existing area so it does not need any acquisition</li><li>- Address : Jl. Halimun No.2, Guntur Village, Setiabudi Sub-Regency, South Jakarta</li><li>- The location around power station is settlement<ul style="list-style-type: none"><li>Northern Side: Settlement</li><li>Western Side: Settlement</li><li>Southern Side: Settlement</li><li>Eastern Side: Settlement</li></ul></li><li>- The land covering area needed for transformer addition and its supporting facility (is still</li></ul>

			<p>sufficient)</p> <ul style="list-style-type: none"><li>- Power station is already equipped by oil pit</li><li>- Scope of work: Land development</li><li>- Photos of project footprint:</li></ul>  <ul style="list-style-type: none"><li>- The main access road for transformer mobilization is sufficient, using Jalan Sultan Agung, Setiabudi, with the width of ±13 m.</li><li>- While the road to project location uses Jalan Halimun, Setiabudi, with the width of ±7 m.</li></ul>
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(Official Translation))

					
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### Attachment 3. Central of Java Regional

No.	Power Station	Sub Project Scope	Description of Location and Surrounding Environment
1	Poncol Baru Tambun II	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"> <li>- The power station is located in an existing area so it does not need any acquisition</li> <li>- Address: Jl. M.Hasibuan No.1, Margahayu, Bekasi Timur Sub-Regency, Bekasi City</li> <li>- The location around power station is settlement, hospital and main road</li> <li>Northern Side: Settlement</li> </ul>

			<p>Western Side: Settlement</p> <p>Southern Side: Settlement</p> <p>Eastern Side: Settlement</p> <ul style="list-style-type: none"><li>- The land covering area needed for transformer addition and its supporting facility (is still sufficient)</li><li>- Power station is already equipped by oil pit</li><li>- Scope of work: Land development</li><li>- Photos of project footprint:</li></ul> <div data-bbox="1077 849 1989 1264"></div>
2	Cirata	Expansion of existing	<ul style="list-style-type: none"><li>- The power station is located in an existing area</li></ul>

(Official Translation))

		150/20 kV Power station (1 Additional Bay Transformer)	<p>however it needs land acquisition</p> <ul style="list-style-type: none"><li>- Address : Komplek PJB Cirata, Karoya Village, Tegalaru Sub-Regency, Purwakarta Regency.</li><li>- The location around power station is settlement<ul style="list-style-type: none"><li>Northern Side : Next yard</li><li>Western Side : Yard</li><li>Southern Side : Yard</li><li>Eastern Side : Yard</li></ul></li><li>- The land covering area needed for transformer addition and its supporting facility (is acquired)</li><li>- Power station is already equipped by oil pit</li><li>- Scope of work : Land acquisition and maturation</li><li>- Photos of project footprint:</li></ul>
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3	Cibeureum	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- The power station is located in an existing area so it does not need any acquisition</li><li>- Address : Cibeureum Village, Cimahi Sub-Regency, Bandung Regency</li><li>- The location around power station is settlement<ul style="list-style-type: none"><li>Northern Side : Settlement</li><li>Western Side : Rice fields</li><li>Eastern Side : Rice fields</li><li>Eastern Side: Settlement</li></ul></li></ul>

(Official Translation))



			<ul style="list-style-type: none"> <li>- The land covering area needed for transformer addition and its supporting facility (is still sufficient)</li> <li>- Power station is already equipped by oil pit</li> <li>- Scope of work: Land development</li> <li>- Photos of project footprint:</li> </ul> <div data-bbox="1030 628 1536 1051" data-label="Image"> <p>Aerial map showing the project footprint for 'Areal Gerdas Induk Cibereum Extension'. The map displays a residential area with a green-shaded region indicating the project site. A legend in the top right corner identifies symbols for 'Area' and 'Status'. The map includes coordinates: 105° 10' 00" E, 6° 10' 00" S.</p> </div> <div data-bbox="1568 649 1991 1053" data-label="Image"> <p>Photograph of a power station site. A worker wearing a white hard hat and a dark shirt is visible in the foreground. In the background, there is a tall, dark metal structure, likely a transformer or part of the power station infrastructure, surrounded by green trees and a paved path.</p> </div>
4	Batang	Capacity increase of the existing 150/20 kV Power station Uprating 1 TB, 1 TRF	<ul style="list-style-type: none"> <li>- The power station is located at an existing land so it does not need any acquisition. The existing belongs to PLN</li> <li>- Location: Jl. Raya Tulis, Kandeman Village,</li> </ul>

(Official Translation))

			<p>Kandeman Sub-Regency, Batang Regency, Central Java Province.</p> <ul style="list-style-type: none"><li>- Southern Side: Rock Breaker</li><li>Western Side: Factory</li><li>Eastern Side: Farms</li><li>Northern Side: Road</li><li>- Transformer transportation access into Power station is sufficient</li><li>- Power station is already equipped by oil pit</li></ul> 
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(Official Translation))

5	Purbalingga	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer) Ext 1 TB, 1 TRF	<ul style="list-style-type: none"><li>- The power station is located at an existing land so it does not need any acquisition. The existing belongs to PLN</li><li>- Location: Jl. Raya Penican, Kemangkon Sub-Regency, Purbalingga Regency, Central Java Province.</li><li>- Southern Side: Rice fields</li><li>Western Side: Rice fields</li><li>Eastern Side: Rice fields</li><li>Northern Side : Road</li><li>- Transformer transportation access into Power station is sufficient</li><li>- Power station is already equipped by oil pit</li></ul>
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6	Klaten	Capacity increase of the existing 150/20 kV Power station Upgrading 1 TB, 1 TRF	<ul style="list-style-type: none"><li>- The power station is located at an existing land so it does not need any acquisition. The existing belongs to PLN</li><li>- Location: Jl. Bima No. 1, Gumulan, Klaten, Central Java Province.</li><li>- Southern Side: Road, Settlement Western Side: Road, Settlement Eastern Side: Settlement Northern Side: Farms</li><li>- Transformer transportation access into Power station is sufficient</li></ul>





(Official Translation))



			<ul style="list-style-type: none"> <li>- Power station is already equipped by oil pit</li> <li>- There are scattered oil on the road inside the power station location</li> </ul> <div style="display: flex; justify-content: space-around;">   </div>
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#### Attachment 4. Eastern Java and Bali Regional


No.	Power Station	Sub Project Scope	Description of Location and Surrounding Environment
1	Jaya Kertas	<p>Capacity increase of the existing 150/20 kV Power station</p> <p>Extension Trafo - 150/20 kV 60 MVA</p>	<ul style="list-style-type: none"> <li>- The power station is located at an existing land so it does not need any acquisition. The existing belongs to APP Madiun</li> <li>- Location: Kertosono Sub-Regency, Nganjuk Regency, East Java Province</li> </ul>



			<div data-bbox="1077 193 1435 472"></div> <div data-bbox="1034 507 2047 616"><p>- Around the Power station location is rice fields, farms and yard.</p></div> <div data-bbox="1070 651 2047 759"><p>North, South, West &amp; Eastern Sides are yard and rice fields.</p></div> <div data-bbox="1070 794 2047 903"><p>Settlement in a distance of <math>\pm 200</math> meter and there is factory in a distance of <math>\pm 500</math> meter</p></div> <div data-bbox="1034 938 2047 1046"><p>- Transformer transportation access into the Power station is sufficient</p></div> <div data-bbox="1077 1086 1601 1294"></div> <div data-bbox="1034 1329 2047 1366"><p>- Land for Bay Trafo 60MVA, RCP Bay Trafo, 20kV</p></div>
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			<p>Switchgear &amp; Trafo PS placement are still sufficient. It does not need any acquisition</p>  
	New Jombang	Expansion of existing 150/20 kV Power station (1 Additional	<p>- The power station is located at an existing land so it does not need any acquisition. The existing belongs to APP Madiun</p>

		<p>Bay Transformer)</p> <p>Extension Trafo -</p> <p>150/20 KV 60 MVA</p>	<p>- Location : Jl. Bromo, Denayar Village, Jombang Sub-District, Jombang Regency, East Java Province</p>  <p>- Around the Power station location is rice fields, farms and yard. North, West &amp; Eastern Sides are yard and rice fields and settlement in a distance of <math>\pm 100</math> meter</p> <p>- Power station is already equipped by Oil Pit</p>  <p>- Land for Bay Trafo, RCP Bay Trafo 60MVA, 20kV Switchgear &amp; Trafo PS placement is still</p>
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			<p>sufficient. It does not need any acquisition.</p>  <p>- Transformer transportation access into the Power station is very sufficient</p>  
2	Krian	Expansion of existing 150/20 kV Power	<p>- The power station is located at an existing land so it does not need any acquisition. The existing</p>


		<p>station (1 Additional Bay Transformer) Extension Trafo - 150/20 kV 60 MVA</p>	<p>belongs to APP Malang</p> <p>- Location: Jl. PLN RT.15 RW.03 Sumpat Village, Driyorejo, Gresik Regency, East Java Province</p>  <p>- Land for placement :</p> <p>- Bay Trafo 60MVA is still sufficient.</p> <p>RCP Bay Trafo is still sufficient but it is very limited and potentially interfered by the existing RCP at construction time.</p> <p>Panel 20kV Switchgear is very limited, the land is sufficient is the un-operated existing panel is removed and potentially interfered by the existing panel at construction time. It does not need any</p>
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			<p>land development</p> <ul style="list-style-type: none"><li>- Transformer transportation access into the Power station is sufficient</li></ul> <div data-bbox="1077 411 1688 635"></div> <ul style="list-style-type: none"><li>- Around the Power station location is settlement, industrial area/factory &amp; rice fields.</li></ul> <p>Northern Side is yard</p> <p>Southern Side is factory (Industrial Area)</p> <p>West &amp; Eastern Sides are yards and Industrial area. Settlement in a distance of ±500 meter</p> <div data-bbox="1077 1107 1641 1305"></div>
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			<p>- Power station is already equipped by Oil Pit</p>  
3	Pamekasan	<p>Capacity increase of the existing 150/20 kV Power station</p> <p>Uprate Trafo 2 - 150/20 kv 60 MVA</p>	<p>- The power station is located at an existing land so it does not need any acquisition. The existing belongs to APP Surabaya</p> <p>-Location: Jl. Raya Propo No.01, Pamekasan, East Java Province</p>



			<div data-bbox="1077 193 1375 419"></div> <div data-bbox="1023 454 2065 635"><p>- Land for placement : Bay Trafo 60MVA is still sufficient., Panel 20kV Switchgear is still sufficient</p></div> <div data-bbox="1077 671 1619 911"></div> <div data-bbox="1023 946 2065 1345"><p>- Around the Power station location is warehouses and rice fields</p><p>Northern Side is Distribution Warehouse and Warehouse belongs to Aqua,</p><p>Southern Side is Rice field</p><p>Western Side is Rice Field</p></div>
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			<p>Eastern Side is Aqua Warehouse</p> <ul style="list-style-type: none"><li>- There is no oil disposal contamination from the operating Power station</li><li>- There is no objection from the surrounding residents as the construction takes place in the Power station ares</li><li>- Transformer transportation access into the Power station is sufficient</li><li>- Power station is already equipped by Oil Pit</li></ul> 
4	Pakis/Malang Timur	Capacity increase of the existing 150/20 kV Power station	<ul style="list-style-type: none"><li>- The power station is located at an existing land so it does not need any acquisition. The existing belongs to APP Malang</li></ul>

		<p>Uprate Trafo 1 - 150/20 KV 60 MVA</p>	<p>- Location : Jalan Raya Ampeldento, Pakis, Malang Regency, East Java Province</p> <p>- Land for Bay Trafo 60MVA placement is still sufficient, the Panel 20kV Switchgear is still sufficient.</p> <div data-bbox="1077 564 1361 786"></div> <div data-bbox="1386 558 1686 786"></div> <p>- Around the Power station location is Housing and Rice fields.</p> <p>Eastern Side is rice field</p> <p>Western Side is Main Road that connects Malang City and Malang Regency</p> <p>Northern Side is Rice fields and Housing</p> <p>Southern Side is residents' settlement. The</p>
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(Official Translation))


			<p>settlement is in a distance of ±500 meter.</p> <div data-bbox="1077 266 1659 411"></div> <div data-bbox="1227 446 1516 592"></div> <ul style="list-style-type: none"><li>- Transformer transportation access into the Power station is sufficient</li><li>- Power station is already equipped by Oil Pit</li></ul> <div data-bbox="1077 844 1615 1145"></div>
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**Attachment 5. Kalimantan Regional**

No.	Power Station	Sub Project Scope	Description of Location and Surrounding Environment
A	South Kalimantan Province		
1	Barikin	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>• The existing power station connects the transmission from Barikin to Amuntai and Barikin to Tanjung.</li><li>• It is located at Jalan Divisi IV ALRI I Haruyan Sub-Regency, Hulu Sungai Tengah Regency, South Kalimantan.</li><li>• Location around the power station is settlement, rice fields, palm oil plantation and teak plantation. (in January 2015) Location of power station is directly bordering with densely populated settlement.</li><li>• The land requirement for this additional transformer bay is +0,2 ha.</li><li>• Scope of work: There does not need land</li></ul>

			<p>acquisition for bay transformer as the existing Power station land is still sufficient. (1 additional bay transformer with capacity of 60 MVA)</p> <ul style="list-style-type: none"><li>• Photos</li></ul> <div data-bbox="1077 568 1420 831"></div> <div data-bbox="1442 558 1805 831"></div>
2	Amuntai	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>• The existing power station connects transmission from Amuntai to Barikin.</li><li>• It is located in Jermani Husein, Kaludan Village, Banjar Sub-Regency, Hulu Sungai Utara Regency, South Kalimantan.</li><li>• Location around the power station is palm oil plantation. There is sparsely populated settlement</li></ul>

			<p>in a distance of +1 km.</p> <ul style="list-style-type: none"><li>• The land requirement for this additional transformer bay is +0,2 ha.</li><li>• Scope of work: There does not need land acquisition for bay transformer as the existing Power station land is still sufficient. (1 additional bay transformer with capacity of 30 MVA)</li><li>• Photos:</li></ul> <div data-bbox="1077 850 1816 1125"></div>
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3	Pelaihari	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>• The existing power station connects transmission from Barikin to Amuntai and Barikin to Tanjung.</li><li>• It is located in Ambungan Village, Pelaihari Sub-Regency, Tanah Laut Regency, South Kalimantan Province.</li><li>• Location around the power station is palm oil plantation belongs to PTPN.</li><li>• The land requirement for this additional transformer bay is +0,2 ha.</li><li>• Scope of work: There does not need land acquisition for bay transformer as the existing Power station land is still sufficient. (1</li></ul>




(Official Translation))

			<p>additional bay transformer with capacity of 30 MVA)</p> <ul style="list-style-type: none"> <li>• Photos:</li> </ul> <div style="display: flex; justify-content: space-around;">   </div>
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#### Attachment 6. Sulawesi and Nusa Tenggara Regional




No.	Power Station	Sub Project Scope	Description of Location and Surrounding Environment
<b>A</b>	<b>South Sulawesi Province</b>		
1	Poso	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<p>It is located at Landangan District, Lantojaya Village, Poso Pesisir Sub-Regency, Poso City, Central Sulawesi.</p> <p>- The power station is located on an existing area with the covering area of ± 1 Ha so it does not</p>

			<p>need any acquisition</p> <ul style="list-style-type: none"><li>- It is located at Landangan District, Lantojaya Village, Poso Pesisir Sub-Regency, Poso City, Central Sulawesi</li><li>- The covering area needed for additional transformer and its supporting facility is still sufficient for 1 bay (transformer)</li><li>- The location around the power station is settlement and plantation.</li></ul> <p>Northern Side: Plantation</p> <p>Southern Side: Plantation</p> <p>Western Side : Main Road</p> <p>Eastern Side: Plantation</p> <ul style="list-style-type: none"><li>- The existing power station is not equipped by oil pit yet</li><li>- Scope of work: Preparation, equipment foundation,</li></ul>
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			<p>Installation of Electrical equipment (60 MVA transformer sets), test and commissioning</p> 
2	Talise	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>- It is located at Soekarno Hatta, Talise Village, Palu Timur Sub-Regency, Palu City, Central Sulawesi. The power station is located on an existing area belongs to PLN with the covering area of <math>\pm 1</math> Ha so that it does not need any acquisition</li><li>- It is located at Soekarno Hatta, Talise Village, Palu Timur Sub-Regency, Palu City, Central Sulawesi.</li></ul>

(Official Translation))

			<ul style="list-style-type: none"><li>- The location around the power station is settlement, plantation, and Provincial road. Northern Side: Plantation Southern Side: PLN Office Tragi Western Side: Main Road Eastern Side: PLTD Sewa</li><li>- The covering area needed for additional transformer and its supporting facility is still sufficient for 1 bay (transformer)</li><li>- The power station is not equipped by oil pit yet</li><li>- Scope of work: Preparation, equipment foundation, Installation of Electrical equipment (60 MVA transformer sets), test and commissioning.</li></ul>
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<b>B</b>	<b>Southeast Sulawesi Province</b>		
1	Kendari	Expansion of existing 150/20 kV Power station (1 Additional Bay Transformer)	<ul style="list-style-type: none"><li>• The power station is located on an existing area so that it does not need any acquisition.</li><li>• It is located on Watubangga Village, Baruga Sub-Regency, Kendari Municipality, Southeast Sulawesi Province.</li><li>• The location around the power station is</li></ul>

			<p>plantation.</p> <p>Western Side: Alley / walkway</p> <p>Southern Side: Jalan Simbo</p> <p>Northern Side: Land belongs to Hj. Sitti Rabiah</p> <p>Eastern Side: Land belongs to H. Sdr. Umar Deba</p> <ul style="list-style-type: none"><li>• The covering area of the existing area is : ± 2 Ha</li><li>• The power station is not equipped by oil pit yet (currently is still in construction plan stage)</li><li>• Scope of work: Land for Transformer and Switchgear placement is still sufficient, Transformer transportation access into the Power station is very sufficient.</li><li>• Access Road, is available so it does not need improvement.</li></ul>
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(Official Translation))

			  
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**Attachment 7. SOP PLN For Environment Management, Readiness and Emergency Response, as well as Health and Safety**

**Attachment 7. A Standard Operating Procedure for Emergency Response and Environment in Power station.**

- Pro-SMK3-009 Fire Emergency Response

This procedure describes the action conducted in emergency response of fire, explosion or other emergency that causes wound to company workers.

- Pro-SMK3-011 Emergency Information

This procedure describes potential emergency condition possibly arising out in PLN operation unit and maintenance facility. This following information must be installed on the plant facility: Emergency Officer and First Aid, Telephone number, Emergency Evacuation Map.

- Pro-SMK3-012 Emergency Response

This procedure is used to encounter emergency condition of fire, explosion, bomb threat, suspicious package, dangerous material leakage, toxic emission, riot threat, vehicle accident and other danger.

- Pro-SMK3-005 Training and Competence

This procedure describes responsibility of personnel and administration department and procedure to carry out capacity



review and training needs and instruction to train operation staff.

- Pro-SMK3-001 Risk Identification

This procedure describes how to identify any danger, to assess risk including to overcome risks resulted by activities, products, and services.

- Pro-SMK3-010 First Aid in Accident

This procedure describes regulation and first aid facility in company to ensure an emergency condition handled properly at the time a worker injured or becomes ill at working time, including for any guests who come into the company area.

- Pro-SMK3-013 Mild Fire Extinguisher Management (APAR)

This procedure describes technical and administrative information concerning mild fire extinguisher needed for all staff especially for officers in relation to acquisition and treatment.

- Pro-SMK3-014 Accident Investigation

This procedure consists of reporting procedure in an event, accident or disease in work for PLN staff, contractor and visitors.

- Pro-SMK3-015 Hazard Reporting

Hazard reporting is applied for reporting of any kind of health and safety problem whatsoever, except for wound of worker. This procedure is applicable for staff and contractors.

#### **Attachment 7.B Standard Operating Procedure for Work Safety**

##### - Pro-SMK3-016 Inspection of K3 at work

This procedure consists of inspection of K3 at work for all areas of department, evaluation and follow up of inspection result.

##### - Pro-SMK3-023 K3 Signs

This procedure is applicable for all signs concerning health, safety and environment both permanent or temporary.

##### - Pro-SMK3-021 Lock Out Tag Out

This procedure consists of system installation of Lock Out and Tag Out for equipment and vehicles under repair and damage.

##### - Pro-SMK3-022 Self Protection Tool Control (APD)

This procedure is applicable for all self-protection used by workers, visitors, contractors or others who work in the work area with dangerous potential.

##### - Pro-SMK3-027 Work Environmental Monitoring

This procedure is applicable for supervision over work environment caused by impact of electromagnet radiation in switchyard area.

- Pro-SMK3-026 Health Monitoring

This procedure is applicable for all workers in PLN who are especially work in the area having dangerous toxic potential.

- Pro-SMK3-030 Handling of K3 Problem

This procedure is to overcome all problems of work health and safety in effective and fast manner.

- Pro-SMK3-032\_Toxic and Dangerous Material Handling

This procedure is to overcome all aspects in relation to dangerous material including safe handling, dangerous material storage and transportation.

**Attachment 8. Environment Guidelines for Construction  
(Construction Operation Procedure (COP))**

***How to use this Guidelines***

*The following specifications must be attached in both the offering document and in the construction contract of the 'Indonesia Second Power Transmission Development Project' (IPTD2). The specifications will be the contract obligation for contractors and can be applied and supervised by PLN.*

**Environment Responsibility for Contractor**

- a. To comply with relevant legislative requirement in Indonesia;
- b. To implement EMP or Environmental Managemen Plan / EMP for the duration of construction period;
- c. To monitor efficacy of the EMP and to maintain the data of monitoring result;
- d. To report data of monitoring result to PLN Project Office;
- e. To hire and train qualified staff to responsible upon in accordance with EMP;
- f. To comply with Chance Find Procedure (Unpredicted Discovering Procedure) for Physical Cultural Resources; and
- g. To stop construction activities after receiving instruction from PLN Project Office, and if necessary, to

propose and conduct remedy and to implement alternative construction method to minimize the environment impact.

### **Restriction**

- a. Illegal logging outside of the construction area approved under any reason whatsoever.
- b. Disruption to whatever object having architectural or historical value;
- c. Careless disposal of construction garbage or waste;
- d. Spill of pollutant substances, such as oil products; and
- e. Trash and/or residual plant burning from a cleaned land.

### **Dust**

- a. The use of water as often as needed to wash dusty areas during windy condition.

### **Noise**

- a. Construction activity is only scheduled in light time (from 8 a.m. until 6 p.m.).
- b. Any work conducted after working hours must be notified first to the surrounding community at least one week in advance.

### **Waste Management**

- a. To establish and implement daily footprint cleaning procedure, including adequate storage maintenance,

disposal facility and recycle for general trash, solid waste, soil and construction debris.

- b. All solid waste that is unable to be recycled must be moved by a waste handling agency that has been approved, and to be disposed outside of footprint in an approved/permitted area.
- c. Waste oil and other dangerous waste (including contaminated soil and oil spill) must be closed and to be separated from other waste. This kind of waste must be moved by a licensed transporter into a licensed disposal facility.
- d. At the completion of work, all debris and construction residue must be removed from the footprint.

#### **PCB**

- a. Ensure that the new equipment does not contain PCB.
- b. Before being disposed, ensure that the old equipment does not contain PCB.

#### **Oil Spill and contamination**

- a. Maintain vehicle and equipment to prevent leakage and spill.
- b. Keep kit to overcome spill in footprint and train staff to use it.
- c. Transformer oil removal must be conducted in accordance with SOP PLN and regulations in Indonesia.

### **Health and Safety of Worker**

- d. Contractor must comply with all regulations in Indonesia and SOP PLN for EMF exposure against workers.
- e. All staff are equipped by appropriate self-protection equipment, namely hard hats and high visibility clothing.

### **Erosion and Sediment Management**

- a. Limit the impacted land area as low as possible and stabilize the area as soon as possible.
- b. Direct stormwater from the area around the footprint by using temporary disposal lines.
- c. Install sediment controlling structures where necessary or steered and hold up the sediment there until vegetation is established. Sediments controller structures including among other things tanks, straw bales, brush fences and fabric silt fences; and
- d. In the area where construction area is completed and where there will no longer occur disruption, re-vegetation must be done as soon as practicable.

### **Re-Vegetation and Land Restoration**

- a. Construction location and surrounding must be emptied and remedial work required, if any, must immediately be conducted in accordance with PLN standard.

## **Attachment 9. Chance Find Procedure**

### **Definition**

Physical cultural source is site, object or artifact that has archeological, paleontological, historical, architectural, religious, aesthetics or cultural, religious or spiritual values towards community, religious groups, ethnic groups and/or wider public or state. Including among other things are movable and immovable objects, sites, structures, structure groups and natural features and landscape, for example:

- Holy place
- Sacred burial sites or human bones
- Pilgrim sites or routes
- Fossil
- Painting on rocks
- Ancient buildings
- Worship places

### **Chance Find Procedure**

If someone works in the project finds a physical cultural source (site or thing) the following procedures must be carried out:

1. Cease the activity in the finding area;
2. Marks the site or area found (e.g.: to make fence);



3. Secure the site to prevent disturbance, damage or further loss. In the case of antique goods that can be moved or sensitive heritages, place guards or supervisor to supervise the site until a competent local official takes over;
4. Restricts collection of the items by workers or others;
5. Notice the nearest local culture management agency and local official within 24 hours;
6. Reminds all project personnel upon the finding and carries out temporary protective actions;
7. Any kind of objects found must be submitted to the local culture management agency.
8. Records all incidental findings and the action carried out.
9. The local culture management official has responsibility to study and evaluate the cultural heritage site/area and to make documentation the requirements for protection and preservation. This will need an archeologist service to evaluate the findings.

Management actions may include project design change (such as when find a cultural or archeological heritage that is unable to be moved), or protection, preservation, restoration and/or saving to such site or item.

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

Project work may be continued only after a written instruction is given by the local cultural management agency. Every person must comply with the conditions as listed in such written instruction.

Project development / owner is responsible to cooperate with the local cultural management agency and local officials to monitor all works and ensure that any adequate protection action and a cultural heritage site is protected.