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PT. SARANA MULTI INFRASTRUKTUR

GEOTHERMAL ENERGY UPSTREAM DEVELOPMENT PROJECT

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

INCORPORATING:

RESETTLMENT POLICY FRAMEWORK

INDIGENOUS PEOPLES' PLANNING FRAMEWORK

Draft V2 for Consultation Purposes

July 2016

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LIST OF ABBREVIATIONS

AOI	Area of Influence
AMDAL	Analisis Mengenai Dampak Lingkungan (Environmental Impact Assessment)
BG	Badan Geologi (Geological Agency)
BPN	Badan Pertanahan National (National Land Bureau)
BPS	Badan Pusat Statistik (National Statistical Bureau)
Bupati	Head of Regency
CTF	Climate Technology Fund
DED	Detailed Engineering Design
DG	Directorate General
DG EBTKE	Directorate General Energi Baru Terbarukan dan Konservasi Energi [Renewable Energy and Energy Conservation]
EA	Environmental Assessment
ESIA	Environmental and Social Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environment and Social Management Plan
GEF	Global Environment Facility
GFF	Global Fund Facility
GEUDP	Geothermal Energy Upstream Development Project
GIS	Geographical Information System
GNZ	Government of New Zealand
GOI	Government of Indonesia
GRM	Grievance Redress Mechanism
IBRD	International Bank for Reconstruction and Development
IGF	Investment Guarantee Fund
IIFF	Indonesia Infrastructure Finance Facility
IPs	Indigenous Peoples
IPDP	Indigenous Peoples' Development Plan
IPPF	Indigenous Peoples' Planning Framework
ISA	Indonesian Society of Appraisers

KAT	Kelompok Adat Terasing (Isolated Indigenous Community)
Kecamatan	Sub-District
Keppres	Keputusan Presiden (Presidential Decree)
LARAP	Land Acquisition and Resettlement Action Plan
MEMR	Ministry of Energy and Mineral Resources
MHA	Masyarakat Hukum Adat (Customary Law Community)
MoF	Ministry of Finance
MW	Megawatt
NGO	Non-government Organization
PAP	Project Affected People
PCR	Physical Cultural Resources
PCRMP	Physical Cultural Resources Management Plan
PPP	Pubic Private Partnership
PT SMI	PT Sarana Multi Infrastruktur (Persero)
RUPTL	Electricity Supply Business Plan or Rencana Usaha Penyediaan Tenaga Listrik
SOE	State Owned Enterprise
SPPL	Surat Pernyataan Kesanggupan Pengelolaan dan Pemantauan Lingkungan (Letter of Environmental Management and Monitoring)
TA	Technical Assistance
tCO_2	Tons of Carbon Dioxide
TOR	Terms of Reference
UKL/UPL	Upaya Pengelolaan Lingkungan - Upaya Pemantauan Lingkungan (Environmental Management and Monitoring Plan)
UUD	Undang-undang Dasar (Constitution)

1 INTRODUCTION

1. This document details the environmental and social safeguard policies, principles, procedures, institutional arrangements, and workflows of PT Sarana Multi Infrastruktur (Persero) (PT SMI) to guide the avoidance, minimization, or mitigation of any adverse environmental or social impacts of infrastructure projects supported by the Geothermal Energy Upstream Development Project (GEUDP).

1.1 Background

2. Over the past decade, Indonesia has seen strong economic growth and job creation. Indonesia's rapid economic growth has been fuelled by an ever-expanding power sector. Nonetheless, keeping up with high electricity demand is a key development challenge. In an effort to reconcile the national electrification and economic development plans, the Government of Indonesia (GOI) has put forward the Electricity Supply Business Plan or *Rencana Usaha Penyediaan Tenaga Listrik (RUPTL), 2015-2024*. Geothermal development is a pillar of the country's Low Carbon Growth Strategy and a key development priority for the GOI[1]. It is also one of the best options to provide a base load response to fast-growing energy demand and diversify the energy mix in Indonesia. Geothermal power is expected to contribute to the country's greenhouse gas emission reduction efforts, which targets a 29% cut by 2030 compared with a Business-As-Usual emissions projection that starts in 2010[2].

3. Despite the geothermal potential and the focus of GoI and development partners, only about 5% of the total resources indigenous to Indonesia are currently developed to produce power. Against a potential of approximately 27 GW, only about 1.3 GW of geothermal capacity has been developed.

4. Slower-than-desired geothermal development is imputable to low levels of private sector participation, which in turn are in large part due to resource risk - a key barrier to geothermal development which remains unaddressed in Indonesia. Realizing this, GOI's renewed emphasis on geothermal development includes a number of policy interventions specifically designed to address resource risk and mobilize private capital.

5. PT SMI, in collaboration with the World Bank, is preparing the GEUDP with the objective to facilitate investments in geothermal-based electricity through government-sponsored, pre-license

[1] The relevant national policies include: (i) Indonesia's Second National Climate Change Communication (2009); (ii) the Indonesia Green Paper (2009); (iii) the GOI National Energy Policy (2005); (iv) the Energy Blueprint 2005 – 2025; (v) Indonesia's National Long-Term Development Plan 2005-2025, and National Medium-Term Development Program for 2010 – 2014 (Rencana Pembangunan Jangka Menengah, or RPJM); (vii) the National Action Plan for Climate Change (2007); (viii) the Development Planning Response to Climate Change (2008); (ix) the Climate Change Roadmap for the National Medium-Term Development Program for 2010 – 2014 (2009); (x) Indonesia's Technology Needs Assessment on Climate Change Mitigation (2009).

[2] Indonesia's Intended Nationally Determined Contribution, 2015

drilling and by providing technical assistance and capacity building. The focus of this Project will be on the geothermal power development market in Eastern Indonesia, where electrification rates are lowest, poverty rates are highest and electricity generation is heavily reliant on diesel.

6. PT. SMI will be implementing agency of GEUDP, and is responsible for preparing the environmental and social safeguard documents and for safeguards management throughout the Project.

1.2 Project Objectives

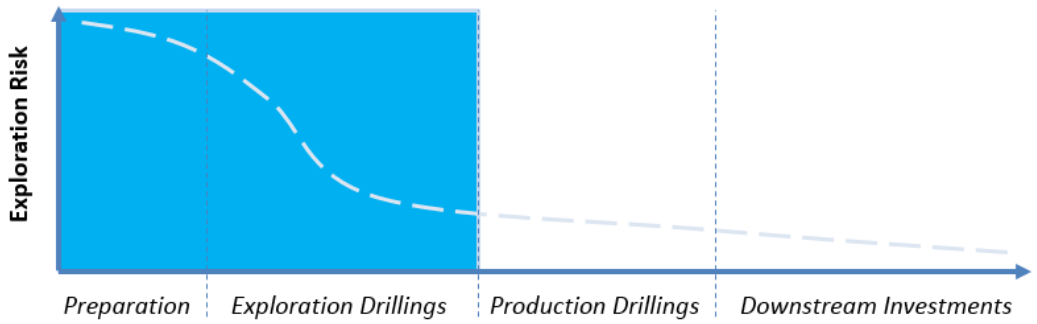
7. The Project Development Objective is to facilitate investments in geothermal energy. The focus of the Project will be on the geothermal power market in Eastern Indonesia in order to increase access to electricity in areas with high poverty rates and expensive diesel-fired power generation.

1.3 Project Description

8. The Project has three components, namely: (i) Component 1: Risk Mitigation for Geothermal Exploratory Drilling; (ii) Component 2: Technical Assistance and Capacity Building; and possibly[3] (iii) Component 3: Investment Support for Geothermal Exploitation as a follow-up to the CTF/GEF support.

1.3.1 Component 1: Risk Mitigation for Geothermal Exploratory Drilling

9. Design Background: *Component 1* focuses on supporting government-sponsored exploration drilling (the riskiest part of the geothermal development process as shown in the shaded area in the schematic below). This approach has been used in several countries. The most recent is Turkey, where a government agency funds exploration and drilling in selected areas and auctions off the sites shown to be feasible for power production to private developers. Results are promising: Turkey has the fastest growing geothermal sector in the world; and most of that growth is based on development of fields where its geological agency (MTA) has carried out exploration drilling, thus greatly reducing resource risk. Other countries that have taken this approach with successful results are the US, New Zealand and Japan.



[3] Refer Section 1.3.3 which outlines when and how this Component may be funded in future.

10. Business Model: If the exploration – to be executed by a service company on behalf of GoI – is successful, a development and operation license will be issued to a developer. At the time of securing project financing, the developer will be required to repay the total cost of exploration plus a risk premium to a dedicated fund within PT SMI. The replenishment of the PT SMI and CTF support would ensure sustainability in the risk mitigation scheme. Based on the typical size of plants observed, it is estimated that 65 MW could come on-line as a result of the exploration drilling financed under this Project.

11. Geographic Focus and Scope of Drilling Activities: Site selection will be based on the utilization of geothermal resources to displace high-cost fossil alternatives outside the main load centers, where electrification rates are lowest and electricity generation is heavily reliant on diesel. Site screenings (including technical and safeguards) are expected to be conducted on a rolling-basis based on suggestions made by the Ministry of Energy and Mineral Resources (MEMR) / Badan Geologi (BG) and it is expected that four sites will be developed as a result of the Project. For each site, a report will be prepared on the basis of the following information: (i) general details, including location, prior surveys and plans, map of location; (ii) land denomination (e.g. conservation forest, protection forest, etc.) ; (iii) field concept and summary of resource estimation; (iv) summaries of geology, geophysics, geochemistry surveys; (v) summary of temperature gradient wells; (vi) social and environmental issues; (vii) existing electricity infrastructure in the area, including projected demand and power supply, transmission and distribution lines; and (viii) probable type of development (e.g. flash, binary). The share of early-stage exploration to be executed by a service company on behalf of GoI (or how many exploration or reinjection wells will be drilled before a field is auctioned off) depends on findings from these reports. Feasibility reports will be updated with the results from exploration drilling. If the defined work area is considered feasible, these reports will form part of the tendering package for the exploitation work area.

12. Expected Outcomes: Component 1 will deliver drilled wells, which provide data that serve as inputs to investment decisions. Assuming a portfolio of several smaller projects in Eastern Indonesia, the Project is expected to directly enable 65 MW of new geothermal power capacity, which, based on ESMAP estimates of development costs of about $6 million per MW, would imply commercial investments of about US$390 million. The proposed concept involves setting up a revolving Facility through which the funds used for exploration drilling will flow back to the facility through repayment from developers who are successful in securing project financing. Given the revolving nature of the Facility, it is expected that funds will flow back over three-year cycles for 15 years and that their use may enable 260 MW and about US$1.56 billion of new capacity and investment.

1.3.2 Component 2: Technical Assistance and Capacity Building

13. This component will be financed by the Global Environment Facility (GEF). Building on the previous GEF engagement with the Indonesian geothermal sector[4], GEF support will mainly be focused on strengthening the indigenous capabilities for geothermal development by providing the resources needed in order to establish an efficient and effective exploration and tendering program[5]. Specifically, support to the government-sponsored drilling program will largely be provided for carrying out geology, geochemistry and geophysics surveys (3G surveys) and topographic mapping for candidate sites.

14. Support will be also made available for the preparation of drilling, well completion and resource assessment reports (based on 3G surveys), as well as for the bidding process for exploration service companies. It is envisioned that such support will be carried out by specialist service providers coordinated by an Exploration Management Consultant (EMC). In addition, technical assistance will include the services of a Geothermal Consultant to support capacity building for MEMR's Geothermal Directorate (EBTKE). It is expected that the EMC will be financed by the GEF grant and the Geothermal Consultant will be financed by a grant from the Government of New Zealand (GNZ). The GNZ grant is designed complement CTF and GEF-supported activities. The GNZ grant will support GoI on: (i) establishment of an effective GIS-enabled database by collating and analyzing existing and new resource data, potentially to be housed within BG; (ii) building methodology for robust resource and reserve estimation and reporting protocol to an internationally acceptable standard; (iii) methodology for prioritization of potential sites for geothermal development; and (iv) capacity building for MEMR and PT SMI for tendering and executing an exploration program.

15. Moreover, the TA will also produce a 'good practice' guide for preparing Indigenous Peoples Development Plan (IPDP), Land Acquisition and Resettlement Action Plan (LARAP), Environmental and Social Impact Assessment (ESIA) and Environmental Management Plan (EMP) for exploration and exploitation of geothermal energy. This will be in the form of framework documents or guidance materials that will cover IPDP, LARAP, ESIA and EMP under Indonesian regulations and World Bank's and other donors' safeguards. The purpose is to further reduce barriers to geothermal development by providing standardized approaches to safeguards, as well as guiding expectations about the technical rigor and quality of the work required. An area of focus will be good practice guidance for the development of geothermal indirect use in conservation areas and forests. The Indonesian government is proposing new regulations to enable geothermal

[4]The Geothermal Power Generation Development Project: through a US$4 million Global Environment Facility (GEF) grant, the project assisted MEMR's US$5 million commitment to develop a pricing and compensation policy mitigate geothermal resource risks, and strengthen domestic capabilities in the sector, in particular to competitively tender new transactions.

[5]The geothermal development process comprises a number of sequential tasks. A possible breakdown includes: (i) Preliminary Survey; (ii) Exploration; (iii) Test Drillings; (iv) Project Review and Planning; (v) Field Development; (vi) Construction; (vii) Start-Up and Commissioning; and (viii) Operation and Maintenance. For further details, please refer to the ESMAP "Geothermal Handbook: Planning and Financing Power Generation".

development in Wildlife Reserves, National Parks, Botanical Forest Parks and Natural Tourist Parks under a Utilization Permit for Geothermal Environmental Services Region.

16. Finally, GEF funding will also be employed to ensure seamless coordination with the other key players in the geothermal development landscape in Indonesia and that adequate administrative functions are in place.

1.3.3 Component 3: Investment Support for Geothermal Exploitation

17. It is being considered to finance a third Component as a follow-up to the CTF/GEF support. Moving upstream in the geothermal development process to take full advantage of Indonesia's vast resource potential would also require post-exploration risk mitigation support. During the exploitation phase of geothermal development, such a support could be provided through debt finance instruments with enhancements such as insurance schemes. To support new investment, WB is considering a US$300 million IBRD loan for mid-stream development (i.e. steam-field drilling). The sequencing of investments in the geothermal development process implies that Component 3 will be triggered upon successful completion of standard exploration drillings – hence the need to commit IBRD resources in due course only.

1.4 Detailed Sub-Project Descriptions

1.4.1 Geothermal Development – Overview

18. Geothermal development happens in a series of phases. These phases are defined in a number of ways across the industry; the World Bank's ESMAP[6] uses the following:

- Phase 1: Preliminary Survey
- Phase 2: Exploration
- Phase 3: Test Drillings
- Phase 4: Project Review and Planning
- Phase 5: Field Development
- Phase 6: Construction
- Phase 7: Start Up and Commissioning
- Phase 8: Operations and Maintenance

With some subtle overlaps in the details, in broad terms the GOI's regulatory definition of 'Geothermal Exploration' is Phase 1 to Phase 4 and 'Geothermal Exploitation' is Phase 5 to Phase 8.

1.4.2 Geothermal Exploration

19. Geothermal Exploration sub-projects will be funded under Component 1 of the GEUDP. The sub-projects will: 1) contribute to further define the nature and scale of the geothermal resource

[6] ESMAP. 2012. Geothermal Handbook: Planning and Financing Power Generation. Technical Report.

within geothermal prospects identified by the GOI, and 2) support an investment package for a developer to take the project through to exploitation. Referring to Paragraph 18, the Geothermal Exploration funded by GEUDP covers the following phases or activities:

- Phase 1: Preliminary Survey
  - Data collection, ESIA and permits, planning for exploration
- Phase 2: Exploration
  - Surface and subsurface testing, seismic data, prefeasibility study
- Phase 3: Test Drillings
  - Land acquisition and permits
  - Well drilling, well testing, reservoir simulations
- Phase 4: Project Review and Planning
  - Evaluation and decision making

20. The location of exploration investments is currently unknown, and will be identified through a prioritization process undertaken by EBTKE and BG and will be informed by the GEUDP safeguard framework documents). . The sensitivity of the geothermal development locations is unknown at the time of project appraisal, but there is potential for physical cultural resources (PCR), natural habitats, forests, protected areas, outstanding or unique landscapes and geological/geothermal features, Indigenous Peoples, vulnerable or non-resilient communities, subsistence livelihoods (relying on private, forest or communal resources), and sensitive economic activities such as tourism to be present in the project's Area of Influence (AOI).

21. The Project's AOI will include the direct and indirect impacts of the project infrastructure and supporting facilities. It includes access routes, quarries, workers' camps, disposal areas, fresh water resources, wastewater discharge locations, resettlement areas, and unplanned developments such as spontaneous settlements, logging and land clearance along roads and pipeline routes. The AOI also includes that of linked projects, regardless of funding sources that are directly or significantly related to geothermal exploration. This includes future geothermal exploitation.

22. Well drilling and testing will include the following activities:

- *New and upgraded transport infrastructure*: Due to the remoteness of some geothermal prospect areas, and the nature of transport infrastructure out of the main centers, it is probable that the sub-projects will include upgrades to ports, wharves, bridges and roads. New infrastructure and new access roads may be required, depending on the distance of drilling pads and other project infrastructure from serviced areas. New infrastructure and roads are likely to require land acquisition and this may be involuntary or voluntary depending on the location. Quarrying may be required to provide sand and aggregates for construction.

- *Mobilization / demobilization*: Moving large drilling rigs and heavy traffic can cause access disruptions and safety issues to other road users.
- *Well pad preparation*: Land for test well pads is only required on a short-term basis unless the well is identified as a future production well. Locations are usually flexible to avoid sensitive receptors and land can typically be negotiated on a willing buyer-willing seller, or lease arrangement. Land clearance and pad preparation will be required for up to 4 or 5 well sites per exploration activity. The land requirements are approximately 1.5 -2 hectares per pad, which includes the storage and treatment ponds.
- *Drilling*: Well depth can vary depending on the resource, but are usually deep (1000m to over 2500m). Each well will take approximately 45 to 50 days of around-the-clock drilling to complete. Drilling is noisy, and the rig and well pad will be lit for night-time operations. Fresh water is required to provide cooling and lubrication during drilling, and carry rock cutting to the surface. Synthetic polymers (xanthan gum and starch or cellulose derivatives) and solid barium sulphate are added in this process.
- *Management of drilling muds / fluids and rock*: Drilling muds (bentonite clay), additives and fluids will be stored in settlement ponds adjacent to the well pad. Solids will accumulate at the bottom and the treated liquids will be discharged to reinjection wells or to surface water. Decommissioning may involve converting the ponds for community or private use, or returning the site to the pre-development condition. Pipelines will be required to transport fluids to reinjection wells. Rock will be used as fill in suitable sites nearby, unless they are considered hazardous and likely to leach contaminants, in which case they will be disposed to a lined landfill. Designated landfills may be required as part of project infrastructure, as it is unlikely that there will be suitable landfills operating in the locality.
- *Well testing and management of geothermal fluids (brine):* A significant amount of brine will be extracted during testing. This liquid typically contains heavy metals and can contain high concentrations of boron, arsenic and fluoride. Brine ponds will store brine until it is reinjected or treated and discharged to surface water. Ponds will be located on or near the well pad. Decommissioning may involve converting the ponds for community or private use, or returning the site to the pre-development condition. Pipelines will be required to transport fluids to the reinjection wells. Steam plumes will be emitted during testing, and this can be noisy and create an aerosol or droplet discharge to neighbouring land. Gases (carbon dioxide and hydrogen sulphide) will be emitted during testing, which can produce localized 'acid' rain at high concentrations.
- *Support facilities*: Due to the remoteness of some prospect areas it is probable that sub-projects will require on-site workers camps and maintenance facilities. These will require waste management, wastewater treatment and disposal, fresh water supplies, health and safety of workers and community, and provision of services.

1.4.3 Linked Projects - Geothermal Exploitation

23. At the time of project appraisal, any activities in the Geothermal Exploitation Phase will not be funded by GEUDP. This may change during project implementation if funds are subsequently allocated to Component 3 for 'mid-stream' development (further field development / well drilling).

24. Any geothermal exploitation activities are, in any case, considered linked projects and within the Project Area of Influence of any geothermal exploration sub-project funded by GEUDP and therefore it is relevant under World Bank safeguard policies to screen the potential environmental and social risks as part of Component 1's sub-project preparation and implementation.

25. The Geothermal Exploitation Phases[6] and relevant safeguards impacts and activities are:

- Phase 4: Project Review and Planning
  - Feasibility study, ESIA and permits, drilling plan
- Phase 5: Field Development
  - Land acquisition and permits
  - Well drilling (production, reinjection, cooling water), well testing, reservoir simulations
- Phase 6: Construction
  - Pipelines, power plant, substation and transmission
- Phase 7: Start Up and Commissioning
- Phase 8: Operations and Maintenance
  - Managing well operations and brine reinjection
  - Managing the geothermal resource, reservoir monitoring and simulations
  - Generating electricity
  - Managing emissions, noise and waste
  - Well decommissioning
  - Make up well drilling, well testing, reservoir simulations

26. Exploitation activities will also include all of those mentioned in paragraph 19 for the exploration phase. The scale of field development / well drilling will be larger than the exploration phase, with 10 - 20 well pad sites required for production and reinjection wells (depending on the size and location of the resource) and pipelines connecting the well(s) and the power plant. Permanent land acquisition will be required for pads, roads, pipelines, ponds, distribution infrastructure etc. In addition, exploitation linked to GEUDP will involve the following activities:

- *Construction of geothermal power plants,*[7] *switch yard, substation and distribution infrastructure*: land acquisition (involuntary or voluntary), construction related hazards, wastes, noise and workforce. Temporary land uses such as workers' camps and workshops.

[7] Three types of power plants are operating today:
- Dry steam plants, which directly use geothermal steam to turn turbines;
- Flash steam plants, which pull deep, high-pressure hot water into lower-pressure tanks and use the resulting flashed steam to drive turbines; and
- Binary-cycle plants, which pass moderately hot geothermal water by a secondary fluid with a much lower boiling point than water. This causes the secondary fluid to flash to vapor, which then drives the turbines.

- *Emissions to air from cooling towers*: concentrations of contaminants such as mercury, carbon dioxide, methane and hydrogen sulfide, depending on geohydrology of location. Discharges are warmer than ambient air temperature.
- *Emission of noise*: from geothermal plant operation, mainly the cooling tower fans, steam ejectors and turbine 'hum'.
- *Solid and hazardous waste*: domestic waste, hazardous waste from workshops/maintenance and mineral precipitate sludge from cooling towers, scrubbers, steam separators etc.
- *Discharge of wastewater*: reinjection to the deep geothermal aquifer of geothermal fluids. Treatment and discharge of cooling water and other wastewater to reinjection wells or surface water.
- *Well operations*: well production reduces over time and wells are eventually abandoned and 'make-up wells' commissioned. The activities will be similar to those described in Paragraph 22.
- *Renewable energy supply to local grids*: construction and operation of distribution infrastructure. Comparative reduction in greenhouse gas emissions compared with diesel generation. Delivery of electricity to new customers and delivery of low-carbon electricity into the existing grid.

1.4.4 Technical Advisory

1.4.4.1 Good Practice Guidelines

27. The guidelines will inform future geothermal development activities and therefore will have an enduring impact on the geothermal industry. For this reason, the approach, outputs and capacity building provided through technical advisory will be consistent with in-country systems, Bank safeguard policies and this ESMF. Stakeholder consultation and disclosure will be a key part of the approach.

1.4.4.2 Exploration Management Consultant

28. The TOR for the Exploration Management Consultant will include, in particular, requirements to comply with OP 4.37 Safety of Dams in the design and supervision components of the scope of work. The bidding documents and Contractors' contracts will accordingly include requirements of OP 4.37 Safety of Dams. The Contractors must design, construct, operate and decommission the settlement and storage ponds in accordance with the policy and the EMC must supervise the Contractor.

2 THE GEUDP SAFEGUARD FRAMEWORKS

29. The objective of the Environmental and Social Management Framework (ESMF) is to provide reference and guidance for the project management staff, consultants, and other related parties participating in the GEUDP on a set of principles, rules, procedures and institutional arrangements to screen, assess, manage and monitor the mitigation measures of environmental and social impacts of the investments, the exact location and dimension, hence area of influence, of which are not known at Appraisal Stage. The ESMF is the safeguard instrument prepared for appraisal as per World Bank safeguard policy OP4.01 Environmental Assessment.

30. The purpose of issuance of this GEUDP ESMF is to ensure that all stakeholders involved in the project comply with the requirements, procedures and regulations related to environmental management in accordance to prevailing GOI regulations and supplemental provisions in compliance with relevant World Bank Safeguard Policies.

31. The Resettlement Policy Framework (RPF) is contained in Section 6 and is the safeguard instrument prepared under World Bank safeguard policy OP4.12 Involuntary Resettlement to ensure compliance with the policy and the laws of GOI relating to involuntary land acquisition and resettlement.

32. The Indigenous Peoples Planning Framework (IPPF) is contained in Section 7 and is the safeguard instrument prepared in accordance with World Bank safeguard policy 4.10 Indigenous Peoples to comply with the policy and the laws of GOI relating to the management of impacts and benefits of projects to Indigenous Peoples (sometimes referred to as ethnic minorities).

3 SAFEGUARDS LAWS, REGULATIONS AND POLICIES

33. Below is a summary of regulations, laws and policies relating to environmental and social safeguards that are relevant for the ESMF. A summary of laws, policies and regulations relating to involuntary land acquisition and resettlement are provided in the RPF (Section **Error! Reference source not found.**) and those relating to Indigenous Peoples are provided in the IPPF (Section 7.2).

3.1 Indonesian Laws and Regulations relating to Environmental Management and Impact Assessment

34. In the case of environmental and social management, the geothermal exploration sub-projects funded by GEUDP must refer to Law (UU) No. 32/2009 on Environmental Management and Protection, and Government Regulation (PP) No. 27/2012 on Environmental Permit, Regulation of the Minister of Environment No. 16/2012 on Guidelines for Preparing Environmental Documents (AMDAL and UKL/UPL), Law No. 26/2007 on Spatial Planning, and Ministry of Environment Regulation No. 5/2012 on the Types of Activities requiring AMDAL, Act No. 21 of 2014 on Geothermal.

35. Act No. 32 of 2009 on the Protection and Management of the Environment (State Gazette of the Republic of Indonesia Year 2009 Number 140, Supplement to Statute Book No. 5059) with the main principles on guaranteeing the continued existence of all living things and conservation of the ecosystem, maintaining the conservation of environmental functions, and achieving the environmental congruence, harmony and balance. With regard to the geothermal activities, the law regulates the instruments for preventing pollution and/or damage to the environment, such as UKL/UPL and/or AMDAL.

36. Act No. 21 of 2014 on Geothermal has changed the geothermal activities from mining to indirect use, which allows the activities to be sited in the protected forest area, and where it is the case, the law on environmental protection prescribes that such activities should prepare full EIA or AMDAL for both exploration and exploitation.

37. Act No. 41 of 1999 on Forestry based on the sustainability of forest ecosystem and its functions for both economic purposes and ecology. The development activities other than forestry are permissible in a selective manner in order to avoid significant damage that can reduce forest functions. The strategic development activities that are avoidable can be permitted with prudent approach, such as for mining, electricity, communication, and water installation. Hence, this applies also to geothermal development that can be implemented in forest areas, even in protection forest.

38. Act No. 5 of 1990 on Conservation of Natural Resources and Ecosystems (State Gazette of the Republic of Indonesia Year 1990 Number 49, Supplement to State Gazette No. 3419) that regulates the ecosystem and habitats to support the livelihood, as well as its biodiversity to be studied, conserved, and utilized sustainably. The geothermal permit holders have to implement these

regulations, in particular where the locations are within and in the proximity of the protected and conservation areas. The geothermal development in the forest areas, as well as in the protected and conservation forest areas are permissible and considered as the utilization of its environmental services. This should be done in a prudent manner with the implementation of the forest and biodiversity sustainability principles. Such activity should obtain relevant permits from the Ministry of Environment and Forestry.

39. Act No. 26 of 2007 on Spatial Plan regulates the utilization planning of the land, marine, and air, including what is within the earth, as one sovereignty for human and wildlife and their livelihood. The basic principle of the spatial plans is the sustainable utilization of the resources for people's welfare. Geothermal in this law is considered as a nationally strategic activity along with oil, gas, mineral, and groundwater. The local bylaws on spatial plans have to refer to this law, especially on geothermal resource where they have potency; hence its development will not be hindered accordingly.

40. Government Regulation No. 27 of 2012 on Environmental Permit (State Gazette of the Republic of Indonesia Year 2012 Number 48, Supplement to State Gazette No. 5285) mandates that geothermal power plant development is considered as one of the nationally strategic activities that need to obtain environmental permit, and related activities for which are mandatory to have UKL/UPL and/or AMDAL. Geothermal exploration is UKL/UPL-mandatory if located inside or outside any conservation area. Exploitation activities are also AMDAL-mandatory if located inside or outside any conservation area.

41. Government Regulation No. 24 of 2010 on Forest Area Utilization, has allowed geothermal energy development within the protected forest areas as a nationally strategic activity. Such development should obtain the permit from the Ministry of Environment and Forestry and pay adequate levy as contribution to state revenues. The project proponent is required to submit the proposal to the Ministry along with the supporting documents outlined in the regulation.

42. Government Regulation No. 26 of 2008 on National Spatial Plan also provides for sustainable utilization of the resources to benefit the Indonesian people's welfare and recognizes geothermal as a nationally strategic activity along with oil, gas, mineral, and groundwater. The National Spatial Plan provides guidance for preparing the long-term plans, mid-term plans, land use plan, balance between the regions, investment locations, national strategic areas, and provincial and district spatial plans.

43. Government Regulation No. 28 of 2011 on the Management of Natural Reserve Area and Nature Conservation (State Gazette of the Republic of Indonesia Year 2011 Number 56, Supplement to Statute Book No. 5217) allows for geothermal development activities in conservation areas so long as they are not classified as a mining process (Article 35, verse 1c). Geothermal activities are regulated as a type of service utilization of forest ecosystem.

44. Ministry of Environment Regulation No. 5 of 2012 on Activities that are AMDAL Mandatory categorizes development activities into several groups based on its potential environmental impacts and their magnitude to affect humans and the environment. The regulation states that any development activities in proximate or inside protected natural areas are 'AMDAL-mandatory'; however, geothermal exploration activities are exempt so UKL/UPL is sufficient.

45. Ministry of Environment Regulation No. 13 of 2010 on UKL/UPL and SPPL prescribes that projects or development activities that are not 'AMDAL-mandatory' are UKL/UPL-mandatory where the environmental impacts are less significant. The projects are designated as UKL/UPL-mandatory by the governors and/or head of districts based on prior screenings. The regulation also provides guidance and format of the preparation of the UKL/UPL, and mandates that its processing be completed by the local environmental agencies within 14 working days. After the project proponent submits the UKL/UPL proposal to the local environmental authority, the agency issues the recommendation of UKL/UPL at the least 7 days after the submission of the final proposal that will be used by the proponent as the basis for obtaining environmental permit and for implementing environmental impacts management and monitoring.

46. Ministry of Environment Regulation No. 16 of 2012 on Guidance on Environmental Documents Preparation prescribes how to prepare environmental documents, including AMDAL, UKL/UPL and SPPL, where the first two are key requirements to obtain the environmental permit. The regulation provides a detailed description of environmental documents to be prepared by the project proponents, including for geothermal exploration projects subject to UKL/UPL requirement.

47. When the geothermal exploration impacts cultural property, Law No. 5/1992, "Regarding Cultural Property" (Benda Cagar Budaya) will be applied. It defines a cultural property "of important value for history, science, and culture", as being "a man-made object or group of objects"; movable (*bergerak*) or immovable (*tidak bergerak*); aged at least fifty years or natural objects with high historical value[8].

48. Law No. 11 of 2010 (Undang-Undang Cagar Budaya No. 11/2010) on National Heritage, especially prescribes guidance on observation and data collection on cultural heritage that may be affected by project activities.

[8] *UNESCO. Compilation of Law and Regulation of the Republic of Indonesia Concerning Items of Cultural Property", pp. 3f. Retrieved 6 May 2012.*

3.2 World Bank Safeguard Policies

49. Based on desk review of similar projects and preliminary environmental and social screenings, it is anticipated that the following World Bank Safeguard Policies are relevant and/or could be triggered by the GEUDP sub-projects[9]:

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

50. **OP 4.01 Environmental Assessment**. Under project Component 1, the project will fund exploration of geothermal resources at several sites; however, the locations are not known at the time of project appraisal. The sub-projects will fall into either Category B or Category A Classification. Category B sub-projects would be where the impacts would be local, reversible and readily managed with proven or standardized mitigation measures. Category A sub-projects are those with significant, sensitive, complex, irreversible and unprecedented potential adverse environmental and social impacts that may affect an area broader than the sites of facilities subject to physical work. All sub-projects will likely require a full Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) to manage and mitigate such impacts in accordance with OP 4.01.

51. **OP 4.04 Natural Habitats** outlines the World Bank policy on biodiversity conservation taking into account ecosystem services and natural resource management and those used by project affected

[9] OP4.10 Indigenous Peoples' Policy is assessed in Section 7.2. OP 4.12 Involuntary Resettlement Policy is assessed in Section 6.2.

people (PAP). Projects must assess potential impacts on biodiversity. The policy strictly limits circumstances under which damage to natural habitats can occur, and prohibits projects that likely result in significant loss of critical natural habitats. Where a prospective geothermal site is located in an area that is designated as *hutan lindung* (HL) or 'protected forest area, to remain in forest cover for watershed protection' or conservation area, or similar, this policy will apply. Impacts will be assessed in the ESIA process.

52. **OP 4.11 Physical Cultural Resources (PCR)** sets out World Bank requirements to avoid or mitigate adverse impacts resulting from project development on cultural resources. It is likely that PCR will be found near geothermal exploration projects. In some cases in Indonesia, local communities consider the manifestations of geothermal energy as sacred. The ESMF includes the requirements for preparing PCR Management Plans (PCRMP), which will be developed as part of the ESIA and ESMP processes, as well as requirement for a chance find procedure to be attached to every ESMP.

53. **OP 4.36 Forests**. This policy recognizes the need to reduce deforestation and promote sustainable forest conservation and management. The prospect geothermal areas could be within a forest area as defined by its protection status based on the GoI regulations as well as definition of forests under the Policy. The impacts on forest health and functions, and the impacts on affected persons that rely on forest resources, will be assessed as part of the ESIA and Resettlement Action Plan processes and mitigation measures will be incorporated into the ESMP and LARAP.

54. **OP 4.37 Safety of Dams**. When the Bank finances a project that includes the construction of a new dam, this Policy requires that the dam be designed and its construction supervised by experienced and competent professionals. It also requires that the Borrower adopt and implement certain dam safety measures for the design, bid tendering, construction, operation, and maintenance of the dam and associated works. The Policy is triggered because the drilling process requires storage and settling ponds for brine and other drilling fluids. The requirements of the Policy will be included in the EMC contracts and drilling contracts, and the activities and outputs will be monitored under the ESMF.

3.3 Gap Analysis

55. The significant difference between the Indonesian ESIA/AMDAL laws and regulations relating to geothermal exploration and Bank Policies relates to the applicable safeguard instrument. The GOI prescribes that only an Environmental Management Plan and Monitoring Plan (UPL / UKL) is required for geothermal exploration regardless of potential impacts, whereas OP4.01 requires an assessment of safeguard instrument depending on the classification of activity based on risk (Category A, B, or C). Both the Bank and country's own systems will be followed, and the content of documents will be harmonized where possible; however, separate sets of instruments will be prepared for separate approval processes.

56. OP4.01 Environmental Assessment requires an assessment of 'linked projects' where they are considered part of the Project Area of Influence (either geographically, or over time), whereas the GOI laws and regulations consider project activities discretely. In this Project, the exploitation phase is considered a linked project under OP4.01 because it foreseeably will occur in the future as a result of exploration activities. Meanwhile, the GoI laws and regulations consider each phase as a separate environmental permit process, and thus require separate application and obtainment of approvals accordingly.

57. GoI laws and regulations have recently been amended to remove barriers to carrying out geothermal exploration and exploitation activities in forests and protected areas, and exempting requirements for full ESIA/AMDAL in many cases. These regulatory revisions take into account the low-impact use of ecosystem services and that geothermal is accepted and increasingly considered as a nationally strategic activity. In contrast, the Bank's OP4.01 Environmental Assessment, OP4.04 Natural Habitats and OP4.36 Forests have maintained its requirements and standards regardless of the activities. The Bank requires full impact assessment before sub-project appraisal; and would either require significant mitigations, or not fund certain exploration activities – that may result in degradation or removal of critical habitats – in forests and protected areas.

58. Where there is conflict between the country's own systems and the Bank Policies, the highest standard prevails, meaning that the most precautionary, or the most restrictive in terms of avoiding or minimizing social and environmental impacts, will be followed in order to comply with both systems.

4 ANTICIPATED ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES

4.1 Geothermal Exploration – Drilling Activities and Associated Infrastructure and Activities

59. The following anticipated impacts and mitigation measures are relevant for exploration sub-projects under GEUDP Component 1. They are also relevant for activities that may be funded under Component 3 (although no funds have been allocated to this component at the time of project appraisal).

Table 1 Environmental and Social Aspects, Potential Impacts and Mitigation Measures for Geothermal Exploration Activities

Environmental and Social Aspects and Issues	**Potential Impacts**	**Mitigation Measures**
Natural habitats, including critical habitats **Aquatic and terrestrial habitats and species** **Forest resource users** **Water users** **Aesthetics and landscapes**	Land clearance for well pads, roads, pipelines and supporting infrastructure will cause direct damage or destruction to natural habitats.	Avoid, or otherwise minimize, development in sensitive areas (forest habitats, landscapes, scenic areas etc.) Remove and decommission infrastructure after exploration and rehabilitate areas quickly, re-contour where necessary to natural ground conditions and replant with native species or commercial species (depending on land use). Prepare a mitigation plan for land use following the exploration activities, together with communities and local authorities to avoid indiscriminate development and potential conflict.
	Roads, pipelines and drilling pads can create intrusions into natural and scenic landscapes.	
	Indirect impacts from induced development (agriculture, poaching, land clearances, land disputes) into forested areas and protected natural areas.	
	Water abstractions and discharges to water of treated wastewater / drilling fluids and other wastes cause direct or indirect impacts on habitats and species.	Separate different waste streams and treat via ponds, dosing, cooling and other methods before discharge to land or water bodies. Avoid overexploitation of freshwater resources – find multiple sources, take from streams with high flow rate, time drilling for the rainy season, use storage dams or ponds, take no more than 1/3 of the seasonal low flow

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
	Pollution of water or water abstractions affects other water users. Possible overflow or failure of ponds.	from surface water features. Identify other water uses such as farm irrigation and ensure sustainable abstraction rates that do not interfere with their water use, fishing etc. Discharge to reinjection wells wherever possible. Reuse of drilling fluids. Use septic tanks to treat domestic waste water before discharge to land. Empty septic tanks regularly and dispose sludge to landfill. Resource planning and management, in conjunction with authorities & communities to locate storage ponds away from sensitive areas. Careful design of ponds in accordance with OP4.36 Safety of Dams and monitoring of pond structures for signs of failure.
	Indiscriminate dumping of hazardous and solid waste to riparian zones and water ways.	Maintain safe systems of hazardous materials and solid waste management as part of Construction and Drilling standard operating procedures and EMP. Separate waste streams and recycle, compost and reuse waste where possible. Keep waste tidy / covered / secure. Dispose of unrecyclable waste to designated landfills that have permits from local authorities. Clean and remove spills and remediate land quickly. Train staff to use spill equipment and respond to incidents. Prohibit dumping of waste.

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
	Poaching and hunting of animals by workers. Competition with locals for forest resources.	Prohibit poaching and hunting, and use of forest resources, as part of workforce management.
Land use, and soils (and subsequent surface and groundwater contamination)	Discharge of contaminated muds and fluids to ground.	Avoid discharging fluids to ground. Test muds for contaminants prior to disposal. Contaminated muds will be treated as hazardous waste and disposed to lined landfill.
	Spills of hazardous materials. Indiscriminate dumping of solid and hazardous waste.	Maintain safe systems of hazardous materials and solid waste management as part of Construction and Drilling standard operating procedures and EMP. Separate waste streams and recycle, compost and reuse waste where possible. Keep waste tidy / covered / secure. Dispose of unrecyclable waste to designated landfills that have permits from local authorities. Clean and remove spills and remediate land quickly. Train staff to use spill equipment and respond to incidents. Prohibit dumping of waste.
	Loss of topsoil, landslides and other severe erosion from road construction, pipelines, pad construction, borrow pits, quarries,	Avoid high risk areas such as steep terrain. Minimize land clearance, especially on slopes. Design bank stability, slope protection and drainage systems into road

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
	fill sites.	design, borrow pit design etc. Restore disturbed and damaged areas immediately. Employ sediment and erosion control measures during construction (fences, traps, treatment ponds etc.). Take / dispose material to approved sites.
Geothermal features	Interference from pumping or reinjection of geothermal water, or from abstraction of freshwater. Damage from road construction, pipelines or other ancillary activities.	Identify and avoid significant features (values such as cultural, historical, spiritual, scientific, biological, landscape, ecotourism etc.) Avoid damaging or disturbing geothermal features where possible. Monitor activity to identify interference from pumping or reinjection. Adjust well testing and reinjection where necessary to mitigate significant impacts. Provide barriers and avoid disturbances to features from construction operations where necessary.
Groundwater	Contamination of groundwater from interference with geothermal water from abstraction wells or reinjection wells.	Prepare wells with appropriate casing and well head protection to prevent contamination. Monitor well levels and pressure to identify leaks early and repair casing or decommission wells to avoid further contamination.
	Impacts on aquifer levels from over-abstraction for fresh water supplies.	Model yield to ensure sustainable groundwater use. Use multiple sources. Use storage tanks, ponds and dams to store water.
Ambient noise	Drilling rig operations, increased traffic, well discharge testing, heavy machinery, and blasting for roads or quarrying – all emit noise	Plan work to avoid disturbances at sensitive times (night, holidays) Locate sites away from noise-sensitive receptors such as schools and villages.

<table>
<tr><th>Environmental and Social Aspects and Issues</th><th>Potential Impacts</th><th>Mitigation Measures</th></tr>
<tr><td></td><td>not otherwise experienced in the project area.

Disturbances to animals, domestic life, working life, schooling.</td><td>Restrict traffic through villages and near sensitive receptors.

Use noise barriers such as bunds, or the natural topography.

Warn people before noisy work begins and provide specific mitigation options to vulnerable people (such as temporary relocation).

Use appropriate construction methods and equipment (and keep maintained).

Use Guidelines for ambient noise levels (by receptor):
<table>
<tr><th rowspan="2">Receptor</th><th colspan="2">Maximum allowable Leq (hourly), in dB(A)</th></tr>
<tr><th>Daytime
07.00-22.00</th><th>Nighttime
22.00-07.00</th></tr>
<tr><td>Residential; institutional; educational</td><td>55</td><td>45</td></tr>
<tr><td>Industrial; commercial</td><td>70</td><td>0</td></tr>
</table></td></tr>
<tr><td rowspan="2">Ambient air quality</td><td>Discharge to air of contaminants from well testing and drilling (hydrogen sulfide, mercury, arsenic etc.), depending on the nature of the resource.</td><td>Locate sites away from sensitive receptors such as schools and villages.

Warn people before work begins and provide specific mitigation options to vulnerable people (such as temporary relocation).

Safety planning and measures for uncontrolled gas releases.

Remediation / replacement of any damaged vegetation, crops etc.</td></tr>
<tr><td>Dust emissions from road construction, land clearance, site activities.</td><td>Locate sites away from sensitive receptors such as schools and villages.

Control dust with water during windy and dry conditions.</td></tr>
</table>

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
		Stage land clearance activities and rehabilitate open areas quickly.
Critical infrastructure	Damage or destruction to critical infrastructure (roads, ports, bridges)	Upgrade infrastructure prior to use. Provide new, purpose-built infrastructure. Repair damaged infrastructure to at least the pre-project condition.
Occupational health and safety	Risks relating to working with machinery, traffic accidents, falling into ponds, scalding from hot fluids and steam, toxic gas emissions. Non-routine risks such as well blow outs.	Gas monitoring systems. Appropriate personal protective equipment (PPE). Appropriate training. Implement safety systems and procedures. Shielding surfaces where working with hot fluids and steam. Fencing ponds and mud pits. Well maintained vehicles and machinery. Emergency and incident planning and management. First aid training, and plans for evacuation to hospital.
Land ownership, livelihood and resettlement	Involuntary resettlement for quarries, roads, well pads, pipelines and other sites where land is required, leading to loss of livelihood and social disconnection. Loss of crops, structures, and other assets	Prioritize willing buyer-willing seller negotiations for land lease or land purchase. Consult widely and identify all affected persons, including squatters. Compensate at replacement value. Use the RPF guidance for involuntary land acquisition and resettlement.
	Restricting access to forests or	Consult widely and engage communities in any changes to forest access and

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
	other resources.	management. Integrate resettlement and livelihood issues into the integrated management plans.
Social Wellbeing	Concerns and complaints of affected communities.	Consultation on risks and adverse impacts of the project and creation of opportunities to receive affected communities' views on project. Establishment of grievance mechanism to collect and facilitate resolution of affected communities' concerns and grievances regarding the sponsor's environmental and social performance. Transparent public disclosure to inform each phase of the project through web site, notice boards, telecommunication tools and public meetings. Establishing well designed and structured public questionnaire to receive feedback from affected communities
Community health and safety	Risks to bystanders and community relating to traffic accidents, toxic gas emissions,	Location of sites away from sensitive receptors. Gas monitoring systems. Traffic warning systems (pilot vehicles, roadside signs) Appropriate training of drivers. Regular community consultation. Warning signs. Emergency planning includes community.
	Unauthorized access to drilling rigs and storage / treatment ponds	Fencing around well site, ponds and pits. Warning signs.

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
		Regular community consultation. ID required to use access road and/or work on site.
Physical cultural resources. **Historic, spiritual, archaeological, religious, graves, etc.**	Disturbance, degradation, desecration of sites or artefacts as a result of land disturbances, land acquisition, impacts on geothermal features or landscapes.	Locate sites away from PCR. Use the PCR Management Plan to remedy impacts (mitigation, minimization, relocation etc.). Use the chance find procedure to stop work immediately on the discovery of a PCR.
Indigenous Peoples	Potential impacts on access to resources and connection to the land. Lack of access to benefits of the project.	Consult early and extensively (Free, Prior and Informed Consultation) in accordance with the IPPF, in language and using methods appropriate to the IP group. Include IP in the project design, and ensure that benefits accrue to IP. Avoid and minimize harm to IP, and engage with them to identify appropriate mitigation.

4.2 Linked Projects: Geothermal Exploitation – Energy Generation and Associated Infrastructure and Activities

The exploitation phase will be considered as a linked project to the GEUDP exploration sub-projects. In addition to those activities that are listed in Table 1, the following activities will be considered in the process of screening of risks associated with linked projects.

Table 2 Environmental and Social Aspects, Potential Impacts and Mitigation Measures for Geothermal Exploitation Activities

Environmental and Social Aspects and Issues	**Potential Impacts**	**Mitigation Measures**
Natural habitats, including critical habitats **Aquatic and terrestrial habitats and species** **Forest resource users** **Water users** **Aesthetics and landscapes**	Land clearance for power station, substation, and transmission lines cause direct damage or destruction to natural habitats.	Avoid, or otherwise minimize, development in sensitive areas (habitats, landscapes, scenic areas etc.) Develop integrated resource management plans, inclusive of community-driven development opportunities, to manage long term impacts from induced development. Develop this in coordination with relevant land owners, communities, Ministries and local authorities to avoid indiscriminate development and potential conflict. Rehabilitate areas quickly, re-contour where necessary to natural ground conditions and replant with native species or commercial species (depending on land use).
	Power station, substation, transmission lines can create intrusions into natural and scenic landscapes.	
	Indirect impacts from induced development (agriculture, poaching, land clearances, land disputes) into forested areas and protected natural areas.	
	Water abstractions for cooling towers or domestic / office use and discharges to water of cooling water and other wastes cause direct or indirect impacts on habitats and species. Pollution of water or water abstractions affects other water	Separate different waste streams and treat via ponds, dosing, cooling and other methods before discharge to land or water bodies. Prioritize discharges to reinjection wells over surface water bodies and land. Avoid overexploitation of freshwater resources – find multiple sources, take from streams with high flow rate, time drilling for the rainy season, use storage dams or ponds, take no more than 1/3 of the seasonal low flow from surface water features. Identify other water uses such as farm irrigation and ensure sustainable abstraction rates that do not interfere

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
	users. Possible overflow or failure of ponds.	with their water use, fishing etc. Reuse of cooled water for other plant uses, or use closed loop systems. Use septic tanks to treat domestic waste water before discharge to land. Empty septic tanks regularly and dispose sludge to landfill. Resource planning and management, in conjunction with authorities & communities to locate storage ponds away from sensitive areas. Careful design of ponds in accordance with OP4.36 Safety of Dams and monitoring of pond structures for signs of failure.
	Well blow-outs discharging contaminants.	Design of emergency response for well blowout and pipeline raptures including measures for containment of geothermal fluid spills. Regular maintenance of wellheads and geothermal fluid pipelines: - corrosion control and inspection - pressure monitoring - use of blowout prevention equipment (e.g. shutoff valves)
	Indiscriminate dumping of sulfur, silica, and carbonate precipitates collected from cooling towers, air scrubber systems, turbines, and steam separators, and other hazardous wastes to riparian zones and water ways.	Maintain safe systems of hazardous materials and solid waste management as part of Power Station standard operating procedures and Environmental Management System. Separate waste streams and recycle, compost and reuse waste where possible. Keep waste tidy / covered / secure. Dispose of unrecyclable waste to designated landfills that have permits from local authorities.

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
		Clean and remove spills and remediate land quickly. Train staff to use spill equipment and respond to incidents. Prohibit dumping of waste.
	Poaching and hunting of animals by workers. Competition with locals for forest resources.	Prohibit poaching and hunting, and use of forest resources, as part of workforce management.
Land use, and soils (and subsequent surface and groundwater contamination)	Discharge of sulfur, silica, and carbonate precipitates collected from cooling towers, air scrubber systems, turbines, and steam separators to land.	Sludge / precipitates to be stored in bunded areas. Test sludge for leachability of contaminants prior to disposal. Contaminated sludge will be dewatered, treated as hazardous waste and disposed to lined landfill. Non-hazardous wastes will be buried away from water sources.
	Spills of hazardous materials. Indiscriminate dumping of other solid and hazardous waste.	Maintain safe systems of hazardous materials and solid waste management as part of Power Station standard operating procedures and Environmental Management System. Separate waste streams and recycle, compost and reuse waste where possible. Keep waste tidy / covered / secure. Dispose of unrecyclable waste to designated landfills that have permits from local authorities. Clean and remove spills and remediate land quickly.

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
		Train staff to use spill equipment and respond to incidents. Prohibit dumping of waste.
	Loss of topsoil, landslides and other severe erosion from distribution infrastructure construction and other construction sites.	Avoid high risk areas such as steep terrain. Minimize land clearance, especially on slopes. Use temporary haulage roads and restore promptly. Design bank stability, slope protection and drainage systems into site design. Restore disturbed and damaged areas immediately. Employ sediment and erosion control measures during construction (fences, traps, treatment ponds etc.). Take / dispose material to approved sites.
Geothermal features	Interference from pumping or reinjection of geothermal water, or from abstraction of surface water.	Identify and avoid significant features (values such as cultural, historical, spiritual, scientific, biological, landscape, ecotourism etc.) Avoid damaging or disturbing geothermal features where possible. Model the geothermal reservoir and geothermal features. Monitor activity to identify interference from pumping or reinjection. Adjust production and reinjection where necessary to mitigate significant impacts. Provide barriers and avoid disturbances from construction and operations where necessary.
Groundwater and geothermal reservoir	Contamination of groundwater from interference with geothermal water from abstraction wells or	Prepare wells with appropriate casing and well head protection to prevent contamination. Monitor well levels and pressure to identify leaks early and repair casing or

<table>
<tr><th>Environmental and Social Aspects and Issues</th><th>Potential Impacts</th><th>Mitigation Measures</th></tr>
<tr><td></td><td>reinjection wells.</td><td>decommission wells to avoid further contamination.

Detailed analysis of aquifer structure and existing groundwater use at development area

Determination of existing groundwater users in the vicinity of the operational wells (e.g. 1 km) should be identified. In addition, some of technical information about existing groundwater wells (e.g. depth, flow, etc.) should be collected.</td></tr>
<tr><td></td><td>Impacts on aquifer levels from over-abstraction for fresh water supplies.</td><td>Model yield to ensure sustainable groundwater use.

Use multiple sources of fresh water. Use storage tanks, ponds and dams to store water.</td></tr>
<tr><td></td><td>Over-abstraction of geothermal resource, leading to subsidence, saline intrusion, impacts on aquifer levels, reduced geothermal yield</td><td>Modelling of geothermal abstractions and reinjections.

Locate make up and reinjection wells to maximise the efficient use of the geothermal resource and avoid land subsidence.

Monitor ground subsidence, groundwater levels and water quality.

Construct and maintain wells to avoid interference with groundwater.</td></tr>
<tr><td>Ambient noise</td><td>Construction works, cooling tower fans, the steam ejector, and the turbine ’hum’.

Disturbances to animals, domestic life, working life, schooling.</td><td>Plan work to avoid construction disturbances at sensitive times (night, holidays)

Locate sites away from noise-sensitive receptors such as schools and villages.

Use noise barriers such as bunds, or the natural topography.

Use Guidelines for ambient noise levels (by receptor):

<table><tr><th>Receptor</th><th>Maximum allowable Leq (hourly), in dB(A)</th></tr></table></td></tr>
</table>

<table>
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<tr><td>Industrial; commercial</td><td>70</td><td>0</td></tr>
</table>
</td></tr>
<tr><td>Ambient air quality</td><td>Toxic gas emissions from cooling tower, open contact condenser cooling tower systems.</td><td>Locate plant away from sensitive receptors (model air emissions to assist with identification of suitable location of plant).

Consideration of total or partial re-injection of gases with geothermal fluids.

Using closed non-contact cooling alternatives.

Depending on the characteristics of source, venting of toxic chemicals (i.e. hydrogen sulfide and non-condensable volatile mercury) in line with current regulations.

Depending on the characteristics of source, removal of possible toxic chemicals from non-condensable gases.</td></tr>
<tr><td>Critical infrastructure</td><td>Damage or destruction to critical infrastructure (roads, ports, bridges) during construction.</td><td>Upgrade infrastructure prior to use.

Provide new, purpose-built infrastructure.

Repair damaged infrastructure to at least the pre-project condition.</td></tr>
<tr><td>Occupational health and safety</td><td>Risks relating to working with machinery, traffic accidents, falling into ponds, scalding from hot fluids and steam, working at height, working in a noisy environment,</td><td>Installation of hydrogen sulfide monitoring and warning systems.

Development of a contingency plan for hydrogen sulfide release events, including all necessary aspects from evacuation to resumption of normal operations.

Provision of an emergency response teams, with personal hydrogen sulfide</td></tr>
</table>

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
	construction site-related risks. Toxic gas emissions during operation of power plant Non-routine exposures include potential blowout accidents during operation.	monitors, self-contained breathing apparatus and emergency oxygen supplies, and training in their safe and effective use. Provision of adequate ventilation of occupied buildings to avoid accumulation of hydrogen sulfide gas. Appropriate PPE. Appropriate training. Implement site specific safety systems and procedures (construction and operation). Shielding surfaces where working with hot fluids and steam. Fencing ponds and pits. Well maintained vehicles and machinery. Emergency and incident planning and management. First aid training, and plans for evacuation to hospital. Design of emergency response for well blowout and pipeline raptures including measures for containment of geothermal fluid spills. Regular maintenance of wellheads and geothermal fluid pipelines: - corrosion control and inspection - pressure monitoring - use of blowout prevention equipment (e.g. shutoff valves).
Land ownership, livelihood and resettlement	Involuntary resettlement for power plant, distribution infrastructure, associated facilities	Prioritize willing buyer-willing seller negotiations for land lease or land purchase.

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
	(as well as wells as mentioned in Table 1) leading to loss of livelihood and social disconnection. Loss of crops, structures, and other assets.	Consult widely and identify all affected persons, including squatters. Compensate at replacement value. Use the RPF guidance for involuntary land acquisition and resettlement.
	Restricting access to forests or other resources.	Consult widely and engage communities in any changes to forest access and management. Integrate resettlement and livelihood issues into the integrated management plans.
	Impacts on other economic activities such as tourism, fishing, agriculture.	Consult with the representatives of industries that could be affected by geothermal development. Work on opportunities to enhance the benefits to the sector (such as improved roads or more reliable electricity) or minimize impacts on the sector, as part of the EMP and integrated management plans.
Social Wellbeing	Concerns and complaints of affected communities.	Consultation on risks and adverse impacts of the project and creation of opportunities to receive affected communities' views on project. Establishment of grievance mechanism to collect and facilitate resolution of affected communities' concerns and grievances regarding the sponsor's environmental and social performance. Transparent public disclosure to inform each phase of the project through web site, notice boards, telecommunication tools and public meetings. Establishing well designed and structured public questionnaire to receive feedback from affected communities

Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
Community health and safety	Risks to bystanders and community relating to traffic accidents, toxic gas emissions.	Location of sites away from sensitive receptors. Continuous operation of the hydrogen sulfide gas monitoring systems to facilitate early detection and warning. Construction traffic warning systems (pilot vehicles, roadside signs) Appropriate training of drivers. Regular community consultation. Warning signs. Emergency planning includes community.
	Unauthorized access to construction sites or power plant, substation and switch yard.	Fencing around all construction sites, power plant etc. Warning signs and security gates. Regular community consultation. ID required to use access road and/or work on site.
Physical cultural resources. **Historic, spiritual, archaeological, religious, graves, etc.**	Disturbance, degradation, desecration of sites or artefacts as a result of construction of power station infrastructure or alignment of transmission lines.	Locate sites away from PCR. Use the PCR Management Plan to remedy impacts (mitigation, minimization, relocation etc.). Use the chance find procedure to stop work immediately on the discovery of a PCR.
Indigenous Peoples	Potential impacts on access to resources and connection to the land. Lack of access to benefits of the	Consult early and extensively (Free, Prior and Informed Consultation) in accordance with the IPPF, in language and using methods appropriate to the IP group. Include IP in the project design, and ensure that benefits accrue to IP.

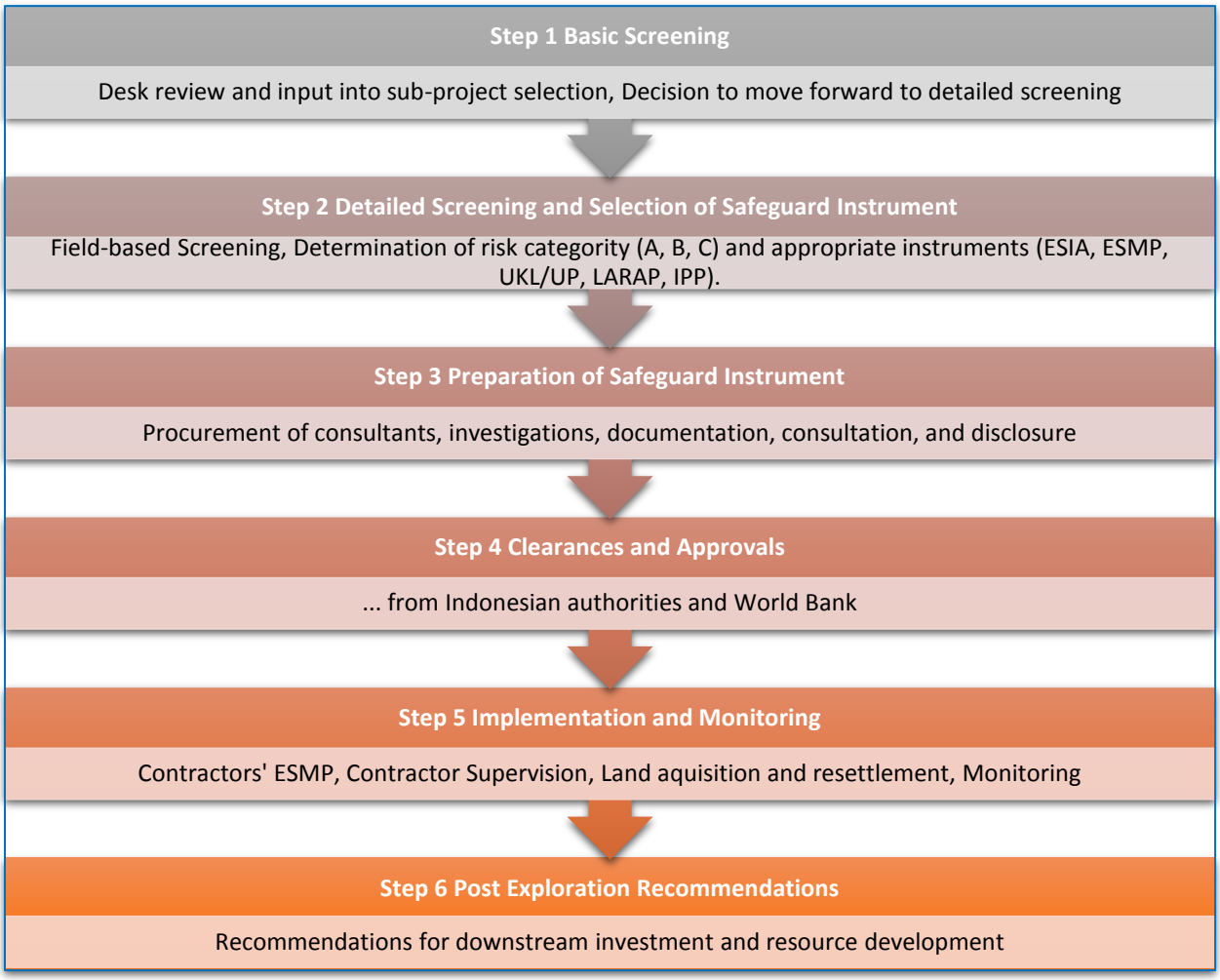
Environmental and Social Aspects and Issues	Potential Impacts	Mitigation Measures
	project.	Avoid and minimize harm to IP, and engage with them to identify appropriate mitigation.

5 SUB-PROJECT SAFEGUARDS OPERATIONAL PROCEDURES

5.1 Overview

60. Each geothermal development sub-project to be developed for funding under GEUDP will go through the same safeguards screening and implementation process, as shown in Figure 1, and described in the sections below.

Figure 1 Sub-project Screening and Safeguard Implementation Process



5.2 Step 1: Basic Screening

61. As part of the sub-project identification process, PT SMI (or consultant on its behalf) will screen the sub-projects using desktop information and the checklist in Appendix A. The purpose is to contribute to the selection of best sites for development under GEUDP. The basic screening can preliminarily identify potential environmental and social risks using information from BG, maps, published data and google earth. The outputs of the basic screening will contribute to sub-project

prioritization and selection process and provide background information to the sub-project feasibility report.

5.3 Step 2: Detailed Screening

62. PT SMI (or a consultant on its behalf) will the conduct a site visit and collect further secondary data to screen for environmental and social risks, using the screening checklists in Appendix B as a guide. This process will identify a probable area of influence, sensitive receptors, anticipated significant impacts that will require particular attention, the World Bank Risk Category (A, B), and the safeguard instruments required. The screening process will focus on the exploration phase, and also consider significant impacts from the linked exploitation phase. Exploration phase issues will be assessed as part of the ESIA process, whereas exploitation phase issues will be go through further screening as part of the ESIA process but will not be fully assessed.

63. The outputs of the detailed screening shall contribute to the sub-project feasibility report. A sub-project will not proceed to development under GEUDP if a 'show stopper' is identified and fails the detailed screening step. An example would be where a sub-project would potentially have irreversible impacts on critical habitats. Significant potential impacts for linked projects may also be considered a 'show stopper'.

5.3.1 Screening of Sensitive Receptors and Potential Impacts

64. The screening will produce a preliminary description of the project area of influence and will identify sensitive receptors. The screening questions will assist to identify potentially significant social and environmental impacts, such as the potential conversion or degradation of natural habitats. Linked projects (such as the exploitation phase) within the project area of influence will be screened at the same time but the potential risk and impacts will be separately reported.

5.3.2 Screening of World Bank Safeguard Policies

65. Based on the sensitive receptors and potentially significant impacts, the screening questions will assist to identify the relevant World Bank Safeguard Policies for each sub-project.

5.3.3 Screening of World Bank OP4.01 Risk Category

66. The World Bank classifies projects into one of three categories (A, B and C), depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.

67. **Category A:** When the sub-project is likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. Examples are: exploration activities within conservation areas which may result in significant impacts on a population of endangered species or on a critical habitat; exploration activities that may improve access for induced development that will cause harm to Indigenous Peoples. A sub-project will also be considered Category A if the linked

(downstream) phase may be responsible for significant adverse environmental impacts that are sensitive, diverse or unprecedented. All Category A projects are required to have an ESIA and EMP.

68. **Category B:** When the sub-project's adverse environmental impacts on human populations or environmentally important areas (including wetlands, forests, grasslands, and other natural habitats) are less adverse than those of Category A sub-projects. Impacts would be site – specific; For example, if few of the impacts, if any, would be irreversible and mitigation measures can be designed more readily than for Category A sub-projects. The scope of environmental assessment for a Category B sub-project will vary based on the outcomes of the screening process. All Category B sub-projects will also require an ESIA and EMP. The scope of the ESIA will be based on the potential risks, address the sub-project's potential negative and positive environmental impacts, and recommend measures to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.

69. **Category C:** If the sub-project is likely to have minimal or no adverse environmental impacts. Beyond screening, no further environmental assessment action is required for a Category C sub-project. It is expected that there will be no Category C sub-projects under the GEUDP.

5.3.4 Selection of Safeguards Instruments

70. The risk screening and categorization process will identify the potential significance of social and environmental impacts. The checklists in Appendix A and Appendix B outline a decision-making process for selecting appropriate safeguards instruments for each sub-project.

5.3.4.1 UKL/UPL

71. In accordance with Indonesian regulations, every geothermal exploration project is required to have a UKL/UPL. The required format and contents of the document is provided in Appendix E. For the GEUDP the content of the UKL/UPL mitigation and monitoring plans will be the same as the ESMP (see Section 5.3.4.3). To comply with OP4.01, the ESMP will contain additional information on capacity assessment and capacity building plans, implementation arrangements and implementation budget.

5.3.4.2 Environmental and Social Impact Assessment

72. Every geothermal exploration sub-project under GEUDP will require an ESIA. The breadth, depth and type of analysis will depend on the nature, scale, and potential impacts of the proposed sub-project. The screening process will identify the scope of the ESIA.

73. The Environmental Assessment (EA) evaluates a project's potential environmental risks and impacts in its area of influence; and identifies ways of improving project planning, design and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental

impacts and enhancing positive impacts, including throughout the project implementation. Preventive measures will be favored over mitigation or compensatory measures whenever feasible.

74. An EA takes into account the natural environment (air, water and land), human health and safety, and project-related social (involuntary resettlement, Indigenous Peoples, and cultural property), trans-boundary, and global environmental aspects. The EA considers natural and social aspects in any integrated way. It takes into account the following aspects:

- variations in sub-project and country conditions;
- findings of country environmental studies;
- overall national policy framework, environmental actions plans, legislations and licensing and permitting requirements;
- PT SMI's capabilities related to the environment and social aspects, and its history of compliance with national and local laws, including those on environment and public consultation and notification; and
- national obligations under international environmental treaties and agreements relevant to the sub-project.

Sub-projects that would contravene such country obligations as identified during the EA will not be supported under the GEUDP.

75. The social impact assessment and mitigation strategy will encompass the following activities:

a. *Social assessment survey* of the community groups impacted by the geothermal exploration: collecting relevant data on income, livelihoods, access to services, customs and norms, and identifying vulnerable community members and gender issues;
b. Identification of *land acquisition requirements* for the project footprint: assessments of the land ownership status, understanding of affected peoples' willingness to participate in voluntary or involuntary land acquisition, and accordingly apposite options and preferences (potentially suggested by affected people) for both voluntary and involuntary land acquisition scenarios;
c. Development of approach and mechanism for *land lease for collective land ownership* or communally owned assets;
d. Undertaking of a *survey of physical cultural resources (PCR)* in the area, through consultation with the affected communities and stakeholders, and identification and mapping of cultural heritage assets such as cultural, religious, historical and archaeological sites, including sacred sites, graveyards and burial places; and
e. Screening for presence of Indigenous Peoples in the project area of influence will be included in the Social Assessment reviewing key aspects as listed in Appendix J.

76. The ESIA methodology will include a detailed screening process to identify the potential risks and issues with linked projects such as the exploitation phase and the approach to how the phases of

geothermal exploration and exploitation will be presented and discussed during consultation. A screening and risk assessment for the exploitation phase and any other linked activities will be included in the ESIA document, highlighting significant risks that may affect the geothermal exploration plan, the decision to recommend exploitation, and how the geothermal exploitation plan may be developed as a result. As an example, if there are potential irreversible risks relating to developments within conservation areas, then this should be clearly documented in the ESIA.

77. Specific criteria will be mandatory for Category A sub-project ESIA. The ESIA will include an examination of the sub-project's potential negative and positive environmental impacts, and will compare them with those of feasible alternatives (including the 'without sub-project' situation). Recommendations will be made of any measures needed to prevent, minimize, mitigate or compensate for adverse impacts and improve environmental performance.

5.3.4.3 Environmental and Social Management Plan

78. Every geothermal exploration sub-project under GEUDP will require an ESMP. The scope will depend on the nature, scale, and potential impacts of the proposed sub-project. The contents of an ESMP are provided in Appendix D consistent with World Bank Policy OP4.01 Environmental Assessment. For the GEUDP, the content of the ESMP mitigation and monitoring plans will be the same as the UKL/UPL. To comply with OP 4.01, the ESMP will contain additional information on capacity assessment and capacity building plans, implementation arrangements and implementation budget.

79. An ESMP may include specific sub-plans such as a Physical Cultural Resources Management Plan, or Biodiversity Management Plan, to manage specific and significant impacts.

5.3.4.4 Land Acquisition and Resettlement Instruments

80. Matrix for identifying the applicable instrument for land acquisition and resettlement:

Table 3 Land Acquisition and Resettlement Instrument Matrix

Trigger	**Instrument**
Voluntary land acquisition through a willing buyer-willing seller, or lease arrangement.	No instrument required Sales agreements and invoices are documented.
Assets are affected by a sub-project, but not related to land acquisition or resettlement.	ESMP (Appendix D)
When involuntary land acquisition for a sub-project affects less than 200 people, less than 10% of households' productive assets are affected and/or does not involve physical relocation.	An abbreviated LARAP (Appendix L)
When involuntary land acquisition for a sub-project affects more	A comprehensive LARAP

than 200 people, affects more than 10% of households' productive assets and/or involves physical relocation.	(Appendix K)
When a sub-project leads to involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of displaced persons.	A Plan for Action as a result of a Process Framework (Refer to OP4.12)

5.3.4.5 Indigenous Peoples' Instruments

81. Matrix for identifying the applicable instrument for Indigenous Peoples:

Table 4 Indigenous Peoples' Instrument Matrix

Trigger	**Instrument**
Indigenous Peoples may form a portion of the beneficiaries / persons affected	An Indigenous Peoples' Plan based on a Social Assessment in the ESIA (Appendix J)
Indigenous Peoples are in the project area of influence but the Social Assessment concludes that the sub-project will not adversely impact the people / population.	No instrument required

5.3.5 Screening Report

82. The screening report will be prepared by PT SMI (or EMC on its behalf) and include:

a. Completed Screening Forms (Appendix A)
b. Description of the environmental and social context, including maps and photos.
c. Identification of the project area of influence and sensitive receptors.
d. Clearly state the screening outputs related to the funded exploration project, and to any linked activities such as exploitation.
e. World Bank safeguard policies triggered.
f. World Bank Risk Categorization
g. Significant environmental and social risks, with a preliminary assessment of the nature and scale of impact assessment and/or mitigation measures likely to be required (such as Biodiversity Management Plans, a comprehensive consultation program, economic or health impact assessments).
h. List of required safeguards instruments (ESIA, ESMP, UKL/UPL, LARAP, Abbreviated LARAP, and IPDP) and a program to prepare them, estimating the time required, expertise required, and budget. Note any issues such as timeframes or budgets that may affect geothermal project feasibility or the development plan.
i. Recommendations for the design of the geothermal development plan, such as the location of drilling sites, location of fresh water supplies, the avoidance of sensitive receptors, etc. The detailed screening report may conclude that the sub-project is not feasible based on significant potential safeguards issues.

5.4 Step 3: Preparation, Consultation and Disclosure of Safeguards Instruments

83. Terms of Reference (TOR) for safeguards instruments will be prepared by PT SMI and reviewed by the World Bank before the work is tendered to competent and qualified environmental and social consultants. The World Bank must clear the TOR for Category A sub-project ESIA before it is issued in a request for proposal. Consultants with experience in Indonesian regulatory processes and World Bank safeguard policies will be engaged. The safeguards instruments will be completed in parallel with the feasibility studies, and before the World Bank clears the project for funding and the drilling contract bid documents are finalized. The safeguards work will feed into the final design of the geothermal exploration plan, bid documents, etc.

84. The scope of the ESIA, ESMP, UKL/UPL and IPDP will be commensurate to the nature and scale of potential impacts. The scope of the LARAP or abbreviated LARAP will be determined based on the number of PAPs, and the nature and scale of compensation and livelihood restoration.

85. Consultation and disclosure will be carried out as per Section 8. PT SMI will lead consultation with support from the consultants.

86. PT SMI and the World Bank will review draft documents and provide feedback prior to finalization.

5.5 Step 4: Clearances and Approvals

87. The UKL/UPL will be submitted for approval by the relevant Provincial or District Environment Agency. The final ESIA, ESMP, LARAP and IPDP will be subject to review and approval by the World Bank. No work is to begin on site until the documents have been cleared and the relevant regulatory approvals have been awarded.

5.6 Step 5: Implementation and Monitoring

88. PT SMI will prepare detailed implementation processes in the Project Operations Manual. In brief, implementation will occur as follows:

    a. PT SMI, or the EMC on their behalf, will integrate safeguards aspects into geothermal exploration plans (location of infrastructure, construction methods, mitigation measures relating to design etc.).
    b. PT SMI, or the EMC on their behalf, will include the ESMP in the Contractor's bid documents and the Contractor's contract. Contractor's selection process will include the capacity to implement ESMP, and UKL/UPL.
    c. The Contractor will be required to prepare a Contractor's ESMP before work begins. The Contractor's ESMP will document, in detail, how the Contractor will fulfill its roles and responsibilities as documented in the Project ESMP.
    d. No work will begin on site (including ancillary works such as access roads) until land acquisition and resettlement has been completed and the Contractor's ESMP has been cleared by PT SMI (to the satisfaction of the World Bank).

e. The EMC will monitor and supervise the Contractor's ESMP implementation and be responsible for implementing other aspects of the project ESMP not under the Contractor's control.
f. PT SMI will implement the IPDP and LARAP and coordinate the activities with those of the EMC and the Contractor(s).
g. Training will be carried out by EMC and/or a third party, where necessary, in accordance with the capacity building plans in the ESMP.
h. Supervision, monitoring and reporting will be carried out as per Section 9.4 and the detailed requirements of the ESMP.

5.7 Step 6: Post Exploration Recommendations

89. Safeguards screening and risk assessments from the ESIA regarding linked projects (and any learnings from the implementation of the project ESMP, LARAP and IPDP and exploration activities) will inform the resource feasibility assessments that are produced following the exploitation phase, as well as the recommendations and decision making regarding future commercialization of the resource for electricity generation. This may include a list of conclusions and recommendations if there is a low possibility of the geothermal prospects being developed, or may include draft or final TOR for ESIA and other safeguards instruments if the prospect will be delivered to market for development in the short term.

5.8 Technical Advisory Operational Procedures

90. Terms of Reference for Technical Advisory components will require:

a. Safeguards specialists to be part of the team, where necessary (such as the Good Practice Guidance, and the EMC);
b. Advice and outputs to comply with the ESMF, RPF and IPPF;
c. Advice and outputs to be consistent with World Bank Safeguards Policies and policies on Gender and Disclosure;
d. Broad consultation with relevant stakeholders, and the public where necessary; and
e. Disclosure of technical documents.

91. PT SMI Environmental Social Safeguard and Business Continuity Management (ESS&BCM) Division (supported by consultants if necessary), will review technical advisory outputs and provide comment and input to ensure consistency with GEUDP framework documents. The World Bank safeguards specialists will review and comment on technical advisory outputs to ensure consistency with policies and GEUDP framework documents.

6 RESETTLEMENT POLICY FRAMEWORK

6.1 Key Principles

92. Under the GEUDP, this Resettlement Policy Framework (RPF) provides guidance on resettlement screening, assessment, institutional arrangements, and processes regarding Involuntary Resettlement to be complied with by project management staff, consultants, and related parties. The RPF will guide the preparation of Land Acquisition and Resettlement Action Plan (LARAP) for each sub-project. The World Bank OP 4.12 on Involuntary Resettlement sets the standards on addressing and mitigating risks resulting from involuntary resettlement, including any case of involuntary land taking.

93. The World Bank recognizes that land acquisition and land use restrictions induced by the project can have adverse impacts on land users and communities. Here "involuntary resettlement" refers both to physical displacement (relocation or loss of shelter) and economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood) as a result of the project activities. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement. This occurs in cases of: (i) lawful expropriation, or temporary or permanent restrictions on land use, and (ii) negotiated settlements in which the buyer can resort to expropriation or impose legal restrictions on land use if negotiations with the seller failed.

94. Since acquisition of the land for drilling activities is likely to be conducted through voluntary land transaction mechanisms such as *willing seller-willing buyer*[10], this RPF outlines negotiated land acquisition principles and procedures. However, in cases of any adverse economic, social, or environmental impacts from project activities (exploration drilling) other than land acquisition (e.g., loss of access to assets or resources or restrictions on land use), such impacts will be avoided, minimized, mitigated or compensated for through the process of social assessment as part of the environmental and social impact assessment. However, if there are significant social impacts from voluntary land acquisition, PT SMI will consider applying the requirements of the World Bank OP 4.12 on Involuntary Resettlement to avoid, remedy or mitigate the impacts.

95. The overall objectives of the Bank's policy on involuntary resettlement are the following:

    a. Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs;
    b. Where it is not feasible to avoid resettlement, resettlement activities should be designed and executed as part of a sustainable development program, e.g., providing sufficient

[10] That is, market transactions in which the seller is not obliged to sell and the buyer cannot resort to expropriation or other compulsory procedures if negotiations fail

resources to enable the persons displaced by the project to share in project benefits. Persons displaced by the project should be meaningfully consulted and be given the opportunity to participate in the planning and implementation of resettlement programs; and

c. Displaced persons should receive assistance in their efforts to improve their livelihoods and living standards, or at least to restore them, in real terms, to pre-displacement levels, or to levels prevailing prior to the project commencement, whichever is higher.

96. Prior to implementation of land acquisition and resettlement activities, PT SMI will adopt the following approaches and methodology of social assessment as required by OP4.12 requirements:

a. Avoid involuntary resettlement and, if unavoidable, minimize its potential impacts;
b. Assess the potential economic and social impacts of involuntary land acquisition and resettlement on PAP and their livelihoods;
c. Identify categories of affected persons and their respective entitlements;
d. Set out clear process of consultation with and participation of PAPs in the preparation and planning of involuntary land acquisition and resettlement, if any, as well as information dissemination to the PAPs;
e. Compensate for lost assets at full replacement cost;
f. Compensate informal/illegal land users for lost assets and provide assistance in relocating, if needed;
g. Compensate and obtain legal access to expropriated land before starting construction;
h. Provide information and prepare special assistance programs for vulnerable groups including the persons without any immovable property; and
i. Provide and prepare plans for grievance redress and monitoring in line with the RPF.

6.2 Indonesian Laws and Policies Relating to Land Acquisition

97. Geothermal exploration is important for energy infrastructure development, and under the country system it is categorized as public interest development. In case of land acquisition for infrastructure development for public purposes, any sub-project should refer to Law 2 of 2012 on Land Acquisition for Project Activity for Public Interest. The following are its implementing regulations: Presidential Decree No. 71 of 2012, Head of National Land Bureau Regulation No. 5 of 2012, Minister of Finance Regulation No. 13 / PMK.02 of 2013, and Ministerial of Home Affairs Regulation No. 72 of 2012.

98. The Presidential Decree No. 71 of 2012 has been amended four times. The key changes are: No. 40 of 2014 (…Land acquisition up to 45 hectare can be directly conducted by the agency needing land with holders of land right through a business transaction or other way agreed by both parties…); No. 99 of 2014 (…Head of Land Acquisition Implementation issues compensation value resulted from appraiser or public appraiser); No. 30 of 2015 (…Finance for land acquisition can be sourced from a company (Badan Usaha) as Agency acquiring the land has been given the right to act on behalf of the state, ministerial, non-ministerial government agency, or provincial or district government; and the most updated one, No. 148 of 2015 (…Land acquisition for public interest

development purpose up to 5 hectares does not need location determination letter. Agency needing land to use appraiser for land valuation…).

99. Minister of Finance Regulation No. 13/PMK.02 of 2013 has been also amended by No. 10 / PMK 02 of 2016, which indicates a threshold budget allocation for land acquisition for public-interest development projects. Minister of Home Affairs Regulation No. 72 of 2012 indicated operational and supporting land acquisition implementation for public interest development source from a regional budget.

100. Head of National Land Bureau (BPN) Regulation No. 5 of 2012 has been amended by No. 6 of 2015, which highlights a bailout scheme to accelerate infrastructure development. The government revised the Ministerial of Agrarian and Spatial Planning (ATR) Regulation No. 6 of 2015 for the Amendment Regulation of the National Land Bureau (BPN) No. 5 of 2012 on Technical Guidelines for the Implementation of Land Acquisition. This revision open up the opportunity for private entrepreneurs to bailout[11] *(dana talangan)* land acquisition fund for public-interest infrastructure projects. Then bailout is replaced using state budget funds through the relevant ministries or agencies.

101. Land acquisition for public interest development shall be performed in accordance with the Regional Spatial Plan; the National/Regional Development Plan; the Strategic Plan; and the Working Plan of the Agency needing land. However, as indicated in Elucidation of Article 7 (2) of Law 2 of 2012, geothermal energy activities are to a degree flexible, uncertain and changeable. Because of this, flexible planning is required in order to ensure the effectiveness and efficiency of the development of geothermal energy resources.

102. Law 2 of 2012 has significantly improved the country system for resettlement with greater protection for the rights of property owners through consultation and fair compensation. It also deals with compensation for non-titled property if land acquisition is required. If the land is publically owned, the law do not apply and the required land would be cleared according to Law No. 5 of 1960, in which its Article 18 states that the rights on land may be expropriated by the government for public-interest activities by providing reasonable compensation in accordance to procedures stipulated in the Law. The Law also stipulates that public entities, including state-owned companies, are eligible to acquire land under this mechanism[12]. Similarly, private

[11] Private bails advance funds for land acquisition. This approach will benefit toll roads development and helps Toll Road Regulatory Agency (BPJT) can quickly build toll road. However, Minister Public Works and Housing (PUPR) also requires to prepare technical regulations of the private use of the bailout fund.

[12] Beside the Law 2 of 2012 and its implementing regulations, there are other regulations related to the land acquisition and resettlement for public interest, such as the Presidential Degree No. 40 of 2016 concerning the Acceleration of the Development of Electricity Infrastructure that has significant aspects in reducing the time of land acquisition process and determining the location. This is discussed more in the section 8.3. Energy Sector in this document

companies can also acquire land by establishing public private partnerships with state-owned enterprises and eligible government agencies.

103. Law 2 of 2012 and its supporting regulations stipulate that valuation of compensation should be done by "…Independent and Professionals Appraisers, who have a license from the Ministry of Finance as Public Appraiser and registered in National Land Bureau (BPN)". The Indonesian Society of Appraisers (MAPPI) issued the Valuation Standard 306, Valuation in the Context of Land Acquisition for Development for Public Interest, to guide and support the implementation of Law 2 of 2012. The Standard follows the same principles as the Law, where determination of the compensation amount is based on the "principles of humanity, fairness, usefulness, certainty, transparency, agreement, participation, welfare, harmony and sustainability." Fair Replacement Value is the based on the market value of the property, with attention to non-physical elements associated with loss of property ownership, caused by the land acquisition. The definition of Fair Replacement Value follows the same principles as that for compensation as cited earlier.

104. Valuation consists of physical and non-physical components. Physical components that will be compensated include: a) land; b) space above- and under-ground; and c) buildings; and d) amenities and facilities supporting the building. Non-physical components to be compensated for includes:

- Disposal rights of landowners, to be given as a premium in monetary terms under existing legislations. The substitutions may include matters relating to: a) loss of employment or loss of business, including change of the profession (with respect to Law No. 2 of 2012 Article 33 letter f of the Elucidation); b) emotional loss associated with loss of shelter as a result of land acquisition (with due regard to the Act No. 2 in 2012 Article 1 Paragraph 10, Article 2 the elucidation and Article 9, paragraph 2).
- Cost of transaction, such as moving expenses and corresponding taxes.
- Compensation for waiting period, that is, payment to account for the time difference between the valuation date and the estimated payment date.
- Loss of value of the remaining land, which can be calculated over the entire land value if it can no longer be used as intended.
- Physical damage and repair costs to building and structure atop the land, if any, as a result of land acquisition.

6.3 World Bank Safeguard Policy OP4.12 Involuntary Resettlement

105. This policy aims to avoid involuntary resettlement where possible. However, it sets out – where necessary – requirements for participation in resettlement planning, as well as compensation provision that improves, or at least restores, incomes and living standards. The Bank's experience with geothermal projects in Indonesia with regard to involuntary resettlement indicates that land is acquired through commercial transactions rather than expropriation, and involuntary resettlement does not occur. However, this RPF establishes the principles and procedures for land

acquisition and resettlement in case there are instances when PT SMI must invoke involuntary acquisition or resettlement.

106. The World Bank OP 4.12 does not apply to resettlement resulting from voluntary land transactions (i.e., market transactions in which the seller is not obliged to sell and the buyer cannot resort to expropriation or other compulsory procedures sanctioned by the legal system of the host country if negotiations fail). It also does not apply to impacts on livelihoods where the project is not changing the land use of the affected groups or communities.

6.4 Gap Analysis

107. There is potential gap between WB safeguard policy requirements and the country system in terms of enforcement of cut-off date at the beginning of census and other surveys. The aim is to prevent fraudulent claims and population influx to project area. The World Bank's OP 4.12 endnote 21 reads: *"Normally, this cut-off date is the date the census begins. The cut-off date could also be the date the project area was delineated, prior to the census, provided that there has been an effective public dissemination of information on the area delineated, and systematic and continuous dissemination subsequent to the delineation to prevent further population influx.* Refer to Section 6.6 for how this will be managed for the GEUDP.

6.5 Process for Preparing and Approving Resettlement Action Plan

108. Depending on the ESIA results, LARAP will be prepared when there will be involuntary acquisition of land and/or resettlement and/or restriction of access to resources. Government of Indonesia (to be confirmed prior appraisal) will prepare a LARAP in compliance with the Bank OP 4.12 and the country system[13]. Implementation of the LARAP requires the Bank's prior approval. The following sub-chapters detail the required elements to prepare a LARAP.

6.5.1 Required Information for the Involuntary Acquisition of Private or Village Land

109. Government of Indonesia (to be confirmed prior appraisal) will first provide documentation regarding land acquisition needs (including the lands that will be needed for the project in future). The Bank's social development specialist will review the documents and determine remedies if there are any circumstances that would jeopardize compliance with OP 4.12. If so, additional information and an appropriate course of action may be required by PT SMI.

110. PT SMI will then use the enclosed reporting formats (Abbreviated LARAP in Appendix L or the full LARAP in Appendix K) to cover the following issues:

[13] In accordance to the country safeguard system, in this stage, PT SMI shall make a Plan of Land Acquisition in the Public Interest in accordance with the laws and regulations. The Plan shall refer to the Regional Planning, Spatial Planning and the development priority as stated in the Medium – Term Development Plan, Strategic Plan, and the Working Plan of the relevant Agencies.

a. Assessment of the temporary and permanent impacts of land acquisition or expropriation, and categories of persons/households affected, number of lands/plots affected, percentage of land/plots affected in any landholding, land use before and after acquisition, prior land use and number of owners.
b. Documentation of the socioeconomic situations of affected households, such as income stream and percentage of income derived from the acquired land in line with the WB safeguard policy requirements. The aim is to understand the adverse impacts on livelihoods of displaced persons and provide restoration measures to compensate for their income losses.
c. Compensation standards applied for temporary and permanent loss of land, loss of crops, loss of productive trees, loss of residence and businesses (documenting the value equivalent to full replacement cost),
d. Result of court decisions, if any,
e. Provision for replacement land, if relevant, and
f. Provision of documentation for vulnerable groups, grievance redress and monitoring.

111. Under Indonesian Law, *Land Acquisition Plan in the Public Interest Document* prepared in the form of a land acquisition planning document must entail: (a) objectives of the development plan; (b) consistency with the Regional Spatial Planning and the National/Regional Development Plan; (c) land location; (d) land size needed; (e) description of the land (legal and physical) status; (f) estimated period of land acquisition; (g) estimated period of construction implementation; (h) estimated land value; (i) budget plan; and (j) that the Plan shall be made under a feasibility study prepared in accordance with the laws and regulations. The last step is submission of the Land Acquisition Plan in the Public Interest Document to the Governor with complete supporting documents.

6.5.2 Required Information for the Acquisition of Public Land

112. OP4.12 also applies where public land (land owned by GOI or local government) is purchased, transferred, leased or used informally/temporarily by PT SMI. This also includes easements. While the land transaction may be 'voluntary' by the Government agency, there may be third parties who use the land (tenants, informal land users, squatters etc.) that will be subject to involuntary resettlement.

113. In this case, PT SMI will submit a Social Impact Screening Summary to the World Bank, using information from the Detailed Screening Process (Refer Section 5.3). PT SMI will document the transfer mechanism, the amount of land, whether it is in use and for what purpose(s), and the number, name, gender and status of land-users (e.g., tenants, informal users).

114. For each sub-project that requires involuntary resettlement of third parties from public land, PT SMI will prepare a LARAP, and submit to the Bank for approval before implementation of land acquisition. LARAPs will include a detailed description of resettlement planning and implementation in compliance with the World Bank OP 4.12. The scope and level of details of the

LARAP will vary with the magnitude and complexity of the land acquisition and compensation issues. The Plan will indicate the number and ownerships of parcels to be acquired or subject to lease or easement, the number of parcels affected, estimated cost of the land and other assets to be acquired or subject to the acquisition, responsibility for execution and schedule for acquisition. The World Bank will review and ensure conformance of the land acquisition and resettlement process to OP4.12.

115. Once the LARAP is cleared by the Bank, it will be disclosed locally at the project site and on the Bank's Infoshop website. PT SMI will ensure that project implementation is fully consistent with the LARAP and provide adequate monitoring and reporting of the activities set out in the LARAP. As part of LARAP implementation, PT SMI will provide a quarterly report of land acquisition activities to the World Bank, as part of the overall project progress report. The report will indicate the number and ownership of parcels affected and their current status, progress of negotiations and appeals, and the price offered and finally paid (reported as number of square meters of the original whole plot and the size of the specific area acquired, and amount per square meter). At the end of the project and as part of project completion report, PT SMI will provide the Bank with a completion audit.

116. The World Bank supervises LARAP implementation to ensure compliance with OP 4.12. If necessary, it may contact affected parties to confirm the validity and determine whether or not the process and outcomes have complied with OP/BP 4.12. However, following the location determination during the preparation stage, any land transaction can only be done to the BPN. The land freeze has been applied when location determination is effective.

117. Under the country system, the responsible entities for activities in the preparation stage – including the LARAP approval process – are PT SMI and Local Government. After the document is submitted by PT SMI, the Governor will establish a Preparation Team for the project land acquisition. Under the Governor's instruction, the Team will prepare the '*Penetapan Lokasi*' following the below steps:

a. Notice of the development plan;
b. Identification of the development plan;
c. Undertaking public consultation concerning the development plan;
d. Announcement of the 'location determination' (*Penetapan Lokasi Pembangunan);*
e. Disclosure of the Determination of Location (to be printed and placed at the Kelurahan Office), and announcing it in local paper/electronic media.

6.6 Cut-off Date & Eligibility Criteria for Affected Persons

118. Any person who suffers a loss or damage to land, assets, business or access to productive resources, as a result of involuntary land acquisition or resettlement, will be eligible for compensation and/or resettlement assistance. The cut-off date for eligibility for compensation and/or resettlement assistance is the last day during the census/inventory of assets. The affected

communities will be informed of the cut-off date through the responsible agencies, community elders and leaders. Individuals or groups that are not present at the time of registration but who have a legitimate claim to membership in the affected community can be accommodated.

119. Under the country system, the cut-off date is determined during the implementation stage after verification of eligibility has been conducted (See Section 6.7). The provincial-level Land Office (BPN) will be responsible for the implementation stage activities, which it has the authority to delegate to the district level[14]. Prior to the cut-off date, the Land Office will conduct these steps:

a. Developing the implementation team, including at the local level;
b. Inventory, identification and disclosure of result;
c. Filing the objection and verification.

6.7 Proof of Eligibility

120. Government of Indonesia (to be confirmed prior appraisal) will consider various forms of evidence as proof of eligibility for affect people as stated in the RPF, for example, *formal legal rights*, such as land title registration certificates, leasehold indentures, tenancy agreements, rent receipts, building and planning permits, business operating licenses, and utility bills; or in lieu of formal documentation, an *affidavit* signed by land owners and tenants witnessed by the administrative authority. Criteria for establishing claims to eligibility without any documentation will be determined on a case-by-case basis.

121. Only project affected persons enumerated during the census/inventory of assets shall be eligible for compensation or supplemental assistance. Any new structures or additions to existing structures carried out after the cut-off date will not be considered affected, and their owners or occupants will not be able to claim compensation or supplemental assistance for these, unless they can demonstrate that the census/inventory of assets has failed to identify them as affected.

6.8 Entitlement Policy

122. The following PAP will be entitled to value compensation, rehabilitation, and resettlement support:

- *PAPs losing land, structures, and access to those assets, and/or having to relocate due to loss of livelihood, or access to income sources or means of livelihood:* Those with legal right of land use and ownership will be compensated for land, structures and economic assets on land at full replacement value. They will also be provided with resettlement assistance in line with the World Bank policy requirements.

[14] Head of Land Office Decree 2 of 2013 concerned about the Delegation of Authority for Land Rights and Land Registration Activities

- *PAPs losing crops or trees providing livelihood or income*: These PAPs will be fully compensated at replacement value of the trees, based on the cumulative value for its entire productive life as well as bare land value. If land must be acquired before the crops are harvested, owners will also be compensated for the estimated crop value.
- *PAPs as land renter*: Renters will be assisted to find an alternative land to rent. Transitional assistance may be necessary to ensure that renters' livelihoods are not affected.
- *PAP who are illegal or informal users of land*: PAPs without recognized legal rights or claim to the land they are occupying will not be compensated for land, but only for the structures and other assets (trees) on land based on replacement value. Those using land unofficially for agricultural or grazing purposes will be assisted to find alternative areas.
- *PAPs losing their livelihoods due to involuntary land acquisition*: These PAPs are also entitled to resettlement assistance.

6.9 Full Replacement Cost and Livelihoods Restoration

123. The World Bank safeguard policy requires that compensation be paid at replacement value in addition to transitional assistance. Land is replaced with that of equal value and amenities. Livelihood assets are replaced with those of equal value. Benefit sharing is assured through additional support mechanisms where possible.

6.10 Negotiated Land Acquisition / Voluntary Transaction

124. Negotiated land acquisition, or voluntary transaction, will be the preferred method for acquiring land. The location of the drilling sites, and supporting infrastructure such as access roads, are flexible to a point, therefore, there can be some negotiations as to which site is selected based on land-owners' willingness to sell or lease land.

125. Government of Indonesia (to be confirmed prior appraisal) will apply the following principles for negotiated land acquisition / voluntary transaction for s exploration drilling stage:

- *Meaningful consultations* with PAPs, including those without legal title to land and assets;
- *Offer of fair price* for land and other assets at replacement cost. Deduction of income tax for land transaction will be openly communicated with and agreed by the PAPs;
- *Transparency in negotiation* with PAPs to reduce risks of asymmetry of information and bargaining power of the parties. An independent external party will be engaged to document and validate the negotiation and settlement process.

126. Under the country system, acquisition for land of up to 5 ha can be done through the willing seller-willing buyer mechanism. Indonesian Civil Laws (*Kitab Undang-undang Hukum Perdata*) Chapter 1458 on Selling and Buying spells out the principles and outlines buyer and seller obligations and responsibilities. Under this Law, the mechanism has an obligatory character, where the rights attached to the land or assets sold are not automatically transferred to the buyer. Unlike land transaction conducted under a customary law *(hukum adat)*, such transactions still

require transfer of the land ownership right. Land registration is a precondition for land transfer under a negotiated land acquisition or willing buyer-willing seller mechanism.

127. The Minister for Agriculture and the Head of the National Land Bureau's National Regulation No. 5/2012 specifies procedures for land registration. It outlines requirements for the land registration and acquisition process, and prescribes: (i) steps for scaling and mapping the land coordinates and accepted survey procedures, (ii) regulations pertaining to valuation in the land markets, (iii) necessary documentation, (iv) official publication of claim and title, (v) objection mechanism, (vi) title verification procedures, and (vii) issuance of land certificates.

128. However, valuation of the affected assets under the scope of GEUDP would follow the procedures as prescribed by Law 2 of 2012 and supporting regulations, under which valuation of compensation should be done by "…Independent and Professionals Appraisers who have license from Ministry of Finance as Public Appraiser and registered in National Land Bureau (BPN)". The Indonesian Society of Appraisers (MAPPI) issued the Valuation Standard 306, Valuation in the Context of Land Acquisition for Development for Public Interest, to support the implementation of Law 2 of 2012. Valuation Standard 360 shares the same principles as the Law, which bases the determination of compensation amount on the principles of "humanity, fairness, usefulness, certainty, transparency, agreement, participation, welfare, harmony and sustainability."

129. The Fair Replacement Value is the value of the ownership, which equals the market value of a property, with attention to elements such as non-physical losses of ownership resulting from land acquisition. The Fair Replacement Value definition is same as definition for compensation in the Law 2 of 2012.

130. The Scope of Valuation consists of physical and non-physical components. Physical components that will be compensated for include: a) land; b) space above- and under-ground; c) buildings; and d) amenities and facilities supporting the building. Non-physical components to be compensated for include:

- *Disposal rights* of land-owners, to be given as a premium in monetary terms under existing legislations. The substitutions may include matters relating to: a) loss of employment or loss of business, including change of the profession (with respect to Law No. 2 of 2012 Article 33 letter f of the Elucidation); b) emotional loss associated with loss of shelter as a result of land acquisition (with due regard to the Act No. 2 in 2012 Article 1 Paragraph 10, Article 2 the elucidation and Article 9, paragraph 2).
- Cost of transaction, such as moving expenses and corresponding taxes.
- Compensation for waiting period, that is, payment to account for the time difference between the valuation date and the estimated payment date.
- Loss of value of the remaining land, which can be calculated over the entire land value if it can no longer be used as intended.

- Physical damage and repair costs to building and structure atop the land, if any, as a result of land acquisition.

7 INDIGENOUS PEOPLES' PLANNING FRAMEWORK

7.1 Objectives and Principles

131. This IPPF will be applied when Indigenous Peoples (IPs) are present in a sub-project's area of influence as identified during the social and environmental screening process or subsequently during the ESIA. PT SMI is responsible for implementing the necessary actions to meet the requirements outlined by this framework.

132. There is no universally accepted definition of Indigenous Peoples. Indigenous Peoples may be referred to in different countries by such terms as: indigenous ethnic minorities, aboriginals, hill tribes, minority nationalities, scheduled tribes, first nations, or tribal groups (known in Indonesia as Suku Terasing (Isolated Indigenous Community) or Kelompok Adat Terpencil (Customary Law Community)).

133. The term "Indigenous Peoples" is used in a generic sense to refer to a distinct social and cultural group possessing the following characteristics in varying degrees:

- Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- Collective attachment to geographically distinct habitats or ancestral territories in the project area and/or to the natural resources in these habitats and territories;
- Customary cultural, economic, social, or political institutions that are separate from those of the dominant society or culture;
- An indigenous language, often different from the official language of the country or region.

Ascertaining whether a particular group consider as Indigenous Peoples for purpose may require technical judgment.

7.2 Indonesian Laws and Regulations relating to Indigenous Peoples Safeguards

134. When IPs are present and affected by the project, the project should provide benefit to and need to manage adverse impacts on the IPs[15]. Indonesia's national policies on Indigenous Peoples includes: (1) Presidential Decree (*Keppres*) No. 111/1999 concerning Development of Isolated Indigenous Community (KAT), which provides a broad definition of Indigenous Peoples and the need for government assistance; and (2) Law No. 41/1999 concerning Forestry Law which defines customary forest[16].

Identification of IPs follows the Bank's criteria (paragraph 133). Identification of IPs will also meet the criteria of "*Masyarakat Hukum Adat*"-MHA- summarized from Indonesian Regulations and local values, as well as additional information gathered from respective cities.

[16] One fundamental change is related to Indigenous Peoples is the issuance of Constitutional Court Decision No. 35/PUU-X/2012 which changed Article 1 point 6 of Law No. 41/1999 on Forestry, which has now become "customary forest is a forest located within the area of an indigenous community". Before, there was a word of "state" in the article. With elimination of the word "state" from the definition, now it is understood that customary forests is now no longer a state forest.

135. Other laws and regulations related to IPs are: UUD 1945 (Amendment) Chapter 18 Clause #2 and Chapter 281 Clause #3. The existence of adat communities is recognized in the Constitution Article 18 and its Explanatory Memorandum. It states that in regulating a self-governing region and adat communities, the government needs to respect the ancestral rights of those territories. After amendments, recognition of the existence of adat communities was provided in Article 18 B Para. 2 (concerning "adat law community" and regional government) and Article 28 I Para. 3 ("traditional community" and Human Rights).

136. Act No. 5 of 1960 concerning Basic Regulations on Agrarian Principles (or Basic Agrarian Law / BAL). Article 2 Para. 4, Article 3, and Article 5 provide general principles that accommodate recognition of adat communities, ulayat land rights, and adat laws. In later developments, BAL recognition of adat law is tied to "national interest".

137. Forestry Acts (Act No. 5 of 1967 and Act No. 41 of 1999). The Act divides forest area into two categories: state forest and proprietary forest. State forest is forest growing on land not covered by proprietary rights. The state forest category also covers ulayat, or adat forest. Proprietary forest is forest growing on land covered by proprietary rights. By including ulayat forest as state forest, the Act ignores ulayat rights of adat communities over their forest area.

138. The Constitutional Court Decision No. 35/PUU-X/2012 resolved a major ambiguity in Article 1 of the Forestry Act No. 41 of 1999 and formally recognized that customary forests are state forests located in the areas of customary communities. Article 5 of the same Law was revised to mandate that state forest category does not cover customary forest. The ruling was made in favor of a petition filed by Indonesia's National Indigenous Peoples Alliance, or Aliansi Masyarakat Adat Nusantara (AMAN) in March 2012. [17]

139. Ministerial of Home Affairs (MOHA) Regulation No. 52 of 2014 on Guidelines for the Recognition and Protection of Indigenous Peoples, can be used as a reference for local governments regarding customary communities. The Regent/Mayor may form a committee on Indigenous Peoples in the regencies/cities, which serves to identify, verify and validate Indigenous Peoples. Results of the verification and validation, then submitted to the head region. The Regent/Mayor can issue decision on the recognition and protection of Indigenous Peoples based on the committee's recommendations.

140. Ministerial of Forestry Regulation (MoF) No. P.62/Menhut-II/2013 (adjustment of Ministerial of Forestry Regulation No. P.44/2012) on the Establishment of Forest Area. This MoF regulation was

[17] In 1999, a national congress of Indonesian indigenous peoples took place, attended by over 200 *adat* community representatives from 121 indigenous peoples. The Congress agreed to establish a national alliance of indigenous peoples, AMAN. By 2001, AMAN had 24 affiliated organizations in islands and provinces. It has several objectives, including the restoration of sovereignty to *adat* communities over their socioeconomic laws and cultural life, and control over their lands and natural resources and other livelihoods.

criticized by AMAN for equating forest area with state forest, which they perceived to be against of the Constitutional Court Decision No. 35/PUU-X/2012.

141. Joint Regulation of Ministerial of Home Affairs (MOHA), Ministerial of Forest, Ministerial of Public Works and National Land Bureau No. 79/2014; No: PB.3/Menhut-11/2014; No: 17/PRT/m/2014: No: 8/SKB/X/2014 on Procedures to Settle Land Ownership Conflict in Forest Area. This regulation recognized that there are other rights such as customary rights over forest land.

142. Ministerial Regulation of the Land Agency and Spatial Development No. 9/2015 on the Procedures to Establish the Land Communal Rights on the MHA Land and Community Living in the Special Area. This regulates communal rights of not only the *Customary Law Community*, but also other groups of people residing and depending in the same land area. *Customary Law Community* is a community bound by customary law, both genealogically (common ancestor) and territorially (similar residence). These Communities have a socio-cultural bond with the land and its resources for a long time. Whereas "people in certain areas" are people who control the land for at least 10 years, who depend on forestry products and natural resources, and whose existing socio-economic activities are closely linked to the area. Communal rights addressed in Regulation No. 9/2015 are controversial, because they not distinguish the source of legitimacy for communal land rights between that based on membership to the *Customary Law Community* versus the land use and ownership of the area by other people not belonging to the Community for an extended period of time. Consequently, the Regulation has raised legal issues, namely competing claims between these two groups.

143. Law No. 6/2014 recognizing the existence of the Customary Village (Desa Adat). The local government is empowered to evaluate the boundary of a *Customary Law Community*'s area and designate a Customary Village through local regulation. Three criteria must be met: 1) the traditional customs and rights of the Customary Law Community are being practiced and maintained by members of the group, 2) the preservation of a Customary Village with all their traditional customs and rights is in accordance with the development of society, and 3) the purpose is in line with the principles of the Unitary Republic of Indonesia.

7.3 World Bank Policy OP4.10 Indigenous Peoples

144. The World Bank's OP 4.10 Indigenous Peoples recognizes that Indigenous Peoples may be exposed to different types of risks and impacts from development projects. The policy requires that projects identify whether Indigenous Peoples are affected by the project, and accordingly, to undertake specific consultation activities, and avoid or mitigate impacts on these potentially vulnerable groups. Site visits to confirm IPs presence will be done in accordance with the requirements specified in this IPPF.

7.4 General Requirements

7.4.1 Avoidance of Adverse Impacts

145. PT SMI will identify, through the social and environmental screening and ESIA, communities of Indigenous Peoples that may be present in the sub-project's area of influence, as well as the nature and degree of the expected social and physical cultural properties, environmental impacts as well as potential benefits to them. PT SMI shall avoid adverse impacts whenever feasible.

146. When avoidance is not feasible, PT SMI will minimize, mitigate or compensate for these impacts in a culturally appropriate manner. The proposed actions will be developed with the informed participation of affected Indigenous Peoples and included in a time-bound Indigenous Peoples Development Plan (IPDP), or a broader community development plan, depending on the nature and scale of impacts.

7.4.2 Information Disclosure, Consultation and Informed Participation

147. PT SMI shall establish an ongoing relationship with the affected IPs communities as early as possible in the sub-project planning and throughout the life of the sub-project. In sub-projects with adverse impacts on affected IPs communities, the consultation process will ensure their free, prior, and informed consultation (FPIC) and facilitate their informed participation on matters that affect them directly, such as proposed impact mitigation measures, sharing of development benefits and opportunities, and implementation issues. The process of community engagement will need to be culturally appropriate and correspond with the potential risks and impacts to the Indigenous Peoples. In particular, the process will include the following steps:

a. Involve Indigenous Peoples' representative bodies (for example, councils of elders or village councils, among others);
b. Be inclusive of both women and men and of various age groups in a culturally appropriate manner;
c. Provide sufficient time for IPs' collective decision-making process;
d. Facilitate the IPs' expression of their views, concerns, and proposals in the language of their choice, without external manipulation, interference, or coercion, and without intimidation;
e. Ensure that the grievance mechanism established for the project is culturally appropriate and accessible for IPs communities; and
f. Ensure that the IPDP is available to the affected IPs communities in an appropriate form, manner and language.

7.4.3 Development Benefits

148. Through the FPIC process and informed participation of the affected IPs communities, PT SMI shall identify opportunities for culturally appropriate development benefits. Such opportunities should be commensurate with the degree of project impacts, aimed at improving their living standards and livelihoods in a culturally appropriate manner, and to fostering the long-term

sustainability of the natural resources on which they depend. PT SMI will document development benefits and provide them in a timely and equitable manner.

7.5 Special Requirements

149. Because Indigenous Peoples may be particularly vulnerable to the project circumstances, appropriate requirements will be required as described below. When any of these special cases apply, PT SMI will engage qualified external experts to assist in conducting the Social Assessment and ensuring their adequate inclusion in the IPDP or Community Development Plan.

7.5.1 Impacts on Traditional or Customary Land under Use

150. Indigenous Peoples are often tied to their customary land, as well as the natural and cultural resources on the land. While the land may not be under 'legal' ownership pursuant to national laws, the use of the land, including seasonal or cyclical uses, by the IPs communities for their livelihoods, or cultural, ceremonial, or spiritual purposes that define their identity and community, can be substantiated and need to be duly documented.

151. If the sub-project location is decided to be on traditional or customary land, and adverse impacts are expected on the livelihoods, or cultural, ceremonial, or spiritual uses that define the identity and community of the Indigenous Peoples, PT SMI will respect their use by taking the following steps:

a. PT SMI documents its efforts to avoid or at least minimize the proposed project footprint;
b. Experts is to be engaged to document land uses in collaboration with the affected Indigenous Peoples communities without prejudicing their land claim;
c. The affected Indigenous Peoples communities are informed of their rights with respect to their land under national laws, particularly those recognizing customary rights or use;
d. PT SMI offers the affected Indigenous Peoples communities fair compensation and due process similar to those with full legal land title, as well as culturally appropriate development opportunities (such as benefit-sharing mechanisms); and/or land-based and/or in-kind compensation in lieu of cash compensation where feasible;
e. PT SMI enters into good faith negotiation with the affected Indigenous Peoples communities, and documents their informed participation and outcomes of the negotiation.

7.5.2 Relocation of Indigenous Peoples from Traditional or Customary Lands

152. PT SMI shall consider alternative project designs to avoid relocation of Indigenous Peoples from their communally held traditional or customary land. If such relocation is unavoidable, it will not proceed with the project, unless it enters into a good faith negotiation with the affected Indigenous Peoples communities, and documents their informed participation and a successful outcome from the negotiation. Any relocation of Indigenous Peoples will need to be consistent with the World Bank safeguard policy OP. 4.12 Involuntary Resettlement. Where feasible, the relocated Indigenous Peoples should be able to return to their traditional or customary land, should the reason for their relocation cease to exist.

7.5.3 Cultural Resources

153. Where a project proposes to use the cultural resources, knowledge, or practices of Indigenous Peoples for commercial purposes, PT SMI shall inform them of: (i) their rights under national laws; (ii) the scope and nature of the proposed commercial development; and (iii) the potential consequences of such development. PT SMI shall not proceed with such commercialization unless it: (i) enters into a good faith negotiation with the affected Indigenous People communities; (ii) documents their informed participation and a successful outcome from the negotiation; and (iii) provides for fair and equitable sharing of benefits from commercialization of such knowledge or practice consistent with their customs and traditions. However, this is an unlikely outcome of the GEUDP.

8 CONSULTATION AND DISCLOSURE

8.1 Safeguard Framework Consultation

154. The ESMF is subjected to public consultation prior to its finalization. Key stakeholder institutions, such as Ministry of Finance, Ministry of Energy and Mineral Resources, local governments, NGOs, private sector, the academia, the media/press, etc. will be invited to a consultative workshop held in Jakarta. The consultation will be divided into two days; first day will be for the government entities, private sectors and the media; and the second day for NGOs and universities.

155. The framework document will be shared in advance with representatives from the institutions to allow for constructive inputs to be provided at the workshop. Discussions will focus on the ease of use and implementation of the ESMF, adequacy of safeguard mitigation mechanisms, and training needs for stakeholders. Following the consultations, stakeholders' inputs would be duly recorded and considered for the finalization of the ESMF. The final ESMF will be publicly disclosed on PT SMI website and the World Bank Infoshop.

8.2 Good Practice Guidance on Technical Advisory Consultation

156. Consultants will be engaged to prepare good practice guidance, which shall entail a stakeholder analysis. The consultants will engage with key stakeholders throughout the process to gather and share information. Key stakeholder institutions include Ministry of Finance, Ministry of Energy and Mineral Resources (/EBTKE), Ministry of Environment and Forestry, Badan Geologi, NGOs, private sector, donor agencies and universities. The draft guidance document will be shared with representatives of the institutions, and disclosed on PT SMI's website for comments from the broader public. Workshops will be held to discuss key issues and assist with finalization of the document.

8.3 Stakeholder Engagement and Consultation on Geothermal Sub-Project

157. The Environmental Social Safeguard Division t under PT SMI's Risk Management Directorate shall lead the preparation of ESIA, ESMP, LARAP or IPDP. In drafting the TOR for these works, it will provide detailed stakeholder consultation activities to be carried out by the consultant(s). PT SMI will lead public consultation(s) with support from the consultant and local government. This will ensure that PT SMI has the necessary support to carry out consultations, as well as local buy-in and support for the plans, which are prepared to mitigate project impacts.

8.3.1 Stakeholder Identification

158. PT SMI shall identify and prepare stakeholder list early in project feasibility and at the basic screening step, which will be further developed through the detailed screening step. The safeguards consultants will be required to undertake a stakeholder analysis before the consultation process. Stakeholders will vary depending on the sub-project location, but are expected to include: host communities, land owners and users, environmental and social NGOs,

local government agencies, forestry concession holders/owners, forest departments, conservation departments, universities and other research organizations and business owners. A stakeholder analysis shall: a) identify the individuals and groups with interest in the project and those expected to be affected by the project, b) identify experts and key informants, c) determine the nature and scope of consultation with each type of stakeholder, and d) determine the appropriate communication tools.

8.3.2 Consultation Principles

159. The principles for consultation are:

a. Providing clear, factual and accurate information in a transparent manner on an on-going basis to community stakeholders through free, prior and informed consultation;
b. Listening and learning about local and social culture and wisdom;
c. Providing opportunities for community stakeholders to raise issues, make suggestions and voice their concerns and expectations with regard to the Project;
d. Engaging with women, men, elderly, youth and vulnerable community members, as well as those in positions of authority and power;
e. Providing stakeholders with feedback on how their contributions have been considered in the development of relevant assessments and plans;
f. Building capacity among community stakeholders to interpret the information provided to them;
g. Treating all community stakeholders with respect, and ensuring that all project personnel and contractors in contact with community stakeholders do the same;
h. Responding to issues and requests for permission; and
i. Building constructive relationships with identified influential community stakeholders through appropriate levels of contact.

8.3.3 Consultation Plan

160. Consultation will occur at least twice: once during ESIA preparation and baseline data collection, and another during presentation of the draft ESIA and EMP. More consultation may be required if there are Indigenous Peoples in the project area, vulnerable people among the host community, sensitive environmental receptors and significant impacts that require early and ongoing communications with stakeholders. Specific consultation with people affected by involuntary land acquisition and resettlement, and with Indigenous Peoples communities, shall be planned in addition to general project consultations.

161. The safeguards consultant will prepare a consultation plan specific to each sub-project. It will include methods and procedures for the following:

- Stakeholder analysis – who will be consulted, how, when, by whom, how often;
- How women and vulnerable community members will be consulted;

- Roles and responsibilities for coordinating, undertaking and following up on consultations (by PT SMI, Exploration Management Consultant (EMC), safeguards consultants, and local government);
- public communications (see below) including how the public can get in touch with PT SMI;
- Disclosure plan – what will be disclosed, when, and how;
- How feedback will be managed;
- List of materials and tools that will be used.

8.4 Public Consultation Tools

162. Communication during sub-project development will involve seeking and imparting information, and reaching agreements through dialogue. The following table summarizes some of the most commonly used techniques for conveying information to the public and their respective advantages and disadvantages. The safeguards consultant may use any of these techniques in developing the Consultation Plan.

Table 5 Techniques for conveying information to the public

Printed materials	Information bulletins, brochures, reports: Text should be simple and non-technical and relevant to the reader Provide clear instructions on how to obtain more information	Direct Can impart detailed information Cost-effective Yields a permanent record of communication	Demands specialized skills and resources Not effective for illiterate stakeholders
Displays and exhibits	Can serve both to inform and to collect comments Should be located where the target audience gathers or passes regularly	May reach previously unknown parties Minimal demands the public	Costs of preparation and staffing Insufficient without supporting techniques
Print media	Newspapers, press releases, and press conferences can all disseminate a large amount and wide variety of information Identify newspapers likely to be interested in the project and to reach the target audience	Offers both national and local coverage Can reach most literate adults Can provide detailed information	Loss of control of presentation Media relationships are demanding Excludes illiterates and the poor
Electronic Media	Radio, internet, social media, and video: Determine the coverage (social media, internet, or radio), the types of viewer; the perceived objectivity, and the type of broadcast	May be considered authoritative Many people have access to radio and cell phones	Disadvantages those without cell phones / internet access

	offered. Determine how to disseminate the social media hashtag / web address etc. to the audience.	Social media is cheap	
Advertising	Useful for announcing public meetings or other activities Effectiveness depends on good preparation and targeting	Retain control of presentation	May engender suspicion
Formal information sessions	*Targeted briefing:* Can be arranged by project sponsor or by request, for a particular community group, NGO etc.	Useful for groups with specific concerns Allow detailed discussion of specific issues	May raise unrealistic expectations
Informal information sessions	*Open House, Site Visits, and Field Offices*: A selected audience can obtain first-hand information or interact with project staff. Visits should be supported with more detailed written material or additional briefings or consultations.	Provide detailed information Useful for comparing alternatives Immediate and direct Useful when the project is complex Local concerns are communicated to staff May help reach non-resident stakeholders	Attendance is difficult to predict, resulting in limited consensus-building value May demand considerable planning Field offices can be costly to operate Only reach a small group of people

Source: World Bank Environmental Assessment Sourcebook, Number 26

Table 6 Techniques for listening to the public

Survey techniques	Interviews, formal surveys, polls and questionnaires can rapidly show who is interested and why May be structured (using a fixed questionnaire) or non-structured Experienced interviewers or surveyors familiar with the project should be used Pre-test the questions	Shows how groups want to be involved Allows direct communication with the public Helps access the views of the majority Less vulnerable to the influence of vocal groups Identifies concerns linked to	Poor interviewing is counter-productive High cost Requires specialists to deliver and analyse Trade-off between openness and statistical validity

	Open-ended questions are best	social grouping Statistically representative results Can reach people who are not in organized groups	
Small Meetings	Public seminars, or focus groups create formal information exchanges between the sponsor and the public; may consist of randomly selected individuals or target group members; experts may be invited to serve as a resource.	Allows detailed and focused discussion Can exchange information and debate Rapid, low-cost monitor of public mood A way to reach marginal groups	Complex to organize and run Can be diverted by special interest groups Not objective or statistically valid May be unduly influenced by moderators
Large Meetings	Public meetings allow the public to respond directly to formal presentations by project sponsors. Effective meetings need a strong chairman, a clear agenda, and good presenters or resource people.	Useful for medium-sized audiences Allow immediate response and feedback Acquaint different interest groups	Not suitable for detailed discussions Not good for building consensus Can be diverted by special interest groups Attendance is difficult to predict
Community organizers/ advocates	These work closely with a selected group to facilitate informal contacts, visit homes or work places, or simply be available to the public.	Mobilize difficult-to-reach groups.	Potential conflicts between employers and clients Time needed to get feedback

Source: World Bank Environmental Assessment Sourcebook, Number 26

9 INSTITUTIONAL ARRANGEMENTS AND CAPACITY BUILDING

163. The successful implementation of the ESMF, RPF and IPPF depends on project stakeholders. This chapter provides an overview of the GEUDP's institutional arrangements, and the responsibilities of each stakeholder for operationalizing the safeguards instruments. It also provides an analysis of the PT SMI's capacity as the Implementing Agency with key safeguard responsibilities and a plan for capacity building.

9.1 Institutional Roles and Responsibilities

Figure 2 GEUDP Institutional Framework

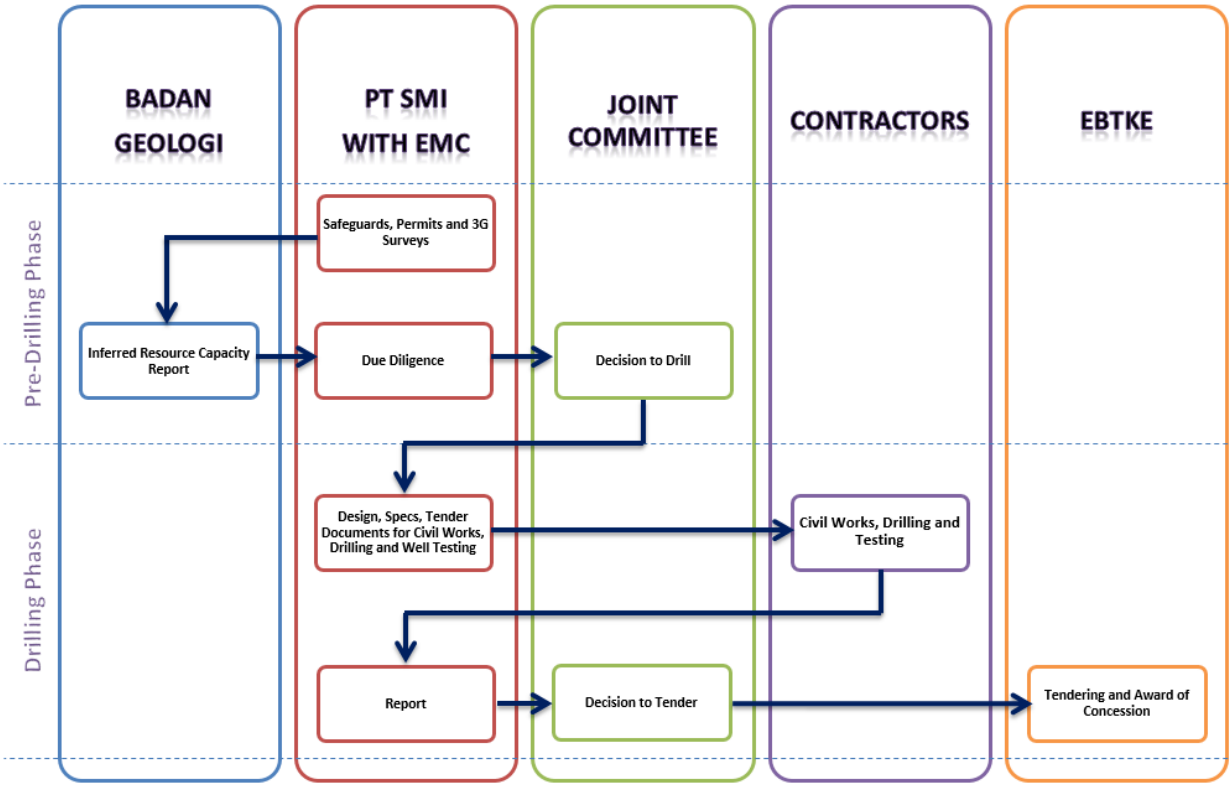


Table 7 Safeguards Roles and Responsibilities

Institution	Roles and Responsibilities
PT SMI management	Provide sufficient resources (staff and budget) for PT SMI staff and consultants to undertake their roles and responsibilities.
PT SMI – Project Management Unit with EMC	Engagement of staff with safeguards supervision expertise to ensure adequate supervision and full compliance with all safeguards documents. Integration of safeguards screening reports and findings into project design and specifications. Ensure that qualified engineers design and provide specifications for storage ponds,

Institution	Roles and Responsibilities
	and that pond construction, management and decommissioning is supervised and monitored. Integration of ESMP, UKL/UPL, LARAP and IPP into project design, specifications, tender documents, contract documents for contractors. Provide sufficient budget and timeframes for safeguards supervision and implementation during drilling. Supervision of Contractors' ESMP, compliance management, non-conformance management, and issuance of penalties on a day-to-day basis, with reports to the PT SMI ESS&BCM Division. Assist PT SMI ESS&BCM Division to investigate incidents and complaints, and resolve issues. Provide training to Contractors as required on technical matters of environmental and social impact mitigation (e.g. sediment and erosion control). Integrate safeguards assessments and outputs into the feasibility assessment for tendering the geothermal prospect development.
PT SMI ESS&BCM Division	Manage safeguards via a management plan, keeping track of resources, tasks, timeframes etc. for each sub-project. Basic screening checklists for each geothermal exploration sub-project. Detailed screening checklists, including the management of consultants' outputs, for each geothermal exploration sub-project. Oversee and provide screening reports to BG, PT SMI and EMC. Prepare TOR for sub-project safeguard instruments, estimate budgets and manage the procurement of safeguards consultants. Manage the preparation of instruments by the consultants, review draft safeguard instruments and provide comments. Clear safeguards instruments for disclosure and approval processes. Lead sub-project consultation, in partnership with safeguards consultants and local government. Review TOR for TA for inclusion of safeguards aspects. Review TA reports, in particular the Good Practice Guidance Materials, for appropriate treatment of safeguards. Review draft feasibility reports and Inferred Resource Capacity Reports and provide comment.

Institution	Roles and Responsibilities
	Review draft technical specifications, bid documents, Contractors contracts prepared by PT SMI and EMC Project Managers and provide comment. Implement the sub-project ESMP and UPL / UKL, including managing monitoring that is not the responsibility of the Contractor. Implement the LARAP, including the supervision of consultants. Implement the IPDP, including the supervision of consultants. Audit Contractors ESMP on a regular basis, including site visits and audits of reports. Manage the grievance redress mechanism (GRM), including coordination with Contractors' GRM. Follow up and close out incidents, complaints and non-conformances. Provide safeguards input into the final reports on geothermal exploitation development and recommendations for tendering geothermal prospects. The team must be willing to present information to the wider team that may conflict with the technical and economic assessment of feasibility, in order to prevent potentially significant impacts from geothermal development. Provide training to PT SMI and EMC Project Management and Supervision Team on the implementation of safeguards instruments and the PT SMI safeguards management system. Provide technical training to Contractors on GRM, complaints management, community engagement and other aspects of environmental and social impact mitigation where necessary, or recruit consultants to perform training. Quarterly safeguards reporting to World Bank and other stakeholders. Maintain and update framework documents as required.
Safeguards Consultants	Prepare detailed safeguard screening. Prepare safeguards instruments. Prepare Consultation Plans and assist PT SMI with consultation. Implement LARAP on behalf of PT SMI. Provide environmental and social monitoring services as part of ESMP, UPL / UKL, LARAP implementation. Provide TA for projects such as IPDP implementation or biodiversity management and forest partnership agreements under ESMP. Provide GRM management services. Provide specialist training on Contractors ESMP, mitigation and management of

Institution	Roles and Responsibilities
	impacts during drilling, road construction etc., safeguards management systems, consultation and other topics as required.
Contractors	Full compliance with the ESMP and UPL / UKL throughout the contract. Provision of Safeguards Managers on site throughout the Contract. Prepare a comprehensive Contractors ESMP before works begin. Implement the Contractors ESMP throughout the Contract, including community engagement, avoidance and management of impacts, monitoring, GRM, incident management, training and other tasks. Construct, maintain and decommission ponds in accordance with designs and specifications provided by qualified and experienced engineers. Comply with the laws of Indonesia and obtain any permits as necessary (hazardous waste, blasting and explosives, etc.). Provide reports to EMC and PT SMI. Undergo training as required. Ensure all staff are suitably trained, and have suitable protective equipment at all times.
World Bank Safeguards Specialists	Supervise the implementation of GEUDP safeguards frameworks and sub-project instruments through site visits and communications with the PT SMI ESS&BCM Division, PT SMI project managers and the EMC. Provide training on safeguards instruments, environmental and social screening, impact assessment and management, treatment of linked activities and other aspects of World Bank safeguards policies. Provide technical training where relevant (or engage specialist consultants). Receive quarterly safeguards reports and comment. Follow up on significant incidents relating to discharges, health and safety (workers or community), community unrest, land acquisition and livelihood restoration, etc.

9.2 PT SMI Environmental and Social Management System

164. PT SMI has extensive experience in managing World Bank's and other donors' safeguards policies under the Investment Guarantee Fund (IGF), Indonesia Infrastructure Facility Fund (IIFF) and the Regional Infrastructure Development Fund (RIDF). PT SMI is an infrastructure financing company established in 2009 as a state-owned enterprise (SOE) wholly owned by the GoI through the Ministry of Finance (MOF). PT SMI plays active role in facilitating infrastructure financing, as well as preparing projects and serving in an advisory role for infrastructure projects in Indonesia. PT SMI supports the government's infrastructure development agenda through public-private

partnerships with private and multilateral financial institutions. As such, PT SMI serves as a catalyst in accelerating infrastructure development in Indonesia.

165. PT SMI has developed a specific Operations Manual and Environmental and Social Management System (ESMS) for use on its programs supporting local government investments through various infrastructure funds. PT. SMI's Environmental and Social Management System (ESMS) is based on the country system (i.e. Indonesian regulations), and heavily weighted to environmental management (with gaps in terms of social impact management, land acquisition, and health and safety). However, it is currently being updated to comply with IFC Performance Standards, World Bank Safeguards Policies and other donors' safeguards policies.

166. The ESMS has processes to screen proposed projects, determine environmental and social risk level, and carry out due diligence assessment, all of which will determine the gaps of meeting the requirements specified in the ESMS. A third party project proponent seeking financing via a PT SMI-administered fund is required to prepare a corrective action plan (CAP) to address the gaps identified in the due diligence assessment and meet the requirements specified in the ESMS.

167. The ESMS is overseen by the Environmental Social Safeguard and Business Continuity Management (ESS&BCM) Division under the Risk Management Directorate . This E&S UESS&BCM Division it is headed by an experienced team leader. Along with a small team of environmental and social specialists, PT SMI has commited to expand the ESS&BCM Division and hire more environmental and/or social safeguard specialists in the very near future, to strengthen the ESS&BCM Division. Besides, PT SMI has ready access to environmental and social consultants through the Project Advisory Division.

168. The ESS&BCM Division shall ensure the ESMF, RPF and IPPF's consistency and conformance to the ESMS in developing detailed safeguards management procedures in the GEUDP's Project Operations Manual.

9.3 Capacity Building

169. The GEUDP project design includes capacity building for safeguards in the geothermal industry in Indonesia (TA Component 2). The EMC will also provide capacity that is not currently within PT SMI, including assistance with safeguards supervision during drilling. It shall also assist with strengthening PT SMI's supervisory and project management skills, including trainings on managing consultants' outputs.

170. PT SMI will need to bolster the staffing resources for ESMS management by one full time person to duly coordinate all safeguards requirements for each GEUDP sub-project for the duration of the Project. Alternatively, the capacity gap could be filled by a consultant, who could undertake tasks, such as preparation of TOR and review of outputs and supervision audits. Significant safeguards tasks, such as detailed screening and preparation of safeguards instruments, will be done by

qualified and experienced consultants, as the lack of environmental and social safeguard staff of PT SMI. However, in the very near future PT SMI will hire more safeguard experts to fill this gap.

171. Staff and consultants working on the GEUDP, including the EMC, will take part in ESMF, RPF and IPPF training events at the beginning of project implementation, to ensure that all parties understand their roles and obtain the required skills. It will cover the sub-project cycle and the milestones for safeguards tasks, supervision, communication and reporting expectations, clear assignment of roles and responsibilities, and where gaps may require filling through employment of additional staff or consultants. Attendees will include PT SMI project managers and safeguard staff, EMC, BG, EBKTE and MoF staff.

172. Topics will include:

- Environment and social issues linked to geothermal development in Indonesia;
- Indonesian governance framework and legal requirements applicable to GEUDP projects;
- Environment and social safeguards and management systems;
- ESMF structure and objectives;
- Operationalization of ESMF comprising assessment processes integrated in business cycle through case studies (screening, identifying legal requirements, impact assessment, identifying mitigation measures, categorization);
- Monitoring of projects – What to monitor / measure, why and how often;
- Impact assessment of projects (environmental and social);
- Internal and external audit (objectives, protocol, reporting, corrective actions);
- Document management (update to ESMF policy and procedures based on external and internal changes, revisions in formats for recording information).

173. Framework training sessions will be held at least annually for new team members, to update stakeholders on external changes (legal requirements, safeguards, etc.), for operational experience-sharing, and to communicate revisions carried out in the ESMF. It will be provided by the World Bank safeguards specialists and/or an external consultant in the first instance, with PT SMI running the workshops for second and subsequent training sessions.

174. Safeguards training is also planned as follows:

Capacity Building	Audience / Participants	Trainer	Program
Supervision of ESIA and LARAP consultants On the job training and mentoring	PT SMI	EMC or World Bank Safeguard Specialists	Throughout the project.
Supervision of Construction Safeguards, including	EMC, PT SMI	Consultant or the World Bank Safeguard Learning Centre	Once prior to preparation of first sub-project bid

Capacity Building	Audience / Participants	Trainer	Program
Contractors ESMP and management of non-conformances and incidents. Workshop / interactive learning environment.			documents.
Preparing and implementing a Contractors' ESMP.	Contractor	Consultant or the World Bank Safeguard Learning Centre	After contract negotiation and prior to preparation of Contractor's ESMP and start of drilling works. At least once per sub-project
Technical training on aspects of safeguards management	Contractor	Consultant, Industry training organization	As required through the project, for specific aspects identified through the ESMP, non-conformance or incident.

175. PT SMI will maintain records of the training programs, including details such as agenda, duration, trainers and trainers' qualifications for conducting training, and participants' attendance sheet. PT SMI will maintain an annual plan for training.

9.4 Budget

Table 8 Budget Estimate for Capacity Building

Task	**Cost Estimate $US**	**Notes**
Recruitment of staff in E&S Unit	NA	PT SMI cost
Engagement of consultants to undertake screening and prepare safeguards documents for four sub-project sites.	NA	This will be fully financed from GEF grant.
Internal ESMF, RPF and IPPF workshops for GEUDP staff (x4)	$5,000	This will be fully financed from GEF grant.
Mentoring of ESS&BCM Division staff and on	NA	Will occur as part of project

Task	Cost Estimate $US	Notes
the job training by World Bank safeguards team		supervision by Bank staff.
Construction safeguards supervision workshops (x4)	$60,000	This will be fully financed from GEF grant.
Assistance preparing Contractors ESMP	$40,000	This will be fully financed from GEF grant.
Technical / thematic training for Contractors and Supervisors	$50,000	This will be fully financed from GEF grant.
Total Estimate	**$155,000**	

10 MONITORING AND REPORTING

176. PT SMI shall be responsible for the monitoring and reporting on the efficacy of the environmental and social safeguards implementation, which will be part of an overall project monitoring and reporting system outlined in the GEUDP Project Operations Manual. Safeguards monitoring will include:

a. PT SMI ESS&BCM Division will undertake periodic monitoring of the implementation of the framework documents as part of collecting and analyzing data and information for quarterly project reporting. This includes analyzing the effectiveness of screening and other tools in the frameworks, type and number of training events and people trained, GRM and complaints management, management of quality and timeliness of deliverables from consultants, availability of resources (staff, budget) to undertake framework responsibilities, compliance/non-compliance with frameworks, World Bank safeguard policies and Indonesian laws and regulations.
b. PT SMI will engage an independent monitoring agency to review and audit the involuntary land acquisition, resettlement and livelihood restoration processes.
c. The World Bank safeguards team will undertake supervision missions to monitor compliance and efficacy of safeguard frameworks and compliance with the Bank Safeguard Policies more broadly. Recommendations for improvements will be documented in mission aide memoire.
d. PT SMI will engage an independent company / organization to carry out an environmental and social audits of the project. This will be done once prior to the mid-term review. The scope of the audit will include a review of the design and implementation effectiveness of the frameworks to be adopted under the Project. This would review the structure of the frameworks, content and coverage of potential activities, impacts and mitigation measures, interpretation of the frameworks into the Project Operations Manual and other project management tools. Interviews and observations on the efficacy of organizational structures, training, and the capacity and ability of team members to undertake their responsibilities. Site visits will also be carried out to review the effectiveness of environmental and social mitigation measures outlined in safeguards documents.

177. Each sub-project ESMP will contain a specific monitoring program that will document social and environmental impact monitoring and the monitoring of the efficacy of the ESMP, Contractor's ESMP and supervision tasks. This information will contribute to the framework monitoring and reporting. LARAP and IPDP will also contain specific monitoring programs for impact monitoring and auditing of procedures for compensation, livelihood restoration and any other community development programs.

178. A matrix of reporting is provided below:

Table 9 Matrix of Safeguards Reporting

Report Type and Content	**Program**	**Responsibility:**	**Reporting**

			to:
D	Quarterly	PT SMI ESS&BCM Division	World Bank
Drilling Safeguards Supervision Reporting *Project progress* *Monitoring and audit outputs* *Training* *Complaints / GRM Summary* *Incidents* *Framework updates*	Monthly	EMC / PT SMI	PT SMI ESS&BCM Division
Sub-project ESMP UKL/UPL Environmental and Social Monitoring Report	Quarterly	Consultant	PT SMI
Sub-project LARAP Independent Monitoring Report	Monthly	Consultant	PT SMI

11 GRIEVANCE REDRESS MECHANISM

11.1 Introduction

179. As part of its mandate to become a future national infrastructure development bank, PT SMI promotes transparency and accountability for sustainable infrastructure development in the country, not only from the environmental and social safeguards perspectives but also from the technical, financial, economic and political viewpoints. In this light, PT SMI is open to constructive inputs and aspirations from the public and stakeholders of the GEUDP project. As part of the efforts to achieve these objectives, PT SMI has a Grievance Redress Mechanism (GRM) to serve as an effective tool for early identification, assessment, and resolution of complaints on GEUDP sub-projects.

11.2 Approach to Grievance Redress

180. PT SMI will use their Corporate GRM system to capture and manage GEUDP sub-project grievances. The Internal Audit (IA) Division of PT SMI is the one that responsible for the GRM. It is under and reporting directly to the President Director of PT SMI. The IA Division will receive all the inputs, complaints, aspirations, ideas that is addressed to PT SMI. The IA Division will pass them on to the responsible Divsiion with adjust to the subjects/matters. There is already a guidance for a Whistle Blowing System (WBS) of PT SMI, namely "Pedoman Sistem Pelaporan Pelanggaran". There is a link in SMI's website related to the people http://192.168.29.251:81/wbssmi/. The IA Division will pass the issues related to the safeguards on to the Environmental Social Safeguard and Business Continuity Management (ESS&BCM) Division.

181. Affected members of the public, stakeholders, IPs communities or individuals, and PAPs will be able to file complaints and to receive satisfying responses in a timely manner. The system will record and consolidate complaints and their follow-ups. This system will be designed not only for complaints regarding the preparation and implementation of LARAP and IPDP, but also for handling complaints of any types of issues (including environmental and other social safeguards issues) related to the projects financed by the PT SMI and the Word Bank under this Project.

182. The purpose of the GRM is to:

- Be responsive to the needs of people impacted by the sub-project and to address and resolve their grievances;
- Serve as a conduit for soliciting inquiries, inviting suggestions, and increasing community participation;
- Collect information that can be used to improve operational performance;
- Enhance the project's legitimacy among stakeholders;

- Promote transparency and accountability; and
- Deter fraud and corruption and mitigate project risks.

11.3 The GEUDP Grievance Redress Mechanism

183. The GEUDP GRM will be the following:

Step 1: Access point / complaint uptake:

a. An easily accessible and well publicized focal point or user-facing 'help desk' will be set up within PT SMI and with each drilling Contractor.
b. Uptake channels will include email, SMS, webpage, and face-to-face. The uptake channels will be publicized and advertised via local media and via the Contractor.
c. Staff members who receive complaints verbally will put in writing for them to be considered. Recognizing that many complaints may be resolved 'on the spot' and informally by project staff, there are opportunities to encourage these informal resolutions to be logged here to (i) encourage responsiveness; and (ii) ensure that repeated or low-level grievances are being noted in the system.
d. The Contractor's GRM system will be coordinated with the PT SMI GEUDP project GRM so that all complaints are captured within the PT SMI GRM system.
e. The GRM will have the ability to handle anonymous complaints.
f. The user will be provided with a receipt and 'roadmap' telling him/her how the complaint process works and when to expect further information.

Step 2: Grievance log

g. All complaints will be logged in writing and maintained in a simple database.
h. Complaints received will be assigned a number that will help the complainant track progress via the database.
i. Complainants will be handed a receipt and a flyer that describes the GRM procedures and timeline (staff should be trained to read this orally for illiterate complainants).
j. Where possible, the grievance log will capture complaints being made via informal or traditional systems, such as village councils or elders.
k. This will often require training local people and putting in place a formal link between the traditional systems and the GEUDP GRM (this could take the form of a verbal agreement or a written MoU).
l. At a minimum, the database will track and report publicly the complaints received, complaints resolved and the complaints that have gone to mediation. The database will also show the issues raised and location of complaints circle around.

Step 3: Assessment, acknowledgment, and response

m. Eligibility will be a procedural step to ensure that the issue being raised is relevant to the project.

n. Complaints that cannot be resolved on the spot will be directed to the grievance focal point who will have **5 working days** to assess the issue and provide a written response to the complainant, acknowledging receipt and detailing the next steps it will take.

o. Grievances will be categorized according to the type of issue raised and the effect on the environment/claimant if the impacts raised in the complaint were to occur. Based on this categorization, the complaint will be prioritized based on risk and assigned for appropriate follow up.

p. Assessment of the issue will consider the following:

- **Who is responsible for responding to this grievance? Is it the Contractor, EMC, PT SMI, or someone else?** It is anticipated that the majority of issues raised will be during the sub-project preparation will be informational in nature or feedback that requires small course corrections; these should generally be handled by PT SMI. During construction, the majority of complaints will be the responsibility of the Contractor. The 'tip of the iceberg' complaints will likely be those reflecting outright opposition to a sub-project or open conflict between stakeholders. These issues are unlikely to be resolved via a GRM and should be handled at the highest appropriate level within either the country or the World Bank. Higher risk issues will require greater independence to handle, whereas lower-level feedback can and should be handled "in-house," i.e. by the Contractor or PT SMI.
- **What is the risk-level of this complaint?** Is it low risk, medium risk, or high risk? Some training will be required to ensure staff implementing the GRM are aware of what would constitute a higher-risk issue for the project and which entity should handle such a complaint.
- **Is the complaint already being addressed elsewhere?** If an issue is already being handled, for example by a local court or mediation body, or within the World Bank, then the issue will be excluded from the grievance redress process in order to avoid duplication and confusion on the part of the complainant.

q. *Resolution:* Once the above issues have been considered, the complainant will be offered option(s) for resolution of their issue. The option offered is likely to fall into one of the following three categories:

- The complaint falls under the mandate of PT SMI or the Contractor and resolution can be offered immediately according to the request made by the complainant. The response will describe how and when resolution will be provided by the client and the name and contact information of the staff member responsible for it.
- The complaint falls under the mandate of PT SMI or the Contractor but various options for resolution can be considered and/or extraordinary resources are required. The response will invite the complainant to a meeting to discuss these options.
- The complaint does not fall or partially falls under the mandate of PT SMI. The response will indicate that the complaint has been referred to the appropriate body (e.g. Complaints related to resettlement will be forwarded to the Resettlement Committee), which will continue communications with the complainant.

Step 4: Appeals

r. Where an agreement has not been reached, the complainant will be offered an appeals process. This will be through the national courts, unless the complainant requests facilitation or mediation via a third party.
   - If the complainant accepts the options, and an agreement is reached, implementation will be monitored by the mediation service and a minute will be signed signaling the complaint has been resolved.
   - If the complainant does not accept these options or if he/she does but an agreement is not reached, the case will be closed. The complainant may seek redress through courts or other mechanisms available at the country level.

Step 5: Resolve and follow-up

s. Where there is an agreement between the complainant and PT SMI or contractor on how the complaint will be resolved, a minute will be drafted and signed by both parties. After due implementation of it, a new minute will be signed stating that the complaint has been resolved.
t. All supporting documents of meetings needed to achieve resolution will be part of the file related to the complaint. This will include meetings that have been escalated to an appeals level or are handled by a third party.
u. PT SMI will provide regular (monthly or quarterly) reports to the public that track the complaints received, resolved, not resolved, and referred to a third party. The World Bank project team will receive either the raw grievance data or the monthly reports, in order to support the PT SMI in early identification of developing risks.
v. The GRM data will be available to feed into World Bank reports to demonstrate responsiveness and early resolution of issues (and help Bank teams identify outstanding complaints in need of attention).

11.4 GRM Assessments for Sub-projects

184. The approach to redress grievance at the sub-project level will involve the following:

1. Assessment of risks and potential grievances and disputes for each sub-project:

185. The ESS&BCM Division must understand the issues that are – or are likely to be – at the heart of disputes related to each sub-project, such as clarity over land rights or labor issues. For this, the ESIA consultant must conduct a rapid review of contentious issues, stakeholders, and institutional capacity for each sub-project during the ESIA preparation, strongly relying on existing information from civil society and other non-state institutions. The review must map who the key stakeholders to these issues are and what the nature of the debate is (informed, polarized, etc.). Attention must be paid to the local dispute resolution culture and particularly to the capacity and track-record of stakeholders to settle disputes through mediation or constructive negotiation.

2. Capacity assessment

186. The review must also cover the availability, credibility and capabilities of local institutions to address the issues related to geothermal drilling and exploration activities. For each of the

institutions that are expected to deal with these issues, a credibility assessment must be undertaken, based on the following criteria:

- *Legitimacy:* is its governance structure widely perceived as sufficiently independent from the parties to a particular grievance?
- *Accessibility:* does it provide sufficient assistance to those who face barriers such as language, literacy, awareness, cost, or fear of reprisal?
- *Predictability:* does it offer a clear procedure with a time frame for each stage and clarity on the types of results it can (and cannot) deliver?
- *Fairness:* are its procedures widely perceived as fair, especially in terms of access to information and opportunities for meaningful participation in the final decision?
- *Rights compatibility:* are its outcomes consistent with applicable national and international standards? Does it restrict access to other redress mechanisms?
- *Transparency:* are its procedures and outcomes transparent enough to meet the public interest concerns at stake?
- *Capability:* does it have the necessary technical, human and financial resources to deal with the issues at stake?

3. Action plan

187. Action plans must be sub-project-specific, but should focus on tangible steps that can be taken during preparation and implementation to strengthen grievance redress capacity.

Appendix A. BASIC SCREENING CHECKLIST

Instructions:

Step 1 of the Safeguards Screening Process is to contribute to the early identification of suitable sites for geothermal feasibility studies and exploration development. Complete the basic screening checklist using google earth, maps, technical reports and other published data. Document the data collected to date, and describe the sub-project in basic terms (type of infrastructure that may be required, nature of activities).

The basic screening will also identify potential risks from the linked exploitation phase.

Provide a short report to accompany the filled in checklist, detailing significant findings and providing recommendations for the feasibility study and the detailed screening process. Attach relevant maps and supporting data. Provide a separate analysis of potential risks from the linked exploitation phase, noting any new risks or risks that may have more significant impacts.

Sub-project Name:_____

Location:_____

Province:_____

Description of Proposed Activities (test well drilling, access roads, workers camps etc.):_____

_____

_____

_____

Description of linked Project activities such as exploitation well drilling and energy generation:_____

_____

_____

_____

Data collected (tick all that apply, and explain where necessary):	
Topographic maps	
Geothermal prospect and resource data (from technical team)	
Google earth images	

Data collected (tick all that apply, and explain where necessary):	
Land tenure maps / data (forest maps, land ownership maps, land use maps etc.)	
District and Provincial Spatial Plans	
District and Provincial bylaws, policies etc:	
Demographic data / census data	
Meteorological data	
Published documents or data (list):	

Basic Screening Checklist

Screening Question for Geothermal Exploration Area of Influence* *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	**Answer**		**Relevant Policy**
	Yes? **Unknown but possible?** **Yes, associated with linked project (e.g. exploitation)?** Rank Significant, Moderate or Minor Risk of potential impacts Provide details on map or in checklist and make recommendations for 1) the detailed screening phase and 2) feasibility report	**No?** **Unknown but unlikely?** Low risk. Proceed to next screening question. Make recommendations for the detailed screening phase for any unknown risks.	
Are there unique or remarkable landscapes or geothermal or geological features in the area?			*OP 4.01 Environmental Assessment*
Are there economic or subsistence livelihoods that rely heavily on natural resources in the area (ecotourism, subsistence agriculture or fisheries, logging, irrigation)?			*OP 4.01 Environmental Assessment* *OP4.36 Forests*
Are there forests, lakes, wetlands, peatlands, coastal areas, rivers in the area?			*OP4.04 Natural habitat* *OP4.36 Forests*

Screening Question for Geothermal Exploration Area of Influence* *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	**Answer**		**Relevant Policy**
	Yes? **Unknown but possible?** **Yes, associated with linked project (e.g. exploitation)?** Rank Significant, Moderate or Minor Risk of potential impacts Provide details on map or in checklist and make recommendations for 1) the detailed screening phase and 2) feasibility report	**No?** **Unknown but unlikely?** Low risk. Proceed to next screening question. Make recommendations for the detailed screening phase for any unknown risks.	
Are there any endangered or critically endangered species likely to be in the area?			*OP4.04 Natural habitats*
Are there any protected areas (such as national parks, conservation areas etc.) in the area?			*OP4.04 Natural habitats* *OP4.36 Forests*
Are there any nationally or internationally significant cultural sites, archaeological sites, spiritual sites, or other PCR in the area?			*OP4.09 Physical Cultural Resources*

Screening Question for Geothermal Exploration Area of Influence* *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	Answer		Relevant Policy
	Yes? **Unknown but possible?** **Yes, associated with linked project (e.g. exploitation)?** Rank Significant, Moderate or Minor Risk of potential impacts Provide details on map or in checklist and make recommendations for 1) the detailed screening phase and 2) feasibility report	**No?** **Unknown but unlikely?** Low risk. Proceed to next screening question. Make recommendations for the detailed screening phase for any unknown risks.	
Is there a possibility that Indigenous People[18] will be present in the area so that specific consultation and a Social Assessment is required?			*OP4.10 Indigenous Peoples*
Is there communally owned land or resources in the area so that land acquisition may be complicated?			*OP4.12 Involuntary Resettlement*

[18] Ethnic communities, minorities, indigenous communities, as per the defining characteristics listed in Paragraph 133, Section 7.1.

Screening Question for Geothermal Exploration Area of Influence* *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	**Answer**		**Relevant Policy**
	Yes? **Unknown but possible?** **Yes, associated with linked project (e.g. exploitation)?** Rank Significant, Moderate or Minor Risk of potential impacts Provide details on map or in checklist and make recommendations for 1) the detailed screening phase and 2) feasibility report	**No?** **Unknown but unlikely?** Low risk. Proceed to next screening question. Make recommendations for the detailed screening phase for any unknown risks.	
Is there private land or forestry land where land acquisition can be negotiated? (Note that 'yes' is a positive aspect of the project).			*OP4.12 Involuntary Resettlement*
Is it likely that people will be restricted from accessing protected areas for livelihood purposes?			*OP4.12 Involuntary Resettlement*
Other risks or benefits identified not on the list:			

Screening Question for Geothermal Exploration Area of Influence* *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	**Answer**		**Relevant Policy**
	Yes? **Unknown but possible?** **Yes, associated with linked project (e.g. exploitation)?** Rank Significant, Moderate or Minor Risk of potential impacts Provide details on map or in checklist and make recommendations for 1) the detailed screening phase and 2) feasibility report	**No?** **Unknown but unlikely?** Low risk. Proceed to next screening question. Make recommendations for the detailed screening phase for any unknown risks.	

Appendix B. DETAILED SCREENING CHECKLISTS

Instructions:

Competent environmental and social specialists will be engaged to complete the detailed screening.

Using the feasibility study and other technical information on the geothermal resource and exploration potential, and the results of the basic screening process, undertake a safeguard screening process to identify environmental and social risks, World Bank policies triggered, and safeguards instruments required. Use the checklist as a prompt and for documenting results.

Screening Activities:

a. Review published data, carry out field visits, gather primary data, and consult with the local environmental and planning agencies to discuss their spatial plans and bylaws, assess institutional capacity and consult with key informants / stakeholders.
b. Map the potential area of influence of geothermal exploration activities, based on technical data on the location of well sites and key infrastructure (roads, camps, wharf upgrades etc.).
c. Map the potential area of influence that would include linked activities (e.g. exploitation activities: power plant, production wells, and transmission or distribution lines).
d. Identify sensitive receptors in the project area of influence such as: forests, natural habitats (terrestrial and aquatic), protected areas (national parks, conservation areas), sites of ecological importance, communities, community assets, land owners, indigenous people and/or their lands / domain, communal land / resources, physical cultural resources, geothermal features, landscapes and geological forms.
e. Identify land tenure and land uses. Identify water users and uses. Identify applicable local laws and planning frameworks.
f. Identify stakeholders and their sentiment about geothermal development.
g. Using professional opinion and experience assess potentially significant impacts on sensitive receptors from the exploration activities and linked activities. Address and answer each question in the checklist.
h. Policy trigger: From the checklist, identify the policies triggered by the sub-project (including linked activities).
i. Category Screening: Classify the sub-project as Category A if any one of the answers in the checklist triggers an A, otherwise classify the sub-project as Category B. If any of the aspects of the linked activities triggers an A the sub-project will be classified as Category A.
j. Safeguard instruments: List all of the relevant instruments as per the screening checklist. Note where specific tasks for the ESIA are required, such as Social Assessment for Indigenous Peoples.

Reporting:

k. Provide a full report with the details as listed above, supporting data and maps, and the completed checklist as described in Section 5.3.5.

Sub-project Details

Sub-project Name:_____

Location:_____

Province:_____

Description of Proposed Activities:_____

_____

_____

_____

Significant Sensitive Receptors_____

_____

_____

_____

Description of Linked Activities:_____

_____

_____

_____

Significant Sensitive Receptors of Linked Activities_____

_____

_____

_____

Safeguard Screening, Policy Triggering and Safeguard Instrument Checklist

Question *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	**Answer**		**If Yes** **Policy triggered**	**Category and Safeguard Instrument**
	Yes Significant, Moderate, Minor	No		
Are the sub-project impacts likely to have significant adverse **environmental** impacts that are sensitive,[19] diverse or unprecedented?[20] Provide brief description:			*OP 4.01 Environmental Assessment*	If "No": Cat B If "Yes": Cat A ESIA, ESMP, UKL/UPL
Are the project impacts likely to have significant adverse **social** impacts that are sensitive, diverse or unprecedented?[21] Provide brief description.			*OP 4.01 Environmental Assessment*	If "No": Cat B If "Yes": Cat A ESIA, ESMP, UKL/UPL

[19] Sensitive (i.e., a potential impact is considered sensitive if it may be irreversible, e.g., permanently affect significant landscape features.
[20] Large scale induced slash and burn agricultural development into forested areas.

Question *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	Answer		If Yes Policy triggered	Category and Safeguard Instrument
	Yes Significant, Moderate, Minor	No		
Do the impacts affect an area broader than the sites or facilities subject to physical works and are the significant adverse environmental impacts irreversible? Provide brief description:			*OP 4.01 Environmental Assessment*	If "No": Cat B. If "Yes": Cat A ESIA, ESMP, UKL/UPL

Question *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	Answer		If Yes Policy triggered	Category and Safeguard Instrument
	Yes Significant, Moderate, Minor	No		
Will the project have positive environmental or social benefits? Provide brief description:			*OP 4.01 Environmental Assessment*	If "No": Cat B. If "Yes": Cat B ESIA, ESMP, UKL/UPL
Will the project adversely impact physical cultural resources?[22] Please provide brief justification.			*OP 4.11 Physical Cultural Resources*	If "Yes / Significant": Cat A. Prepare PCR Management Plan as part of ESMP. If Yes / Moderate or Yes / Minor: Cat B. If 'No': Use chance find procedures.
Will the project involve the conversion or degradation of non-critical natural habitats? Please provide brief justification.			*OP 4.04 Natural Habitats*	If 'No': Refer to next screening question. If "Yes / Significant": Cat A. If "Yes / Moderate or Yes / Minor': Cat B

[22] Examples of physical cultural resources are archaeological or historical sites, religious or spiritual sites, particularly sites recognized by the government.

Question *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	Answer		If Yes Policy triggered	Category and Safeguard Instrument
	Yes Significant, Moderate, Minor	No		
Will the project involve the conversion or degradation of critical natural habitats?[23]			*OP 4.04 Natural Habitats*	If "No": Refer to next screening question. If "Yes/Significant": not eligible for project financing as would be inconsistent with the Policy. If "Yes / Moderate or Yes Minor": Cat A
Does the sub-project involve involuntary land acquisition? Significant >200 people displaced or 10% households' assets affected. Moderate <200 people or 10% of households' assets affected.			*OP 4.12 Involuntary Resettlement*	If "No": Refer to next screening question. If "Yes / Significant": Cat A, LARAP If "Yes / Moderate": Cat B, Abbreviated LARAP

[23]Sub-projects that significantly convert or degrade critical natural habitats such as legally protected, officially proposed for protection, identified by authoritative sources for their high conservation value, or recognized as protected by traditional local communities, are ineligible for Bank financing.

Question *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	Answer		If Yes Policy triggered	Category and Safeguard Instrument
	Yes Significant, Moderate, Minor	No		
Does the sub-project involve loss of assets or access to assets, or loss of income sources or means of livelihood as a result of involuntary land acquisition? Please provide brief justification			*OP 4.12 Involuntary Resettlement*	If "No": Refer to next screening question. If "Yes / Significant": Cat A, LARAP If "Yes / Moderate or Minor": Cat B, Abbreviated LARAP
Does the sub-project involve loss of assets but not as a result of involuntary land acquisition?			*OP4.01 Environmental Assessment*	If "No": Refer to next screening question. If "Yes": Cat B. Manage compensation at replacement value under ESMP.

Question *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	Answer		If Yes Policy triggered	Category and Safeguard Instrument
	Yes Significant, Moderate, Minor	No		
Are there Indigenous People present in the project area?: Self-identify as part of a distinct social and cultural group, and Maintain cultural, economic, social and political intuitions distinct from the dominant society and culture?, and Speak a distinct language or dialect?, and Been historically, socially and/or economically marginalized, disempowered, excluded and/or discriminated against?			*OP4.10 Indigenous Peoples*	If "No": Refer to next screening question. If "Yes": Cat A Refer IPF for requirements for Social Assessment in the ESIA and IPDP.

Question *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	Answer		If Yes Policy triggered	Category and Safeguard Instrument
	Yes Significant, Moderate, Minor	No		
Will the project directly or indirectly benefit or target Indigenous Peoples?			*OP4.10 Indigenous Peoples*	If there are no IP in the project area, or this question is otherwise not relevant, put NA in each column. If "No benefit or target" or "Yes benefit or target": Cat A. Address in Social Assessment and IPDP preparation.
Will the project directly or indirectly affect Indigenous Peoples' traditional socio-cultural and belief practices? (E.g. child-rearing, health, education, arts, and governance)?			*OP4.10 Indigenous Peoples*	If "No": Refer to next screening question. If "Yes": Cat A Refer IPF for requirements for Social Assessment in the ESIA and IPDP.
Will the project affect the livelihood systems of Indigenous Peoples? (e.g., food production system, natural resource management, crafts and trade, employment status)?			*OP4.10 Indigenous Peoples*	If "No": Refer to next screening question. If "Yes": Cat A Refer IPF for requirements for Social Assessment in the ESIA and IPDP.

Question *Note on the checklist or in an attached report where issues may relate only to linked projects such as downstream exploitation	Answer		If Yes Policy triggered	Category and Safeguard Instrument
	Yes Significant, Moderate, Minor	No		
Will the project be in an area (land or territory) occupied, owned, or used by Indigenous Peoples, and/or claimed as ancestral domain?			*OP4.10 Indigenous Peoples*	If "No": Refer to next screening question. If "Yes": Cat A Refer IPF for requirements for Social Assessment in the ESIA and IPDP.

Appendix C. ESIA REPORT OUTLINE FOR CATEGORY A SUB-PROJECTS

With reference to Annex B to OP 4.01 - Content of an Environmental Assessment Report for a Category A Project.

An ESIA report for a Category A project focuses on the significant environmental issues of a project. The report's scope and level of detail should be commensurate with the project's potential impacts. The report submitted to the Bank is prepared in English and the executive summary in English.

The ESIA report should include the following items (not necessarily in the order shown):

(a) *Executive summary*. Concisely discusses significant findings and recommended actions.

(b) *Policy, legal, and administrative framework*. Discusses the policy, legal, and administrative framework within which the EA is carried out. Explains the environmental requirements of any co-financiers. Identifies relevant international environmental agreements to which the country is a party.

(c) *Project description*. Concisely describes the proposed project and its geographic, ecological, social, and temporal context, including any offsite investments that may be required (e.g., dedicated pipelines, access roads, power plants, water supply, housing, and raw material and product storage facilities). Indicates the need for any resettlement plan or Indigenous Peoples development plan (see also sub-para. (h)(v) below). Normally includes a map showing the project site and the project's area of influence.

(d) *Baseline data*. Assesses the dimensions of the study area and describes relevant physical, biological, and socioeconomic conditions, including any changes anticipated before the project commences. Also takes into account current and proposed development activities within the project area but not directly connected to the project. Data should be relevant to decisions about project location, design, operation, or mitigation measures. The section indicates the accuracy, reliability, and sources of the data.

(e) *Environmental impacts*. Predicts and assesses the project's likely positive and negative impacts, in quantitative terms to the extent possible. Identifies mitigation measures and any residual negative impacts that cannot be mitigated. Explores opportunities for environmental enhancement. Identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions, and specifies topics that do not require further attention.

(f) *Analysis of alternatives*. Systematically compares feasible alternatives to the proposed project site, technology, design, and operation—including the "without project" situation--in terms of their potential environmental impacts; the feasibility of mitigating

these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. For each of the alternatives, quantifies the environmental impacts to the extent possible, and attaches economic values where feasible. States the basis for selecting the particular project design proposed and justifies recommended emission levels and approaches to pollution prevention and abatement.

(g) *Environmental and social management plan (ESMP)*. Covers mitigation measures, monitoring, and institutional strengthening; see outline in Appendix D.

(h) Appendixes

- List of EA report preparers--individuals and organizations.
- References--written materials both published and unpublished, used in study preparation.
- Record of interagency and consultation meetings, including consultations for obtaining the informed views of the affected people and local non-governmental organizations (NGOs). The record specifies any means other than consultations (e.g., surveys) that were used to obtain the views of affected groups and local NGOs.
- Tables presenting the relevant data referred to or summarized in the main text.
- List of associated reports (e.g., resettlement plan or indigenous people development plan).

Appendix D. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN TEMPLATE

With reference to Annex C to World Bank Safeguard Policy OP 4.01 - Environmental Management Plan

A sub-project's environmental and social management plan (ESMP) consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. The plan also includes the actions needed to implement these measures. To prepare an ESMP, PT SMI will (a) identify the set of responses to potentially adverse impacts; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements. More specifically, the ESMP will include the following components.

Mitigation

The ESMP identifies feasible and cost-effective measures that may reduce potentially significant adverse environmental impacts to acceptable levels. The plan includes compensatory measures if mitigation measures are not feasible, cost-effective, or sufficient. Specifically, the ESMP:

a. identifies and summarizes all anticipated significant adverse environmental impacts (including those involving indigenous people or involuntary resettlement);
b. describes--with technical details--each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate;
c. estimates any potential environmental impacts of these measures; and
d. provides linkage with any other mitigation plans (e.g., for involuntary resettlement, Indigenous Peoples, or cultural property) required for the project.

Monitoring

Environmental monitoring during project implementation provides information about key environmental aspects of the project, particularly the environmental impacts of the project and the effectiveness of mitigation measures. Such information enables the borrower and the Bank to evaluate the success of mitigation as part of project supervision, and allows corrective action to be taken when needed. Therefore, the ESMP identifies monitoring objectives and specifies the type of monitoring, with linkages to the impacts assessed in the ESIA report and the mitigation measures described in the ESMP. Specifically, the monitoring section of the ESMP provides:

a. a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and
b. monitoring and reporting procedures to (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation.

Capacity Development and Training

To support timely and effective implementation of environmental project components and mitigation measures, the ESMP draws on the ESIA's assessment of the existence, role, and capability of environmental units on site or at the agency and ministry level. If necessary, the ESMP recommends the establishment or expansion of such units, and the training of staff, to allow implementation of ESIA recommendations. Specifically, the ESMP provides a specific description of institutional arrangements--who is responsible for carrying out the mitigation and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training). To strengthen environmental management capability in the agencies responsible for implementation, most ESMPs cover one or more of the following additional topics: (a) technical assistance programs, (b) procurement of equipment and supplies, and (c) organizational changes.

Implementation Schedule and Cost Estimates

For all three aspects (mitigation, monitoring, and capacity development), the ESMP provides (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and (b) the capital and recurrent cost estimates and sources of funds for implementing the ESMP. These figures are also integrated into the total project cost tables.

Integration of ESMP with Project

The borrower's decision to proceed with a project, and the Bank's decision to support it, are predicated in part on the expectation that the EMP will be executed effectively. Consequently, the Bank expects the plan to be specific in its description of the individual mitigation and monitoring measures and its assignment of institutional responsibilities, and it must be integrated into the project's overall planning, design, budget, and implementation. Such integration is achieved by establishing the ESMP within the project so that the plan will receive funding and supervision along with the other components.

The following tables are the suggested template for summary of the mitigation and monitoring plans for the exploration and development phase of geothermal activities.

A. TEMPLATE MITIGATION PLAN FOR EXPLORATION

			Cost to:		Institutional Responsibility to:		Comments (e.g. secondary or cumulative impacts)
Phase	Impact	Mitigating Measure	Install	Operate	Install	Operate	
Exploration phase							
Decommissioning Phase							

B. MONITORING PLAN FOR EXPLORATION

						Cost to:		Institutional Responsibility to:	
Phase	What (parameter)	Where	How (equipment)	When (frequency)	Why	Install	Operate	Install	Operate
Exploration phase									
Decommissioning Phase									

Appendix E. FORMAT OF UKL/UPL

The following form is the Format for the Environmental Management Plan (UKL) and Environmental Monitoring Plan (UPL). It describes the impact of the planned activities on the environment and how it will be managed. As an integral part of the UKL/UPL, the Statement of Assurance for Implementation of UKL/UPL also included. This format complies with the Regulation of the Minister of Environment No. 16/2012 which can be referred to for further guidance.

Title of Chapter/Sub-Chapter	Content/Remarks
Statement Letter from Project Management	
	a. The statement letter from project management will state their accountability to ensure that the Environmental Management Plan (UKL) and Environmental Monitoring Plan (UPL) will be done. This statement Letter should be signed on a stamp duty acknowledged by the Head of BLHD (local environmental agency) and the Head of Local Government (Governor/Bupati/Mayor). b. Project management consists of those parties who prepare and implement the Project Activities, those parties who are responsible for the operations and maintenance of the Project Activities, and other parties responsible for environmental management and monitoring.
I. description OF project management	
1.1 Company Name	…….
1.2 Name of Project Management Entity	Name of project management entity and their job description at each stage of the Project Activities, which should include: a. Agency or office responsible for the preparation and implementation of Project Activities. b. Agency or office responsible for the operations and maintenance of the Project Activities after the work is completed. c. Agency or office responsible for environmental management and monitoring.
1.3 Address, Number	Clear address of the named agencies or offices related to the Project

Title of Chapter/Sub-Chapter	Content/Remarks
Phone and Fax, Website and Email	Activities in accordance to the point 1.1 above.
II. Description of Project Activities and its impact	
2.1 Project Activities Name	Name of Project Activities in a clear and complete manner.
2.2 Project Activities Location	a. Location of the Project Activities in a clear and complete manner: *Kelurahan*/Village, District/city, and Province where the Project Activities and its components take place. b. Location of the Project Activities should be drawn in a map using an adequate scale (for example, 1:50.000, accompanied with latitude and longitude of the location).
2.3 Scale of the Project Activities	An estimation of the scale and type of Project Activities (using accepted units of measurement). For example: the construction of a market of certain capacity may need to be accompanied by supporting facilities in line with the Environmental Management Plan that must mention the type of component as well as the scale.
2.4 Component of Project Activities in brief outline	A brief and clear explanation on any component of the Project Activities which have potential environmental impacts. Work components should be divided based on stages as follows: a. Pre-construction, for example: mobilization of workforce and materials, transportation, etc. b. Construction, for example the use of ground water, laying out of utility pipes, etc. c. Operations and Maintenance: Post-construction, for example: clearing of excavated waste material, etc. Also, attach the flowchart/diagram to explain the flow of work to be done, if applicable.
III POTENTIAL ENVIRONMENTAL	Explain in a brief and clear manner about any Project Activities with potential environmental impacts, type of impacts which might occur, magnitude of

Title of Chapter/Sub-Chapter	Content/Remarks
IMPACT	impacts, and other matters needed to describe any potential environmental impacts on the natural and social environment. Such descriptions can be presented in tabulation, with each column representing each of the aspects. A description of the size or magnitude of the impacts should be accompanied with measurement units based on applicable laws and regulations or specific scientific analysis.
IV. environmental management and monitoring program	
4.1 Environmental Management Plan	a. The Environmental Management Plan (UKL) consists of the plan itself, as well as the party in charge, frequency of interventions, implementation schedule, and types of mechanisms (e.g.: procedures for management, methods, etc.) in order to mitigate the environmental impacts identified Section III above. b. The plan can be presented in a table format, which at minimum contains the following columns: type of impact, source, magnitude, threshold, management plan, and frequency of interventions, party in charge, and other remarks.
4.2 Environmental Monitoring Plan	a. The Environmental Monitoring Plan (UPL) consists of the plan itself, party in charge, frequency of interventions, implementation schedule, and types of mechanisms (e.g.: procedures for monitoring, methods, etc.) in order to monitor the environmental management plan described in section 4.1 above. b. The plan can be presented in a table format, which at minimum contains the following columns: type of impact, source, magnitude, threshold, management plan, and frequency of interventions, party in charge, and other remarks. In this monitoring plan, the thresholds should comply with the prevailing laws and regulations which are applicable according to the environmental impacts as already identified in Section III above.
V. SIGNATURE AND OFFICE SEAL	After the UKL/UPL document is prepared and complete, the Project Manager should sign and put an official seal on the document.
VI. REFERENCE	Insert various references used in the preparation of UKL/UPL.

Title of Chapter/Sub-Chapter	Content/Remarks
VII. ATTACHMENTS	Attach any relevant documents or information to the UKL/UPL, e.g. tables displaying the monitoring results, and others.

Appendix F. STATEMENT OF ASSURANCE FOR UKL/UPL

No:…….

In an effort to prevent, minimize and/or address the potential environmental impacts from the Construction Work of....., in the District/Province of..... as well as in accordance to the duty and authority of the Dinas....., of the District/Province of shall carry out an Environmental Management Plan (UKL) and Environmental Monitoring Plan (UPL) and include the recommendations from UKL/UPL into the Detailed Design.

For the next stage, which is the physical work, implementation of the recommendations from UKL/UPL shall be done by the party in charge for the physical work, which is "Satker..... of the District/Province....."

This statement is duly made, as confirmation to support the Environmental Management Plan (UKL) and Environmental Monitoring Plan (UPL) on the Construction Work for the Construction of ....., in the District/Province of.....

Location,....., Date……..

DINAS…….....

DISTRICT/PROVINCE OF .....

Satker

NAME .....

Appendix G. PCR CHANCE FIND PROCEDURE

Definition. A chance find is archaeological, historical, cultural, and remain material encountered unexpectedly during project construction or operation. A chance find procedure is a project-specific procedure which will be followed if previously unknown cultural heritage is encountered during project activities. Such procedure generally includes a requirement to notify relevant authorities of found objects or sites by cultural heritage experts; to fence off the area of finds or sites to avoid further disturbance; to conduct an assessment of found objects or sites by cultural heritage experts; to identify and implement actions consistent with the requirements of the World Bank and Indonesian law; and to train project personnel and project workers on chance find procedures.

Objectives.

- To protect physical cultural resources from the adverse impacts of project activities and support its preservation.
- To promote the equitable sharing of benefits from the use of PCR.

Procedure.

a. If PT SMI, their consultants or their Contractors discover archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, they shall:
b. Halt the construction activities in the area of the chance find;
c. Delineate and fence the discovered site or area;
d. Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the District/Provincial Department of Culture, or the local Institute of Archaeology if available to take over;
e. Forbid any take of the objects by the workers or other parties;
f. Notify all sub-project personnel of the finding and take the preliminary precaution of protection;
g. Record the chance find objects and the preliminary actions;
h. Notify the responsible local authorities and the relevant Institute of Archaeology immediately (within 24 hours or less);
i. Responsible local authorities would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the local Institute of Archaeology. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
j. Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the sub-project layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage;

k. Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities;
l. The mitigation measures could include the change of sub-project design/layout, protection, conservation, restoration, and/or preservation of the sites and/or objects;
m. Construction work at the site could resume only after permission is given from the responsible local authorities concerning safeguard of the heritage; and
n. PT SMI, their consultants and their contractors, shall cooperate with the relevant local authorities to monitor all construction activities and ensure that the adequate preservation actions are taken and hence the heritage sites protected.

Appendix H. SAMPLE OF GRIEVANCE FORM

Reference No	
Full Name	
Please mark how you wish to be contacted (mail, telephone, e-mail).	Please mark how you wish to be contacted
Province/District	
Date	

Category of the Grievance	
1. On abandonment (hospital, public housing)	
2. On assets/properties impacted by the project	
3. On infrastructure	
4. On decrease or complete loss of sources of income	
5. On environmental issues (ex. pollution)	
6. On employment	
7. On traffic, transportation and other risks	
8-Other (Please specify):	

Description of the Grievance What did happen? When did it happen? Where did it happen? What is the result of the problem?
What would you like to see happen to resolve the problem?

Signature: Date:

Appendix I. SAMPLE GRIEVANCE CLOSE OUT FORM

Grievance closeout number:	
Define immediate action required:	
Define long term action required (if necessary):	
Compensation Required?	[ ] YES [ ] NO

CONTROL OF THE REMEDIATE ACTION AND THE DECISION	
Stages of the Remediate Action	Deadline and Responsible Institutions
1.	
2.	
3.	
4.	
5.	

COMPENSATION AND FINAL STAGES

This part will be filled and signed by the complainant after s/he receives the compensation fees and his/her complaint has been remediated.

Notes:

Name-Surname and Signature

Date…./…../…..

Of the Complainant:

Representative of the Responsible Institution/Company

Title-Name-Surname and Signature

Appendix J. GENERIC CONTENTS OF INDIGENOUS PEOPLES' DEVELOPMENT PLAN

Background and Context

i. The project and project components

ii. Brief description of Indigenous Peoples/ethnic minorities (IP/EM) in the relevant project country

iii. Relevant legal framework

iv. Summary of the findings of the Social Assessment (part of ESIA), including among others:

a. Baseline data of IP/EM

b. Maps of the area of project influence and the areas inhabited by IP/EM

c. Analysis of the IP/EM social structure and income sources

d. Inventories of the resources used by IP/EM, and technical data on their production systems

e. Information on cultural practices and patterns

f. Relationships of IP/EM to other local/national groups

v. Key positive project impacts on IP/EM

vi. Key negative project impacts on IP/EM

Objectives of the IPDP

i. Explain the purpose of the IPDP

Development and/or Mitigation Activities

i. Describe detail of development activities

ii. Describe detail of mitigation activities

Strategy for IP/EM Participation

i. Describe mechanism for participation by IP/EM in planning, implementation, and evaluation

ii. Describe procedures for redress of grievances by IP/EM

Institutional Arrangements

i. Identify main tasks and responsibilities in planning, managing, and monitoring development, and/or mitigation activities

ii. Identify role of NGOs or IP/EM organizations in implementing the development and/or mitigation activities.

Budget and Financing

i. Identify development and/or mitigation activity costs and funding resources

Supervision, Monitoring, and Evaluation

i. Specify arrangements for supervision, monitoring, and evaluation

ii. Implementation strategy and schedule

iii. Prepare a plan for internal monitoring of the targets of the major development and/or mitigation activities

Appendix K. CONTENT OF LAND ACQUISITION AND RESETTLEMENT ACTION PLAN (LARAP)

The scope and level of detail of the resettlement plan vary with the magnitude and complexity of involuntary resettlement. The plan is based on up-to-date and reliable information about (a) the proposed resettlement and its impacts on the displaced persons and other adversely affected groups, and (b) the legal issues involved in resettlement. The resettlement plan covers the elements below, as relevant.

1. *Description of the project*. General description of the project and identification of the project area.

2. *Potential impacts*. Identification of the project component or activities that give rise to resettlement; the zone of impact of such component or activities; the alternatives considered to avoid or minimize resettlement; and the mechanisms established to minimize resettlement, to the extent possible, during project implementation.

3. *Objectives*. The main objectives of the resettlement program.

4. *Socioeconomic studies*. The findings of socioeconomic studies to be conducted in the early stages of project preparation and with the involvement of potentially displaced people, including a. the results of a census survey covering

    a. current occupants of the affected area to establish a basis for the design of the resettlement program and to exclude subsequent inflows of people from eligibility for compensation and resettlement assistance;

    b. standard characteristics of displaced households, production systems, labour, and household organization; and baseline information on livelihoods (including, as relevant, production levels and income derived from both formal and informal economic activities) and standards of living (including health status) of the displaced population;

    c. the magnitude of the expected loss--total or partial--of assets, and the extent of displacement, physical or economic;

    d. Information on vulnerable groups or persons as provided for in OP 4.12, para. 8, for whom special provisions may have to be made; and

    e. Provisions to update information on the displaced people's livelihoods and standards of living at regular intervals so that the latest information is available at the time of their displacement.

5. Other studies describing the following

a. land tenure and transfer systems, including an inventory of natural resources which are a common property, from which people derive their livelihoods and sustenance, non-title-based usufruct systems (including fishing, grazing, or use of forest areas) governed by local recognized land allocation mechanisms;

b. the patterns of social interaction in the affected communities, including social networks and social support systems, and how they will be affected by the project;

c. public infrastructure and social services that will be affected; and

d. Social and cultural characteristics of displaced communities, including a description of formal and informal institutions (e.g., community organizations, ritual groups, nongovernmental organizations (NGOs)) that may be relevant to the consultation strategy and to designing and implementing the resettlement activities.

Legal framework. The findings of an analysis of the legal framework, covering

a. the scope of the power of eminent domain and the nature of compensation associated with it, in terms of both the valuation methodology and the timing of payment;

b. the applicable legal and administrative procedures, including a description of the remedies available to displaced persons in the judicial process and the normal timeframe for such procedures, and any available alternative dispute resolution mechanisms that may be relevant to resettlement under the project;

c. relevant law (including customary and traditional law) governing land tenure, valuation of assets and losses, compensation, and natural resource usage rights; customary personal law related to displacement; and environmental laws and social welfare legislation;

d. laws and regulations relating to the agencies responsible for implementing resettlement activities;

e. gaps, if any, between local laws covering eminent domain and resettlement and the Bank's resettlement policy, and the mechanisms to bridge such gaps; and

f. Any legal steps necessary to ensure the effective implementation of resettlement activities under the project, including, as appropriate, a process for recognizing claims to legal rights to land--including claims that derive from customary law and traditional usage (see OP 4.12, para.15 b).

g. gaps, if any, between local laws covering eminent domain and resettlement and the Bank's resettlement policy, and the mechanisms to bridge such gaps; and

h. Any legal steps necessary to ensure the effective implementation of resettlement activities under the project, including, as appropriate, a process for recognizing claims to legal rights to land--including claims that derive from customary law and traditional usage (see OP 4.12, para.15 b).

Institutional Framework. The findings of an analysis of the institutional framework covering

a. the identification of agencies responsible for resettlement activities and NGOs that may have a role in project implementation;

b. an assessment of the institutional capacity of such agencies and NGOs; and

c. Any steps that are proposed to enhance the institutional capacity of agencies and NGOs responsible for resettlement implementation.

Eligibility. Definition of displaced persons and criteria for determining their eligibility for compensation and other resettlement assistance, including relevant cut-off dates.

Valuation of and compensation for losses. The methodology to be used in valuing losses to determine their replacement cost; and a description of the proposed types and levels of compensation under local law and such supplementary measures as are necessary to achieve replacement cost for lost assets.

Resettlement measures. A description of the packages of compensation and other resettlement measures that will assist each category of eligible displaced persons to achieve the objectives of the policy (see OP 4.12, para. 6). In addition to being technically and economically feasible, the resettlement packages should be compatible with the cultural preferences of the displaced persons, and prepared in consultation with them.

Site selection, site preparation, and relocation. Alternative relocation sites considered and explanation of those selected, covering

a. institutional and technical arrangements for identifying and preparing relocation sites, whether rural or urban, for which a combination of productive potential, locational advantages, and other factors is at least comparable to the advantages of the old sites, with an estimate of the time needed to acquire and transfer land and ancillary resources;

b. any measures necessary to prevent land speculation or influx of ineligible persons at the selected sites;

c. procedures for physical relocation under the project, including timetables for site preparation and transfer; and

d. Legal arrangements for regularizing tenure and transferring titles to resettlers.

Housing, infrastructure, and social services. Plans to provide (or to finance resettlers' provision of) housing, infrastructure (e.g., water supply, feeder roads), and social services (e.g., schools, health services); plans to ensure comparable services to host populations; any necessary site development, engineering, and architectural designs for these facilities.

Environmental protection and management. A description of the boundaries of the relocation area; and an assessment of the environmental impacts of the proposed resettlement and measures to mitigate and manage these impacts (coordinated as appropriate with the environmental assessment of the main investment requiring the resettlement).

Community participation. Involvement of re-settlers and host communities,

a. a description of the strategy for consultation with and participation of re-settlers and hosts in the design and implementation of the resettlement activities;

b. a summary of the views expressed and how these views were taken into account in preparing the resettlement plan;

c. a review of the resettlement alternatives presented and the choices made by displaced persons regarding options available to them, including choices related to forms of compensation and resettlement assistance, to relocation of individuals as families or as parts of pre-existing communities or kinship groups, to sustaining existing patterns of group organization, and to retaining access to cultural property (e.g. places of worship, pilgrimage centers, cemeteries);**5** and

d. Institutionalized arrangements by which displaced people can communicate their concerns to project authorities throughout planning and implementation, and measures to ensure that such vulnerable groups as indigenous people, ethnic minorities, the landless, and women are adequately represented.

Integration with host populations. Measures to mitigate the impact of resettlement on any host

1. consultations with host communities and local governments;

2. arrangements for prompt tendering of any payment due the hosts for land or other assets provided to resettlers;

3. arrangements for addressing any conflict that may arise between resettlers and host communities; and

4. Any measures necessary to augment services (e.g., education, water, health, and production services) in host communities to make them at least comparable to services available to resettlers.

Grievance procedures. Affordable and accessible procedures for third-party settlement of disputes arising from resettlement; such grievance mechanisms should take into account the availability of judicial recourse and community and traditional dispute settlement mechanisms.

Organizational responsibilities. The organizational framework for implementing resettlement, including identification of agencies responsible for delivery of resettlement measures and provision of services; arrangements to ensure appropriate coordination between agencies and jurisdictions involved in implementation; and any measures (including technical assistance) needed to strengthen the implementing agencies' capacity to design and carry out resettlement activities; provisions for the transfer to local authorities or resettlers themselves of responsibility for managing facilities and services provided under the project and for transferring other such responsibilities from the resettlement implementing agencies, when appropriate.

Implementation schedule. An implementation schedule covering all resettlement activities from preparation through implementation, including target dates for the achievement of expected benefits to resettlers and hosts and terminating the various forms of assistance. The schedule should indicate how the resettlement activities are linked to the implementation of the overall project.

Costs and budget. Tables showing itemized cost estimates for all resettlement activities, including allowances for inflation, population growth, and other contingencies; timetables for expenditures; sources of funds; and arrangements for timely flow of funds, and funding for resettlement, if any, in areas outside the jurisdiction of the implementing agencies.

Monitoring and evaluation. Arrangements for monitoring of resettlement activities by the implementing agency, supplemented by independent monitors as considered appropriate by the Bank, to ensure complete and objective information; performance monitoring indicators to measure inputs, outputs, and outcomes for resettlement activities; involvement of the displaced persons in the monitoring process; evaluation of the impact of resettlement for a reasonable period after all resettlement and related development activities have been completed; using the results of resettlement monitoring to guide subsequent implementation.

Appendix L. CONTENTS OF AN ABBREVIATED LAND ACQUISITION AND RESETTLEMENT ACTION PLAN

1. *Description of the project:* General description of the project and identification of the project area

2. *Potential impacts:* Identification of (i) the sub-project component or activities requiring land acquisition, (ii) zone of impact of such components/activities

3. *Census of the Project Affected Persons (PAPs):* Results of the census and inventory of assets, including (i) a list of PAPs, distinguishing between those with land rights and those without, and (ii) an inventory of plots and structures affected.

4. *Legal Analysis:* Descriptions of legal steps to ensure the effective implementation of land acquisition under the sub-project, including, as appropriate, a process for recognizing claims to legal rights to land- including claims that derive from customary law and traditional usage

5. *Eligibility:* Identification of the PAPs who will be eligible for compensation and explanation of the criteria used to determine eligibility.

6. *Valuation of assets and calculation of compensation for losses:* A description of the procedures that will be followed to determine the form and amount of compensation to be offered to PAPs.

7. *Consultations with people who shall lose land and other assets:* A description of the activities carried out to (1) inform PAPs about the impacts of the project and the compensation procedures and options, and (2) give the PAPs opportunities to express their opinions

8. *Organizational responsibilities:* A brief description of the organizational framework for implementing land acquisition.

9. *Implementation schedule:* An implementation schedule covering land acquisition, including target dates for the delivery of compensation. The schedule should indicate how the land acquisition activities are linked to the implementation of the overall project.

10. *Costs and budget:* Cost estimates for land acquisition for the sub-project.

11. *Grievance procedure:* Affordable and accessible procedures for third-party settlement of disputes arising from land acquisition; such grievance mechanisms should take into account the availability of judicial recourse and community and traditional dispute settlement mechanisms.

12. *Monitoring:* Arrangements for monitoring land acquisition activities and the delivery of compensation to PAPs.