

ASCENT

**Accelerating Sustainable and Clean Energy Access
Transformation Program**

**Standard Environmental and Social
Management Plan (ESMP)**

**Template for the Construction of Distribution
Lines (66/33/11KV)**

December 2025

[COUNTRY NAME]

[NAME OF MINISTRY/IMPLEMENTING AGENCY]

[LOGO OF MINISTRY]

[NAME OF PROJECT]

[PROJECT CODE]

**ENVIRONMENTAL AND SOCIAL
MANAGEMENT PLAN
(ESMP)
for the Construction of Distribution Lines
(66/33/11KV)**

[BORROWER APPROVAL AND DISCLOSURE DATE]

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Abbreviations and Acronyms

Include an alphabetized list of all the abbreviations and acronyms used in the document.

Acronym	Acronym in Full
AC	Alternating current
AFD	Agence Francaise de Développement
AfDB	African Development Bank
AFE	Eastern and Southern Africa
ASCENT	Accelerating Sustainable and Clean energy Access Transformation
AIIB	Asian Infrastructure Investment Bank
C-ESMP	Contractor Environmental and Social Management Plan
CHS	Community Health and Safety
CoC	Code of Conduct
COMESA	Common Market for Eastern and Southern Africa
dB	Decibels
DC	Direct current
DL	Distribution Line
DRE	Distributed Renewable Energy
E&S	Environmental and Social
EHSGs	Environmental, Health and Safety Guidelines
EMF	Electric and Magnetic Fields
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESIRT	Environmental and Social Incident Reporting Toolkit
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSs	Environmental and Social Standards
FI	Financial Intermediary
GBV	Gender-based Violence
GBVAP	Gender-based Violence Action Plan
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HWMP	Hazardous Waste Management Plan
IDA	International Development Association
IFC	International Finance Corporation
IP/SSAHULTC	Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities
LMP	Labour Management Procedures

LV	Low Voltage
MPA	Multi Programmatic Approach
MV	Medium Voltage
OHS	Occupational Health and Safety
PAD	Project Appraisal Document
PAP	Project Affected Person
PCR	Physical Cultural Resources
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
PPP	Public Private Partnership
PUE	Productive Use of Energy
RAP	Resettlement Action Plan
RoW	Right of Way
RPF	Resettlement Policy Framework
SEA/SH	Sexual Exploitation and Abuse/ Sexual Harassment
SEP	Stakeholder Engagement Plan
SHS	Solar Home Systems (SHS)
SMP	Security Management Plan
ToR	Terms of Reference
VAC	Violence Against Children
VRE	Variable Renewable Energy
WB	World Bank
WBG	World Bank Group
WHO	World Health Organization

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN FOR ASCENT ROLLOUT TO NEW COUNTRIES

1. Context

The Accelerating Sustainable and Clean Energy Access Transformation (ASCENT) Multi Programmatic Approach (MPA) aims to accelerate access to sustainable and clean energy in Eastern and Southern Africa (AFE). The project will establish an ASCENT Regional Acceleration Platform, managed by the Common Market for Eastern and Southern Africa (COMESA), which will drive implementation of Pillar 1 from the regional level, supported by additional actions and activities in participating countries. The Acceleration Platform will support both Phase 1 countries (for implementation of their projects), and to assist those countries still to enter the Multi Programmatic Approach (MPA) to prepare. In addition, the Platform will provide support to Distributed Renewable Energy (DRE) and clean cooking companies active in the region to accelerate their efforts and mobilize capital. Specifically, the Acceleration Platform will (i) support AFE countries in their adoption of digital platforms and tools facilitating management, financing, verification and monitoring of their energy access efforts, (ii) enact a digital monitoring, reporting and verification (D-MRV) platform at the regional level allowing aggregation from countries and the private sector and enabling the generation of carbon revenues and/or other climate/impact-related result-based financing; (iii) establish a Project Preparation Facility providing market intelligence and technical assistance both to Government agencies and the private sector, including for identification and enabling of cross-border electrification solutions; (iv) support planning processes and adoption of best practices and harmonization of policy and regulatory frameworks; (v) deliver energy access data and statistics, facilitating knowledge exchange and driving skill development, and (vi) provide support for monitoring and evaluation of the overall ASCENT program.

2. Project Objectives and Scope of Works

Project description, including identification of components and activities, from PCN, PAD, Energy Master Plan or elsewhere, concisely describes the proposed subproject and its geographic location, environmental, social, and temporal context, including any offsite investments that may be required, e.g. access roads, equipment yard, etc. Insert information on the names of locations of the Distribution Line, their respective maps, voltage, number of kilometers, the engineering design, and site lay-out plans, expected activities and works, expected duration of works, if known supporting facilities, and any salient physical characteristics of the project site/s, including information on any Associated Facilities (for example quarries and borrow pits) as well as other projects that could lead to cumulative impacts.

The objective of the ASCENT MPA in [insert name of formal sovereign borrower name] is [Project Development Objective, from Project Concept Note (PCN), Project Appraisal Document (PAD), or other available documentation]. Also, add project justification [in line with Project Concept Note].

The proposed power distribution line/s [provide name of subproject, proposed voltage] is/are located [provide name of location and GPS coordinates] and is [length in km]. *Include map showing location of the distribution line/s, and layout plan, where applicable e.g. associated substation.*

The project entails a series of activities which include among others, the following: *Edit and add as appropriate, following the different project development phases suggested below*

A. Design and Planning Stage

- Planning, surveying and design of the power line.
-
-

B. Construction Stage

- Storage of equipment, construction materials and securing accommodation for workers.
- Clearing of right-of-way as necessary along the proposed route and site preparation.
- Transportation of the electrical poles and all associated materials (including transportation route selections)
- Excavation of the pole pits.
- Erection and dressing of poles.
- Conductor stringing and tensioning.
- Installation of other accessories including transformers, Air break switches, Load break switches and metering units among others.
- Services connection.
- Pre-commissioning tests and commission.

Construction activities are anticipated to last for [provide estimated construction period] months.

C. Operation Phase

- Routine maintenance activities including transportation of electrical poles, Storage of equipment, and construction materials.
- Excavation of the pole pits.
- Replacement including erection and dressing of poles.
- Conductor maintenance.
- Replacement installation of other accessories including transformers, air break switches, load break switches and metering units among others.
-
-

D. Decommissioning/ Rehabilitation Phase

- Removal of installed electrical materials such as poles, conductors and transformers.
- Disposal of decommissioned materials, such as poles, conductors, transformers, transformer oil, and associated construction debris/ waste.
-
-

3. ESMP Objectives

The objectives of this Environmental and Social Management Plan (ESMP) is to identify the site-specific environmental and social impacts associated with the proposed Distribution Line construction project/s and to proffer appropriate mitigation measures to ensure compliance with relevant environmental and social policies of the Government of [insert formal sovereign borrower name] and the World Bank Environmental and Social Framework (ESF). In doing this the document also highlights the gains of the successful implementation of the project/s and recommends additional interventions that will add value to the entire project arising from management of environmental and social (E&S) risks. The elaboration of this ESMP comes as a result of a prior screening process that attributed a [low/moderate] risk rating to the proposed works and screened out a negative list of activities as well as works that could have substantial/high risk. High risk sub-projects will not be implemented under the project whereas Substantial subprojects will be subjected to a separate ESIA process in line with the TORs contained in the project ESMF. Projects with a Low ESRC should not need an ESMP. Nonetheless, the Environmental and Social (E&S) specialist retains the authority to re-evaluate, reclassify and adjust the project's E&S risk classification in accordance with the identified E&S risks and the corresponding mitigation measures established to address those risks.

To mitigate the E&S risks and impacts and enhance project benefits the ESMP describes measures to avoid, prevent, minimize, mitigate and/or compensate for adverse environmental and social impacts proportional to the level of risk. The ESMP is specifically providing the following:

- Project description: The ESMP details the project location, activities, area of influence and scope.
- Assessment of the baseline environmental and social situation of the site and the surrounding area, identifying the most vulnerable groups and developing specific measures for them.
- Identifies the potential environmental and social risks and impacts of different project components and subcomponents during project implementation,
- Project specific mitigation measures that may be adopted to mitigate negative impacts, enhance positive impacts and achieve overall improved management of environmental and social challenges and opportunities,
- A guide towards ensuring compliance of the distribution line construction process with pertinent national regulations and in a manner that is materially consistent with the World Bank ESF (Whenever there is a discrepancy between national and international requirements, the more stringent ones will be adopted), including the necessary stakeholder engagement.
- Provides monitoring measures and specifies the type of monitoring and reporting procedures, with linkages to the impacts assessed, as well as emergency response procedures.
- Provides implementation schedule and costs covering the mitigation, monitoring and required capacity development and training.
- Outlines the roles and responsibilities of the project team and clearly provides an accountability matrix for the project manager, Environmental & Social Safeguards Specialist, health and safety officers, contractors, and regulatory authorities.

The ESMP provides a logical framework within which identified environmental and socio-economic risks and impacts can be mitigated and monitored. In addition, the ESMP assigns responsibilities of

actions to various actors and provides a timeframe within which mitigation measures and monitoring can be done.

4. Legal and Regulatory Framework

It is a requisite of the World Bank that investments it finances comply with the host country's national standards as well as other relevant international environmental and social policies. In addition to the relevant national legislation, the Project should address the applicable World Bank Environmental and Social Standards (ESS) regarding environmental and social issues. When the host country's regulations differ from the levels and measures presented in the World Bank ESF, projects will be required to achieve whichever is more stringent. This also applies if there are differences between National and Sub-National standards, the stricter standard must be followed.

If the analysis of the applicable legal and regulatory framework has been already done in another document (i.e., ESMF), then a brief summary and cross reference to that document would suffice

National Legal Framework

The national environmental regulatory framework applicable to Electrical Energy Distribution projects includes the following regulations and guidelines [as applicable]:

Insert a list of key relevant regulations and guidelines on assessing and managing impacts of distribution lines. Keep descriptions of laws and regulations brief and only describe elements applicable to subproject activities. This section must include any international treaties and agreements to which the country is party, and national legislation / regulations that are meant to implement the terms of the treaties and agreements.

World Bank Environmental and Social Standards and EHS Guidelines

The ESF sets out the World Bank's commitment to sustainable development through a Bank Policy and a set of Environmental and Social Standards that are designed to protect people and the environment from adverse impacts of Bank-financed projects and to promote green, resilient, and inclusive sustainable development. The ESF offers broad and systematic coverage of environmental and social risks and makes important advances in areas such as transparency, non-discrimination, public participation, and accountability. This is achieved through the implementation of ten (10) [Environmental and Social Standards](#) which constitute the ESF, and which set out the requirements that apply to projects funded by the World Bank.

World Bank Group (WBG) Environmental, Health and Safety Guidelines (EHSGs), 2007 are technical reference documents that address the Bank's expectations regarding the EHS performance of projects. The information supports actions aimed at avoiding, minimizing, and controlling EHS impacts during the construction, operation, and decommissioning phase of a project or facility. The EHSGs serve as a technical reference source to support the implementation of the ESSs.

General EHSGs contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors. The WBG General EHS Guidelines can be found in the following link: <http://documents.worldbank.org/curated/en/157871484635724258>

The EHS Guidelines for Electric Power Transmission and Distribution include information relevant to power transmission can be found in the following link:

<https://www.ifc.org/content/dam/ifc/doc/2000/2007-electric-transmission-distribution-ehs-guidelines-en.pdf>

The ESSs and their relevancy are outlined in Table 1 *Please delete the ESS that is not applicable to the subproject*

Table 1: ESS Objectives and Relevance to the Project.

Environment and Social Standards	Objectives	Relevance to Project
ESS1: Assessment and Management of Environmental and Social Risks and Impacts;	To identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project. To utilize national environmental and social institutions, systems, laws, regulations and procedures in the assessment, development and implementation of projects, whenever appropriate. To promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity.	ESS1 is relevant for the project because project activities are expected to pose moderate environmental and social risks such as terrestrial habitat alteration, aquatic habitat alteration, electric and magnetic fields, creation of hazardous materials. From a social perspective risks and impacts could include limited physical resettlement, economic resettlement, restrictions on land use, presence of an external workforce with associated risks for disease transmission, SEA/SH or other community issues.
ESS2: Labor and Working Conditions	To promote safety and health at work. To promote the fair treatment, non-discrimination and equal opportunity of project workers. To protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) and migrant workers, contracted workers, community workers and primary supply workers, as appropriate.	The installation of distribution lines is likely to engage direct and contracted project workers, who could be exposed to different types of OHS risks from project activities. The number of project workers is estimated to be XX [insert the estimated number of workers involved in the installation and operation of the distribution line]. The following OHS risks are anticipated, among others: live power lines, working at height, electric and magnetic fields, exposure to chemicals, lack of contracts in place, poor working conditions etc.

	To prevent the use of all forms of forced labor and child labor. To support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law. To provide project workers with accessible means to raise workplace concerns	
ESS3 - Resource Efficiency and Pollution Prevention and Management	To promote the sustainable use of resources, including energy, water and raw materials. To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities. To avoid or minimize project-related emissions of short and long-lived climate pollutants. To avoid or minimize generation of hazardous and non-hazardous waste. To minimize and manage the risks and impacts associated with pesticide use.	This standard is relevant because construction activities can generate varying levels of pollution, such as disposal of hazardous and non-hazardous wastes and pollution to air, water, etc. During Project construction, the project solid waste generated will mainly consist of used and scrap metals (cables and steel scraps), plastics from packing in equipment, wooden pallets, cardboard boxes etc. The potential hazardous waste generated include [Materials for pole installation may come from illegal gravel and sand mines, or wood from illegal logging contributing to secondary negative impacts in these areas].
ESS4: Community Health and Safety	To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and non-routine circumstances. To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams.	During construction, community health and safety issues and risks include noise vibration, dust, road safety due to increased construction trucks on the roads, potential traffic accidents during equipment's and poles transportation to the site, increased construction trucks in the area, improperly placed or stored materials, unprotected work sites and potential electrical faults from electrical lines. Waste left on site can also be a health and safety hazard to the communities. The influx of workers, goods, and services to a project area

	To avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials. To have in place effective measures to address emergency events. To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.	can have negative social consequences for the local community including SEA/SH, disease transmission and increased tensions.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	To avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives. To avoid forced eviction. To mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by: (a) providing timely (prior to displacement) in full compensation for loss of assets at replacement cost and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher. To improve living conditions of poor or vulnerable persons who are physically displaced, through provision of adequate housing, access to services and facilities, and security of tenure. To conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant.	While the footprint of distribution lines is small, it may cause the partial loss or modifications of assets along the ROW including physical and economic displacement or restrictions on land use. The interventions are expected to have minimal land impact, likely resulting in limited, linear disturbances. In case of loss or modification of access to assets along the RoW, please refer to the RPF on preparation and implementation of either a RAP or LRP.

	To ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.	
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	To protect and conserve biodiversity and habitats. To apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity. To promote the sustainable management of living natural resources. To support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities.	Sub-project screening included exclusionary criteria prohibiting activities that would adversely affect critical habitat or protected areas. Analyze if the path of the distribution line will traverses near protected areas, KBAs and affect non-critical natural habitats to determine relevance of this standard. The following text can be adapted <i>if the works impact non-critical habitats. If this is not the case, the standard can be considered non-relevant</i>]. Works may affect modified and natural habitats such as forests and wetlands, albeit such areas should be avoided as much as possible, including avoiding clearing in riparian areas and avoiding use of machinery in the vicinity of watercourses. The DL designs in such areas should consider using the longest possible line spans to avoid or minimize the footprint impact; use of insulated conductors and/or using horizontal alignment of conductors to minimize electrocution risk to birds and bats. Where avoidance is not possible, ESS6 guides impact management.
ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities. This ESS applies whenever Indigenous Peoples/ Sub-Saharan African Historically	To ensure that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource based livelihoods of Indigenous Peoples/ Sub-Saharan African Historically Underserved Traditional Local Communities. To avoid adverse impacts of projects on Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local	[Analyze if the path of the distribution line will affect indigenous peoples. If so, the following text can be adapted/ expanded based on the national context and nature of the impact. If this is not the case, the standard can be considered non-relevant]. This standard is relevant if the distribution line may impact indigenous communities. The IPP will include measures to mitigate any potential project impacts on IPs. The project

Underserved Traditional Local Communities (as they may be referred to in the national context) are present in, or have collective attachment to a proposed project area, as determined during the environmental and social assessment.	Communities, or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts. To promote sustainable development benefits and opportunities for Indigenous Peoples/sub-Saharan African Historically Underserved Traditional Local Communities in a manner that is accessible, culturally appropriate and inclusive. To improve project design and promote local support by establishing and maintaining an ongoing relationship based on meaningful consultation with the Indigenous Peoples/sub-Saharan African Historically Underserved Traditional Local Communities affected by a project throughout the project's life cycle. To obtain the Free, Prior, and Informed Consent (FPIC) of affected Indigenous Peoples/ Sub-Saharan African Historically Underserved Traditional Local Communities in the three circumstances described in this ESS. To recognize, respect and preserve the culture, knowledge, and practices of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, and to provide them with an opportunity to adapt to changing conditions in a manner and in a timeframe acceptable to them.	SEP ensures that indigenous communities are appropriately informed in an inclusive and culturally appropriate manner.
ESS8: Cultural Heritage	To protect cultural heritage from the adverse impacts of project activities and support its preservation.	This standard is considered relevant because of construction and excavation related activities which may encounter cultural heritage. A Chance Finds Procedure prepared as part of the Project ESMF will be used. [Investigation must be

	To address cultural heritage as an integral aspect of sustainable development. To promote meaningful consultation with stakeholders regarding cultural heritage. To promote the equitable sharing of benefits from the use of cultural heritage.	undertaken to determine whether there is some basis for the possible presence of tangible or intangible cultural heritage, with specific reference to the sub-project under consideration]. Sub-project screening excluded activities that could directly impact cultural heritage.
Environmental and Social Standard 10: Stakeholder Engagement and Information Disclosure.	To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties. To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance. To promote and provide means for effective and inclusive engagement with project- affected parties throughout the project life cycle on issues that could potentially affect them. To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format. To provide project-affected parties with accessible and inclusive means to raise issues and grievances, and allow Borrowers to respond to and manage such grievances	This standard applies to all projects funded by the Bank. A separate Stakeholder Engagement Plan (SEP) will be developed, disclosed, and consulted on. The SEP will identify and map the relevant stakeholders including beneficiaries and project affected people, and discuss the actions and consultation plans for each group.

5. Environmental and Social Baseline

This section highlights observed findings along the Distribution Lines' Rights of Way (ROW) during environmental and social assessment visits.

Develop sub-sections describing the project location, land use/economic activities, vegetation/fauna, wetlands & river crossings, settlement patterns, encroachment of the ROW, and access to energy provider facilities. This should be done for individual distribution lines or preferably for groups of similar sites with an explanation of the grouping carried out.

Insert pictures of the ROW to illustrate settlement patterns, encroachment, wetlands and river crossings, vegetation impinging on the ROW, any protected areas near or through which the distribution line ROW will pass and any salient characteristics that could impact the distribution line.

6. ASSESSMENT OF POTENTIAL IMPACTS AND MITIGATION MEASURES

6.1 Evaluation of Environmental and Social Impacts

The likely impacts will be predicted and their significance assessed based on the interaction between the biophysical and socioeconomic environments of the Project and the characteristics of the environment receiving the impact. With the use of qualitative and quantitative data from the literature review, consultations, expert knowledge, and field visits to the proposed Project and similar project sites. Please consider summarizing the results of the sub-project screening process here, and the summary of impact assessment methodology.

The following section further discusses the identified significant impacts and recommends measures to improve the positive impacts whilst the negative impacts are addressed using the mitigation hierarchy from prevention, reduction, restoration, and compensation.

6.2 Potential Environmental and Social Impacts with Corresponding Mitigation Measures

[Available mitigation measures in the ESHGs especially the sector specific ones should be utilized to the extent possible ... notably 'Environmental, Health, and Safety Guidelines for Electric Power Transmission and Distribution Guidelines'. These EHS guidelines are also useful in determining impacts.

6.1.2 Potential Negative Impacts

Negative impacts of construction and operation of distribution lines are described with corresponding mitigation measures. *The content of each session is not exhaustive. Please correct or add information on the different kinds of impacts.*

6.1.2.1 Negative Impacts on the Physical Environment

This section discusses the most significant potential impacts to environmental resources including soil, water resources, ambient noise levels and ambient air quality. Generally, potential environmental

impacts are expected to occur during the construction phase of the project although negligible to minor impacts may also be associated with operations.

a: Negative Impacts on Landscapes

Materials for pole installation may come from illegal gravel and sand mines, or wood from illegal logging contributing to secondary negative impacts in these areas. In addition, power distribution is necessary to transport energy from power facilities to residential communities, but may be visually intrusive and undesirable to local residents.

Mitigation measures

The contractual agreements with contractors will include detailed provisions requiring the procurement of sand, gravel, and wood exclusively from suppliers who are legally certified.

To mitigate the visual impact of power distribution projects, the following mitigation measures should be implemented:

- Extensive public consultation during the planning of power line and power line right-of-way locations;
- Accurate assessment of changes in property values due to power line proximity;
- Siting power lines, with due consideration to landscape views and important environmental and community features;
- Location of distribution lines in less populated areas, where possible;
- Burying distribution lines when power must be transported through dense residential or commercial areas.

b: Negative Impacts on Soils

Soil disturbance during excavation for the poles may result or contribute to soil erosion, particularly in areas prone to wind or water erosion. Soil disturbing activities may increase risks of erosion particularly in regions where the prevailing soil types have high erosion potential. Soils may be accidentally or intentionally become contaminated by the improper management of wastes and other materials during project construction.. Furthermore, derelict distribution infrastructure or those in good condition but not used for whatever reason pose a risk to the public and environment. No significant impact to soil is anticipated post construction.

Mitigation measures

In areas with uneven topography, such as gullies, a foundation should be constructed, and the relocation of poles to more even ground should be considered for sustainability and safety. The land around new poles should be leveled to reduce the risk of erosion.

c: Generation of waste

[Refer to Annex-1 for detailed Waste Management Plan]

Construction of the distribution line may result in generation of waste arising from site clearance and operations, packaging materials, residual materials, etc. Generated wastes may range from solid wastes including food wastes, cardboard, plastic, metal, glass, paper, organic and hazardous wastes such as creosote to treat wooden poles, pesticides to clear right of way, used oil and filters from vehicles,

transformer oil, etc. Liquid waste will include black water and grey water generated on-site by construction workers.

Mitigation measures

- Follow the mitigation hierarchy by avoiding generation of waste through product substitution, minimizing generation of waste by buying just enough materials to be used and ensuring efficiency.
- All waste generated should be segregated and disposed of according to waste types and characteristics to an approved landfill by a licensed vendor in line with national requirements.
- Workers should be trained and sensitized on waste management to ensure good housekeeping practices and general waste handling (in particular hazardous waste handling and management).
- Provide workers with appropriate PPE for handling the various waste streams generated by the subproject.
- The contractor to develop a hazardous waste tracking and documentation system/mechanisms to ensure that the hazardous waste is disposed by a licensed vendor to an approved facility/landfill per the national laws.
- Collect and transfer recyclable waste to recycling facilities. This includes metal, paper, plastic, wood.
- Organic waste shall be disposed of at the municipal landfill of the project area.
- Put an impervious layer below the pole stacks so that the creosote is prevented from infiltrating to the soil.
- All excess materials produced during construction or maintenance should be collected and disposed of appropriately with these procedures specified in contracts. Old or unused lines must be safely decommissioned and removed according to safety guidelines.
- Require Contractors to develop and implement a waste management plan to manage different waste streams (Plastics, hazardous, Bio-degradable and non-biodegradable) in accordance with The National Environment/Waste Management Regulations.
- Recommendations specific to the use of pesticides include: Train personnel to apply pesticides and ensure that personnel have received the necessary certifications, or equivalent training where such certifications are not required; Respect post-treatment intervals to avoid operator exposure during re-entry to crops with residues of pesticides; Ensure hygiene practices are followed (in accordance to FAO and PMP) to avoid exposure of family members to pesticides residues; in line with the ESHS guidelines and ESS-3.

d: Electric and Magnetic Fields

Electric and magnetic fields (EMF) are invisible lines of force emitted by and surrounding any electrical device (e.g. power lines and electrical equipment). Electric fields are produced by voltage and increase in strength as the voltage increases. Electric field strength is measured in volts per meter (V/m). Magnetic fields result from the flow of electric current and increase in strength as the current increases. Magnetic fields are measured in units of gauss (G) or tesla (T), where 1T equals 10,000G. Electric fields are shielded by materials that conduct electricity, and other materials, such as trees and building materials. Magnetic fields pass through most materials and are difficult to shield. Both electric

and magnetic fields decrease rapidly with distance.

Although there is public and scientific concern over the potential health effects associated with exposure to EMF (not only high voltage power lines and substations, but also from everyday household uses of electricity), there is no empirical data demonstrating adverse health effects from exposure to typical EMF levels from power lines and equipment. However, while the evidence of adverse health risks is weak, it is still sufficient to warrant limited concern.

Mitigation measures

Evaluating potential exposure to the public against the reference levels developed by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). Average and peak exposure levels should remain below the ICNIRP recommendation for General Public Exposure; Considering siting new facilities so as to avoid or minimize exposure to the public. Installation of high voltage equipment above or adjacent to residential properties or other locations intended for highly frequent human occupancy, (e.g. schools or offices), should be avoided. If EMF levels are confirmed or expected to be above the recommended exposure limits, application of engineering techniques should be considered to reduce the EMF produced by power lines, substations, or transformers. Examples of these techniques include:

- Shielding with specific metal alloys.
- Burying distribution lines.
- Increasing height of distribution poles.
- Modifications to size, spacing, and configuration of conductors.

e: Hazardous Materials Management

Hazardous materials in this sector include insulating oils / gases (e.g. Polychlorinated Biphenyls [PCB] and sulfur hexafluoride [SF6], and fuels, in addition to chemicals or products for wood preservation for poles and associated wood construction material.

Mitigation measures

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

Hazard communication and training programs to prepare workers to recognize and respond to workplace chemical hazards. Programs should include aspects of hazard identification, safe operating and materials handling procedures, safe work practices, basic emergency procedures, and special hazards unique to their jobs.

Wood Preservatives: The majority of wooden utility poles are treated with pesticide preservatives to protect against insects, bacteria, and fungi, and to prevent rot. The preservatives most commonly used for power poles are oil-based pesticides such as creosote, pentachlorophenol (PCP), and chromated copper arsenate (CCA). Use of these preservatives is being limited in some countries due to their toxic effects on the environment. While in use, poles may leach preservatives into soils and groundwater, however, levels are highest directly beside poles and decrease to within normal levels at approximately 30 centimeters (cm) distance from the pole. The most significant potential environmental impacts occur at specialized wood treatment facilities if not managed appropriately.

Mitigation measures

Poles should be pretreated at an appropriate facility to ensure chemical fixation and prevent leaching, and to impede the formation of surface residues at the right-of-way. Consider use of alternative preservatives (e.g. copper azote). Undertake appropriate disposal of used poles. Landfill facilities should be capable of handling wastes that may have chemical leaching properties. Disposal through incineration or through recycling should consider associated air emissions and secondary product residues of preservative chemicals. Evaluate the cost and benefit of using alternative pole materials (e.g. steel, concrete, and fiberglass).

6.1.2.2 Negative Impacts on the Biological Environment

a: Negative Impacts on Agriculture and Livestock

[Insert any negative impacts to agriculture and livestock if any. If there are none, delete this subsection.]

The installation of distribution lines usually has limited impacts on agriculture and livestock due to its reduced footprint and size of ROW. In the case of the proposed activities, the impacts to agriculture and livestock are: [describe the impacts of the project along the right of way of the distribution lines during the installation and operation phases].

Mitigation measures

[Insert corresponding mitigation measures]

Negative impacts on agriculture and livestock will be addressed through a Resettlement Action Plan (RAP). Project activities will not commence until the RAPs have been finalized, approved by the Bank and duly implemented (i.e. compensation in full at replacement cost paid to the Project affected people) prior to the commencement of such activities. In cases where physical displacement will occur Livelihood Restoration Plans will be developed following the guidance outlined in the project RPF and provided in ESS5.

b: Negative Impacts on Avifauna collisions and electrocutions

Avifauna is at risk of collision and electrocution with the distribution lines during flight between roosting/nesting and the feeding grounds.

Mitigation measures

The technical design and specifications will provide adequate insulation and protection. Maintaining

1.5 meter (60-inch) spacing between energized components and grounded hardware or, where spacing is not feasible, covering energized parts and hardware. Retrofitting existing distribution systems by installing elevated perches, insulating jumper loops, placing obstructive perch deterrents (e.g. insulated "V's"), changing the location of conductors, and / or using raptor hoods; Considering the installation of underground distribution lines in sensitive areas (e.g. critical natural habitats); and Installing visibility enhancement objects such as marker balls, bird deterrents, or diverters in bird areas.

c: Negative Impacts on Forests and Vegetation

The construction and maintenance of distribution line rights-of way, especially those aligned through forested areas, may result in alteration and disruption to terrestrial habitat, including an increased risk of forest fires; fragmentation of forested habitat; loss of wildlife habitat, including for nesting; establishment of non-native invasive plant species; and visual and auditory disturbance due to the presence of machinery, construction workers, poles, and associated equipment.

Mitigation measures

As much as possible consideration shall be given to alternative design and pole location to avoid trees. Overall, where there is need to prune or fell trees this should be done in consultation with the owner/community. If there is need for a new tree to be planted, the relevant authorities such as the [insert name of relevant authority] shall be consulted in the identification of species and siting of replacement trees. Installation of distribution lines above existing vegetation to avoid land clearing. Avoidance of construction activities during the breeding season and other sensitive seasons or times of day. Revegetation of disturbed areas with native plant species; Removal of invasive plant species during routine vegetation maintenance.

6.1.2.3 Community Health and Safety

a: Negative Impacts on Community Health and Safety

During distribution line works the public is at risk of accidents from the equipment, vehicles, improperly placed or stored materials, and unprotected work sites. Since heavy-duty equipment and vehicles may have to work and traverse the road during construction, the safety of other road users could be jeopardized. Construction traffic, particularly heavy vehicles such as low beds and loaded trucks, are also expected to contribute to increased road traffic. Waste left on site can also be a health and safety hazard to the communities.

The influx of workers, goods, and services to a project area can have negative social consequences for the local community. There could be an increase in the risk of transmission of sexual diseases with the migration of workers into the communities who will have purchasing power and can use that power to influence persons to engage in unsafe sexual practices. This can include the spread of HIV/AIDS and other sexually transmitted infections. Women may experience harassment, fear of violence, and other threats when using roadways, especially after dark. Non-local workers could also lead to bad relations, particularly between the male workers when the females are shown increased attention that is unwanted. Interpersonal relationships with married persons could lead to the breakup of families thereby disrupting the community dynamic. There could also be cases of unwanted pregnancies particularly affecting the younger women of the community, and statutory rape. The abuse of alcohol

and other drugs can be detrimental to the community, especially to vulnerable groups when introduced and encouraged by non-local workers. In addition, the presence of a non-local construction crew to the area can create security fears among local residents.

The operation of live power distribution lines and substations may generate the following industry-specific community health and safety impacts: Electrocution, and Electromagnetic interference.

*Mitigation measures [For additional guidance please refer to Good Practice Note: **Assessing and Managing the Risks of Adverse Impacts on Communities from Project-Related Labor Influx**].*

It is essential to clear all sites after the fixing of poles and the derelict poles recycled. Access to the sites during works must also be restricted to avoid accidents and theft incidents. Safety signs, symbols and barriers will be used at sensitive work locations. Public traffic will have to be re-routed or stopped during the stringing of conductors across road sections. Contractors will have to put temporary structures in place that will allow safe passage of public vehicles at reduced speeds. Contractors will have to prepare and implement a Traffic Management Plan (TMP) to address risks related to the use of the road by the public during stringing of conductors across roads. The TMP is expected to include the use of advance warning signs, erection of barriers, provision of lighting, provision of safe traffic diversions, etc. The TMP should detail mitigation measure to address the risks associated with accidents or incidents, road congestion and increased traffic, as well as potential blockages that may arise during the transportation of project equipment. Grounding conducting objects (e.g. fences or other metallic structures) installed near power lines, to prevent shock.

The project will develop a Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) Action Plan, as well as workers' codes of conduct with SEA/SH provisions, contractual provisions for contractors and subcontractors, a grievance mechanism sensitive to SEA/SH issues, among other measures to prevent and respond to SEA/SH. Contractors will be required prepare and implement a Code of Conduct for construction workers which will include measures relating to SH/SEA, and to monitor the behavior of workers.

Stakeholders and communities will be informed about the Project Grievance Redress Mechanism which will be SEA/SH sensitive to ensure that any concerns related to workers, damage caused by project activities or any other E&S concerns can be raised and will be responded to in a transparent manner.

Recommended techniques to prevent electrocution hazards include use of signs, barriers (e.g. locks on doors, use of gates, education / public outreach to prevent public contact with potentially dangerous equipment.

Other public safety measures include:

- Extensive public consultation during the planning of power line and power line right-of-way locations;
- Accurate assessment of changes in property values due to power line proximity;

- Siting power lines, and designing substations, with due consideration to landscape views and important environmental and community features;
- Location of high-voltage distribution lines in less populated areas, where possible;
- Burying distribution lines when power must be transported through dense residential or commercial areas.

b: Occupational Health and Safety

Health and safety are a key concern at any construction site. Workers are usually exposed to situations which can result in serious accidents, some of which can be fatal, if established guidelines and practices are not properly communicated or complied with by workers and supervised/enforced accordingly. Risks can result from the improper use of construction methods, machines and equipment or accidents on the work sites. The health and safety of workers are therefore major concerns during the construction period. While training and monitoring should be conducted and can reduce the risk of any serious incidents, accidents can still occur. Risks may include accidents during site preparations, transporting and offloading of construction materials, improper use of equipment, slip or trip while traversing the work sites, falls while working at heights etc. In such cases, these exposures can result in physical injuries such as cuts, bruises, loss of limbs or can even be fatal.

The following are therefore possible health and safety risks which are likely to be encountered at the construction site:

- Live power lines.
- Working at height.
- Electric and magnetic fields.
- Exposure to chemicals such as PCBs, pesticides, herbicides, creosote, etc.
- Sickness caused by the consumption of untreated water and lack of other worksite welfare amenities such as rest shades.
- Injuries or death from vehicular collisions.
- Injuries from slips, trips and falls.
- Injuries from impalement due to unprotected rebars.
- Injuries from falling onto unprotected excavations and other open trenches or areas.
- Ill health caused by insect bites/stings from hostile fauna.
- Injuries or death caused by snake bites.
- Injuries or ill health caused by heat-related illnesses such as sunburn, heat stress, heat exhaustion or heat stroke as a result of working under extremely hot conditions.

Mitigation measures

- Undertake pre-employment medical examination for workers to establish pre-existing conditions, to accordingly guide job and task allocation to workers.
- Only allowing trained and certified workers to install, maintain, or repair electrical equipment;
- Deactivating and properly grounding live power distribution lines before work is performed on, or in close proximity, to the lines;

- Ensuring that live-wire work is conducted by trained workers with strict adherence to specific safety and insulation standards. Qualified or trained employees working on distribution systems should be able to achieve the following:
 - Distinguish live parts from other parts of the electrical system.
 - Determine the voltage of live parts.
 - Understand the minimum approach distances outlined for specific live line voltages.
 - Ensure proper use of special safety equipment and procedures when working near or on exposed energized parts of an electrical system.
- Workers should not approach an exposed energized or conductive part even if properly trained unless:
 - The worker is properly insulated from the energized part with gloves or other approved insulation; or,
 - The energized part is properly insulated from the worker and any other conductive object; or,
 - The worker is properly isolated and insulated from any other conductive object (live-line work).
- Workers not directly associated with power distribution activities who are operating around power lines or power substations should adhere to local legislation, standards, and guidelines relating to minimum approach distances for excavations, tools, vehicles, pruning, and other activities;
- Provide workers with welfare amenities such as clean drinking water, rest shades, gender segregated toilets, first aid services.
- Maintain good housekeeping practices to minimize trips and falls.
- Minimum hot stick distances may only be reduced provided that the distance remaining is greater than the distance between the energized part and a grounded surface;
- **Working at height on poles and structures:** Workers may be exposed to occupational hazards when working at elevation during construction, maintenance, and operation activities. Prevention and control measures for working at height include:
 - Testing structures for integrity prior to undertaking work;
 - Implementation of a fall protection program that includes training in climbing techniques and use of fall protection measures; inspection, maintenance, and replacement of fall protection equipment; and rescue of fall-arrested workers, among others;
 - Establishment of criteria for use of 100 percent fall protection (typically when working over 2 meters above the working surface, but sometimes extended to 7 meters, depending on the activity). The fall protection system should be appropriate for the tower/ pole structure and necessary movements, including ascent, descent, and moving from point to point;
 - Installation of fixtures on tower/ pole components to facilitate the use of fall protection systems;

- Provision of an adequate work-positioning device system for workers. Connectors on positioning systems should be compatible with the tower components to which they are attached;
 - Hoisting equipment should be properly rated and maintained and hoist operators properly trained;
 - Safety belts should be of not less than 16 millimetres (mm) (5/8 inch) two-in-one nylon or material of equivalent strength. Rope safety belts should be replaced before signs of aging or fraying of fibres become evident;
 - When operating power tools at height, workers should use a second (backup) safety strap;
 - Signs and other obstructions should be removed from poles or structures prior to undertaking work;
 - An approved tool bag should be used for raising or lowering tools or materials to workers on structures.
- The contractors will be required to prepare a plan to address Occupation Health and Safety, which is expected to address induction and training of workers, conduct of tool box sessions, provision of personal protective equipment, provision of first aid kits, etc.

6.1.2.4 Negative Impacts on the Socio-economic Environment

a: Gender Based Violence (GBV)

The project can negative impacts on vulnerable groups and women. The presence of non-local project workers during the construction could have a negative impact on these groups if not properly managed. The construction workforce for the project could represent a SEA/SH risk to communities and other workers, notably women and girls, if the correct mitigation measures are not in place and if there is no proper supervision during the construction works.

Mitigation measures

A SEA/SH Action Plan is prepared for the project and will be implemented. The contractors will be required to prepare and implement a Code of Conduct for construction workers which will include measures relating to SEA/SH, and to monitor the behavior of workers. Locals will be encouraged to report any such behavior or incidents through specific measures included in the project GRM for SEA/SH.

b: Inadequate stakeholder engagement and potential exclusion of vulnerable groups

In cases of inadequate stakeholder engagement, vulnerable groups can be underrepresented or excluded in project related engagements and planning, as well as in employment by the contractors. When employed, women may be offered lower compensation than their male counterparts.

Mitigation measures

Stakeholder engagement will be undertaken and will include women and other vulnerable groups and measures to engaged with these groups are outlined in the SEP. Feedback from these groups will be taken into consideration in the project design and implementation. The project GRM will also make special provisions for addressing grievances from vulnerable groups. Employment of women, where possible, will be encouraged, with fair compensation. Measures will be considered in the design of the

roads to cater for these groups, including provisions for pedestrians and bicycles, lighting, road markings, signs, etc.

c: Impact on Public Services

Short-term, localized road traffic interruption will be experienced during the process of material transportation, fixing poles and line stringing due to long and heavy parts. Temporary loss of electricity supply shall occur to existing customers during works (particularly at the line commencement and termination points) and all customers after the Project during maintenance. Location of poles in flood and erosion prone areas may lead to unstable or collapse of poles and lines that will affect or cut transmission.

Mitigation measures

Traffic during works must be controlled to reduce disturbance and risks, and avoid peak times / days such as busy market days, for example. Customers will be given notice before disconnecting electricity supply for works and maintenance. Gullies and flood prone areas shall be avoided as much as possible and where technically impossible; the more durable design of foundations will be applied with routine monitoring and maintenance.

d: Land Acquisition, Land Use and Livelihoods

[Identify impacts of land acquisition, land use (including restrictions on access and use), and economic resettlement based on the nature of works, the existing Right of Way (ROW) if any and/or need to create a ROW].

Mitigation measures

A Resettlement Policy Framework has been drafted during project preparation to guide the elaboration and implementation of a Resettlement Action Plan (RAP) or Livelihoods Restoration Plan (LRP). A RAP or LRP, as applicable, will need to be prepared to guide the compensation process for impacts such as project-related land acquisition or restrictions on land use that may cause physical displacement (such as relocation, loss of residential land or loss of shelter), economic displacement (like loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both.

e. Indigenous peoples

[If relevant, include an analysis of potential impacts of the construction of distribution lines to indigenous peoples.]

Mitigation measures

Project activities impacting indigenous communities will be guided by the [Project's Indigenous Peoples Policy Framework (IPPF) and/or the site works specific Indigenous Peoples Plan (IPP)], which will need to be prepared in a participatory way with the indigenous communities in the project area, and disclosed prior to the beginning of works. The mitigation measures are specified in the [IPPF/IPP].

7. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The identified critical impacts of distribution lines and proposed mitigation measures under Section 6 above are extracted into Table 3 for ease of implementation. Please complete Section 6.2 and adapt it to your Distribution Line subproject, as appropriate, and accordingly complete the Mitigation Tables Template provided below. A full list of mitigation and monitoring measures in line with WBG EHS Guidelines is found in Annex 1.

Table 3: Environmental and Social Risks and Mitigation Measures

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
Clearing of vegetation and trees, Construction activities including Pole erection. - Impacts on Physical Environment.	- <u>Impacts on Landscapes</u> - <u>Visual intrusion</u>	- Careful site selection including consultation with local communities. - Use only certified sand, gravel, and wood suppliers to be included in contracts. - Accurate assessment of changes in property values due to power line proximity. - Siting power lines, with due consideration to landscape views and important environmental and community features. - Location of distribution lines in less populated areas, where possible. Burying distribution lines when power must be transported through dense residential or commercial areas.	Design Engineer Contractors [Select monitoring entity. i.e. supervision firm, PIU, public utility company]	Prior to, and during construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
	- <u>Impacts on Soil</u>	- Sites around new poles must be immediately levelled and cleared of excess materials. - Avoid close proximity to flood prone areas or large gullies which are prone to flooding. - Design appropriate protective measures such as deeper footings, extra reinforcement at base or around the poles etc. where flood prone areas are unavoidable. - All excess materials and waste produced during construction or maintenance must be collected for proper disposal. - In areas with uneven topography, such as gullies, a foundation should be constructed, and the relocation of poles to more even ground should be considered for sustainability and safety.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure
	- <u>Waste Management</u> - <u>[Please consider providing information on offsite</u>	- Follow the mitigation hierarchy by avoiding generation of waste through	[Select an appropriate monitoring entity. i.e. supervision firm, PIU,	During construction of

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
	<u>facilities that manage the various kinds of waste (hazardous and non-hazardous) that will be generated during all sub-project phases. This should include the entire life cycle of offsite waste management, from transport from the site to recycling facilities or to certified landfills. If such facilities do not exist within economical distance from the various sites along the ROW, environmentally sound alternative waste management must be proposed].</u>	product substitution, minimizing generation of waste by buying just enough materials to be used and ensuring efficiency. - All waste generated should be segregated and disposing it off according to waste types and characteristics to an approved landfill by a licensed vendor in line with national requirements. - Workers should be trained and sensitized on waste management to ensure good housekeeping practices and general waste handling. (In particular hazardous waste handling and management). - Provide workers with appropriate PPE for handling the various waste streams generated by the subproject. - The contractor to develop a hazardous waste tracking and documentation system/mechanisms to ensure that the hazardous waste is disposed by a licensed vendor to an approved	public utility company, Contractor, etc]	the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		facility/landfill per the national laws. - Collect and transfer recyclable waste to recycling facilities. This includes metal, paper, plastic, and wood. - Engage registered waste management companies to handle hazardous waste. - Organic waste shall be disposed of at the municipal landfill of the project area. - Put an impervious layer below the pole stacks so that the creosote is prevented from infiltrating to the soil. - Require Contractors to develop and implement a waste management plan to manage different waste streams (Plastics, hazardous, Bio-degradable and non-biodegradable) in accordance with The National Environment/Waste Management Regulations. - Recommendations specific to the use of pesticides include: Train personnel to apply pesticides and ensure that		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		personnel have received the necessary certifications, or equivalent training where such certifications are not required; Respect post-treatment intervals to avoid operator exposure during re-entry to crops with residues of pesticides; Ensure hygiene practices are followed (in accordance to FAO and PMP) to avoid exposure of family members to pesticides residues; in line with the ESHS guidelines and ESS-3.		
	- <u>Electric and Magnetic Fields</u>	- Average and peak exposure levels should remain below the Commission on Non-Ionizing Radiation Protection (ICNIRP). - Considering siting new facilities so as to avoid or minimize exposure to the public. - Installation of high voltage equipment above or adjacent to residential properties or other locations intended for highly frequent human	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		occupancy, (e.g. schools or offices), should be avoided; - If EMF levels are confirmed or expected to be above the recommended exposure limits, application of engineering techniques should be considered to reduce the EMF produced by power lines, substations, or transformers. Examples of these techniques include: • Shielding with specific metal alloys. • Burying distribution lines. • Increasing height of distribution poles. • Modifications to size, spacing, and configuration of conductors.		
	- <u>Hazardous Materials Management</u>	- Replacing existing transformers and other electrical equipment containing PCB, and ensuring appropriate storage, decontamination, and	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		disposal of contaminated units. - Prior to final disposal, retired transformers and equipment containing PCB should be stored on a concrete pad with curbs sufficient to contain the liquid contents of these containers should they be spilled or leaked. - The storage area should also have a roof to prevent precipitation from collecting in the storage area. - Disposal should involve facilities capable of safely transporting and disposing of hazardous waste containing PCB. - Surrounding soil exposed to PCB leakage from equipment should be assessed, and appropriate removal and / or remediation measures should be implemented. - Hazard communication and training programs to prepare workers to recognize and respond to workplace chemical hazards. Programs		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		should include aspects of hazard identification, safe operating and materials handling procedures, safe work practices, basic emergency procedures, and special hazards unique to their jobs.		
	- <u>Leaching and soil contamination from Wood Preservatives used to treat Poles.</u>	- Poles should be pretreated at an appropriate facility to ensure chemical fixation and prevent leaching, and to impede the formation of surface residues at the right-of-way. - Evaluating the cost and benefit of using alternative pole materials (e.g. steel, concrete, and fiberglass). - Consider use of alternative preservatives (e.g. copper azote); Undertake appropriate disposal of used poles. - Landfill facilities should be capable of handling wastes that may have chemical leaching properties.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
Handling or storage of transformers at project sites.	- Spillage of hazardous chemicals	- Transformers will be temporarily stored on saw dust or sand before installation. - The saw dust/sand at the transformer storage site will be checked weekly for leakages and removed as and when stains are noticed. - Any Waste transformer oil will be adequately collected and transferred by a registered waste transporter to a registered hazardous landfill/facility for treatment and disposal. - Any spills or leakages will be excavated by a licensed waste handler with due attention to relevant environmental, health and safety requirements to avoid worker exposure. - All major vehicle repairs shall be conducted by qualified and experienced personnel at designated service centers (garages) away from the project site.		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
Clearing of vegetation and trees, Construction activities including Pole erection - <i>Impacts on the Biological Environment</i>	- <u>Impacts on Agriculture and Livestock [If applicable]</u>	- Negative impacts on agriculture and livestock will be addressed through a Resettlement Action Plan (RAP). Any compensation for loss of land or income will be carried out prior to the commencement of works. - Vegetation clearance should be minimized to the greatest extent possible, by considering alternative siting. - Replanting to replace trees that will be cut during project implementation. -	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure
	- <u>Impacts on Avifauna collisions and electrocutions.</u>	- Aligning transmission corridors to avoid critical habitats (e.g. nesting grounds, heronries, rookeries, bat foraging corridors, and migration corridors). - Once in place and operational, monitoring should consider whether there are collisions and adapt accordingly. - Ensure appropriate distance between cables to avoid impacts on avifauna.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		- The technical design and specifications will provide adequate insulation and protection. - Maintaining 1.5 meter (60-inch) spacing between energized components and grounded hardware or, where spacing is not feasible, covering energized parts and hardware. - Retrofitting existing distribution systems by installing elevated perches, insulating jumper loops, placing obstructive perch deterrents (e.g. insulated "V's"), changing the location of conductors, and / or using raptor hoods. - Considering the installation of underground distribution lines in sensitive areas (e.g. critical natural habitats). - Installing visibility enhancement objects such as marker balls, bird deterrents, or diverters in bird areas.		
	- Impacts on natural habitats, ecological resources and	- As much as possible consideration shall be given	[Select an appropriate monitoring entity. i.e.	Prior to, and during

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
	biodiversity <u>including Forests and Vegetation</u>	to alternative design and pole location to avoid trees. - Overall, where there is need to prune or fell trees this should be done in consultation with the owner/community. - If there is need for a new tree to be planted, the relevant authorities such as the [insert name of relevant authority] shall be consulted in the identification of species and siting of replacement trees. - Installation of distribution lines above existing vegetation to avoid land clearing. - Avoidance of construction activities during the breeding season and other sensitive seasons or times of day. - Revegetation of disturbed areas with native plant species. - Removal of invasive plant species during routine vegetation maintenance.	supervision firm, PIU, public utility company, Contractor, etc]	construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
Clearing of vegetation and trees, Construction activities including Pole erection - <i>Impacts on Socio-economic environment.</i>	- <u>Community Health and Safety</u>	- Stringing across roads and highways shall be conducted in hours with less traffic on weekends. - Inform affected communities prior to carrying out dusty and noisy activities to get to safer locations. - Clear all waste and excess materials immediately after pole erection and clear derelict poles. - Use well-kept heavy vehicles and equipment to reduce exhaust emissions. - Regular toolbox talks should be conducted for drivers and include issues related to traffic management in addition to enforcing speed limits of up to 20 kph within the project areas. - Store material away from easy public access. - Segregate and restrict work site from public access and use safety signage and symbols. - Extra care must be taken to ensure safety of children in	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		the nearby schools along the corridors. In addition, ensure safety of persons around premises close to where lines and poles will be located. - Public traffic will have to be re-routed or stopped during the stringing of conductors across road sections. Alternatively, Contractors will have to put temporary structures in place that will allow safe passage of public vehicles at reduced speeds, with guidance of traffic marshals on both approaches. - Grounding conducting objects (e.g. fences or other metallic structures) installed near power lines, to prevent shock. - Extensive public consultation during the planning of power line and power line right-of-way locations. - Setting up and operationalizing Community Grievance Redress Mechanism and Committees at both Local and National		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		Level. - Accurate assessment of changes in property values due to power line proximity. - Siting power lines, and designing substations, with due consideration to landscape views and important environmental and community features. - Put in place Emergency Response Plan, Measures and Procedures, popularized to the public and workers to handle project related incidents and accidents. - Develop and implement as part of Contractor's ESMP (CESMP) a Security Management Plan guided by security risk assessment (where Security Personnel are used), undertaking due diligence background check on conduct of personnel deployed, ensuring their regular training on code of conduct and use of proportionate force when handling riots (in line with		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		ESS4). - Recommended techniques to prevent electrocution hazards include: Use of signs, barriers (e.g. locks on doors, use of gates, education / public outreach to prevent public contact with potentially dangerous Equipment.		
	- <u>SEA/SH</u>	- A SEA/SH Action Plan is prepared for the project and will be implemented. - The contractors will be required to prepare and implement a Code of Conduct for construction workers which will include measures relating to SH/SEA, and to monitor the behavior of workers. - Locals will be sensitized and encouraged to report any such behavior or incidents through specific measures included in the project GRM which will be SEA/SH sensitive. - Use local labor as much as possible. - Sensitize workers on appropriate behavior as part	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		of induction and ensure the Code of Conduct is signed by all workers.		
	- <u>Inadequate stakeholder engagement and exclusion of vulnerable groups</u>	- Undertake stakeholder engagement within communities - Include women and other vulnerable groups in all stakeholder engagement. - Take into consideration the feedback from these groups in the project design and implementation, including incorporating the concerns during development of the ESMP. - Design GRM to make special provisions for addressing grievances from vulnerable groups. - Encourage employment of women, where possible with fair compensation.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure
	- <u>Occupational Health and Safety</u>	- Undertake pre-employment medical examination for workers to establish pre-existing conditions, to accordingly guide job and task allocation to workers.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		- Provide training, risk information, and appropriate manual handling machinery. - Develop and use standard operating procedures to avoid electrocution, through use of method statements, accompanied by Permit to Work System, including use of Log-Out-Tag-Out (LOTO) when stringing and testing the distribution lines. - Only allowing trained and certified workers to install, maintain, or repair electrical equipment. - Deactivating and properly grounding live power distribution lines before work is performed on, or in close proximity, to the lines; - Ensuring that live-wire work is conducted by trained workers with strict adherence to specific safety and insulation standards. Qualified or trained employees working on distribution systems should		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		be able to achieve the following: ○ Distinguish live parts from other parts of the electrical system. ○ Determine the voltage of live parts. ○ Understand the minimum approach distances outlined for specific live line voltages. ○ Ensure proper use of special safety equipment and procedures when working near or on exposed energized parts of an electrical system. - Workers should not approach an exposed energized or conductive part even if properly trained unless: ○ The worker is properly insulated from the energized part with gloves or		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		other approved insulation; or, ○ The energized part is properly insulated from the worker and any other conductive object; or, ○ The worker is properly isolated and insulated from any other conductive object (live-line work). - Workers not directly associated with power distribution activities who are operating around power lines or power substations should adhere to local legislation, standards, and guidelines relating to minimum approach distances for excavations, tools, vehicles, pruning, and other activities. - Minimum hot stick distances may only be reduced provided that the distance remaining is greater than the		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		distance between the energized part and a grounded surface. - The contractors will be required to prepare a plan to address Occupation Health and Safety, which is expected to address induction and training of workers, conduct of tool box sessions, provision of personal protective equipment, provision of first aid kits, etc. - Institutes emergency response procedures to handle any emergency incidents. - Incident/accident reporting through keeping log of incidents/accidents and remedial actions (in the event of an accident). - Provide personal protective equipment and first aid kits. - Setting up Workers' Grievance Redress Committees to handle and process workers' complaints		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		in line with the project ESMF. - Providing workers with Contracts, with clear Terms of Employment and working conditions in accordance with the National Employment and Labour Laws. - Provide workers with gender segregated sanitation facilities (mobile toilets), with maintained hygiene. - Provide workers with welfare amenities such as clean drinking water, rest shades, first aid services. - Maintain good housekeeping practices to minimize trips and falls.		
	Working at height on poles and structures: Workers may be exposed to occupational hazards when working at elevation during construction, maintenance, and operation activities.	- <i>Prevention and control measures for working at height include:</i> - Testing structures for integrity prior to undertaking work. - Implementation of a fall protection program that includes training in climbing	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		techniques and use of fall protection measures; inspection, maintenance, and replacement of fall protection equipment; and rescue of fall-arrested workers, among others. - To reduce slips and falls, workers who are to climb the wooden pole will have climbing boots fitted with hooks to enable them anchor to the pole. - Establishment of criteria for use of 100 percent fall protection (typically when working over 2 meters above the working surface, but sometimes extended to 7 meters, depending on the activity). The fall protection system should be appropriate for the tower/pole structure and necessary movements, including ascent, descent, and moving from point to point. - Installation of fixtures on tower/ pole components to		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		facilitate the use of fall protection systems. - Provision of an adequate work-positioning device system for workers. Connectors on positioning systems should be compatible with the tower components to which they are attached. - Hoisting equipment should be properly rated and maintained and hoist operators properly trained. - Safety belts should be of not less than 16 millimetres (mm) (5/8 inch) two-in-one nylon or material of equivalent strength. Rope safety belts should be replaced before signs of aging or fraying of fibres become evident. - When operating power tools at height, workers should use a second (backup) safety strap. - Signs and other obstructions should be removed from		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		poles or structures prior to undertaking work. - An approved tool bag should be used for raising or lowering tools or materials to workers on structures.		
	- <u>Impacts on Public Social Services and Utilities</u>	- Control road traffic. - Avoid peak times and days such as market days. - Inform customers before supply disconnection for work. - Locate and design structures to avoid flood and erosion prone areas that may cause destruction and disturb supply.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure
	- <u>Community H&S Social tensions, disease transmission</u>	- Educate workers and communities on risks and prevention of sexually transmitted infections. - Undertake engagement with communities on project activities, presence of workers, risks and impacts. - Use local labor as much as possible. - Setting up and	Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline
		operationalizing Community Grievance Redress Mechanism and Committees at both Local and National Level. -		
	- <u>Land Acquisition, Land Use and Livelihoods</u>	- [List mitigation measures set out by RPF/RAP/LRP]	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure
	- <u>Impacts on Indigenous Peoples</u>	[List mitigation measures set out by IPPF/IPP]	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of distribution lines

8. CONSULTATIONS AND PUBLIC PARTICIPATION

8.1 Objectives of The Stakeholder Consultations

It is important that affected communities are given the opportunity to participate in the environmental and assessment process, particularly in the provision of information specific to the sites. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. Specifically, the Project Stakeholder Engagement Plan (SEP) seeks to:

- To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-host and/or affected parties;
- To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance;
- To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them; and
- To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format.

The project will need to implement site-specific measures guided by the provisions in the SEP.

8.2 Summary of Issues During the Stakeholder Consultations

[Include a summary of the stakeholder engagement process carried out for the specific works at hand. This should include a brief analysis of project-affected parties, other interested parties, and vulnerable groups engaged, the efforts and instances of engagement, the project environmental and social aspects discussed, the questions and concerns expressed by stakeholders, and the feedback absorbed by project design].

[Include a table summarizing the comments and concerns raised during consultations with stakeholders. Remember to blur the first two columns (*containing personal information*) in the disclosure version of the ESMP in line with WB Policy on information disclosure]

Table 4: Summary of Comments received from stakeholders consulted

Name	Designation & Contact Information	Location	Comments and concerns/issues	Response and proposed mitigation measure to address raised issues

9. IMPLEMENTATION AND MONITORING ARRANGEMENTS FOR THIS ESMP

9.1 Implementation Arrangements, Roles and Responsibilities

[This section describes the institutional arrangements to implement the ESMP in relation to the assessment and identification of mitigation measures for subprojects, review, clearance and disclosure of the ESMP, carrying out the mitigation and monitoring measures, (for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting and staff training). A clear delineation of responsibilities must be spelled out under this section. This should consider and describe functions and roles encompassing planning and design, and construction stage, an institutional arrangement for the authorities, project proponent, consultants, contractors and supervision engineers. For suggestions in relation to this, see the institutional arrangements provided in the project ESMF, and adapt accordingly. The text below can serve as a guide].

The Project Implementation Unit (PIU) under [fill in the name of the Ministry of Public Works authority housing the PIU] is responsible for the overall implementation of the Project and its ESMP. The E&S Specialists/Unit/Department [use whichever is applicable] will ensure the respective roles of each party are carried out on time. The PIU will ensure that the environmental and social requirements as detailed in the ESMP are part of the bidding and contract negotiation phase and part of the works contracts. The [include the names of the ministries, public utility companies, or institutions with oversight capacities], with their oversight responsibilities, shall liaise with the [Ministry or Public Utility company], housing the PIU, to ensure the Project is in line with legal requirements.

[Include mention of the national and local laws and regulations on Environmental and Social Impact Assessment (ESIA) and the stated arrangements and obligations set out to monitor, supervise and audit the ESMP implementation].

The table below summarizes the roles and responsibilities regarding the implementation arrangements for **environmental and social management**. Complete table below and adapt as relevant for project.

Table 5: Implementation Arrangements – [Please complete this table as appropriate based on the project design and ESCP]

<i>Level/ Responsible Party</i>	<i>Roles and Responsibilities</i>
<i>World Bank</i>	<i>Carry out bi-annual supervision missions;</i> <i>.....</i> <i>.....</i>
<i>National/ Regional, PIU and Government Authorities</i>	<i>Undertake site inspections and monitoring</i> <i>Report serious Incidents to the Bank within 48 hrs of occurrence.</i> <i>.....</i> <i>.....</i>
<i>Supervision Engineer</i>	<i>Carry out E&S oversight role over the Contractor</i> <i>Prepare and submit E&S compliance reports to PIU,</i>

	• <i>Review and approve the CESMP</i> • <i>Report serious incidents to the PIU within 24 hrs of occurrence.</i>
<i>Contractors]</i>	• <i>Develop the C-ESMP/MSIP,</i> • <i>Hire E&S staff to implement CESMP,</i> • <i>Provide documentation and regular progress reports</i> • <i>.....</i> • <i>.....</i> • <i>....</i>

9.2 Institutional Training and Sensitization

The implementation of the distribution line infrastructure shall include additional training of relevant PIU/Public utility staff, stationed in the various Regions, in environmental and social due diligence during construction and implementation. In addition, Contractors shall include in their work plans and carry out training of workers on the required E&S risk management measures they are expected to implement as part of the daily activities.

During implementation, the PIU in conjunction with the Supervision Engineer, will undertake E&S performance assessment of the Contractor and service providers and develop tailor made E&S training plan and sensitization. Before commencement of implementation, E&S start up training of Contractor's workers shall be undertaken by the PIU and the Supervision Engineer.

At the bare minimum, the following topics shall be covered during workers' training:

- Specific aspects of environmental and social assessment and monitoring of the ESMP implementation.
- Occupational health and safety.
- Community Health and Safety.
- Codes of conduct for project workers.
- Traffic Management Plan (to relevant workers).
- Waste Management.
- Emergency preparedness and response.
- Combatting, and monitoring of HIV/AIDS, and other communicable diseases.
- Contractor and Operator management on environment and social risks.
- Grievances management implementation and monitoring.
- Sexual Exploitation and Abuse (SEA)/ Sexual Harassment (SH).
- Labor and Working Conditions, including employer compliance with national labor laws, and combatting of child labor and forced/trafficked labor.
- Undertaking Incidents Reporting, Root Cause Analysis and Corrective Action Plans.

PIU staff as needed should also receive training in topics such as resettlement and livelihood restoration, gender mainstreaming, Sexual Exploitation and Abuse (SEA)/ Sexual Harassment (SH), stakeholder engagement and grievance management.

9.3 Monitoring of the ESMP

[Describe monitoring arrangements for environmental and social impacts as set out in national legislation and regulations, and implementation arrangements specific to the project. Institutions in charge of monitoring can include supervision firms, the PIU, national EIA authority, amongst other.]

The E&S staffing for the Supervision Engineer and the Contractor will be determined on a case-by-case basis depending on the scope of the sub-project. Minimum requirements have been suggested as Environmental Health and Safety Officer (EHSO) and Social Development Officer (SDO).

Table 6: ESMP Monitoring Program [this is an example]

Institution	Monitoring activity	Timeline	Recommended frequency	Requirements	Proposed budget (USD)
Supervision Engineer (EHSO, SDO)	Monitoring and evaluation of measures implemented by contractors	Whole Project Duration, especially during pole erection and line stringing	Daily	Logistics for monitoring field work	\$XX,XXX
PIU	Monitoring and evaluation of measures set out by ESMP	Whole Project Duration, especially during pole erection and line stringing	Monthly	Logistics for monitoring field work	\$XX,XXX
EIA Authority	Monitoring and evaluation of measures set out by national legislation	Whole Project Duration, especially during pole erection and line stringing	Bi-weekly. Monthly	Logistics for monitoring field work	\$XX,XXX
				TOTAL	\$XX,XXX

The environmental and social monitoring activities shall be based on direct or indirect indicators of complaints, noise, ground measures, laboratory tests, emissions, effluents, and resource use, as applicable to the project.

The responsibility for the environmental and social monitoring will largely lie with the PIU, the Supervision Engineer and the Contractor. The involvement of other stakeholders in monitoring compliance of the project with other aspects is not much anticipated due to short term nature of the construction phase of the distribution line projects.

Sample key monitoring indicators of focus will include the following amongst others:

- a) Indicators of emissions, effluents, and resource use applicable to the particular project. Monitoring should be conducted by trained individuals following monitoring and record-keeping procedures and using properly calibrated and maintained equipment.;
- b) Accident and Fatality Rates: Projects should try to reduce the number of accidents among project workers (whether directly employed or subcontracted) to a rate of zero, especially accidents that could result in lost work time, different levels of disability, or even fatalities;
- c) Facilities should also maintain a record of occupational accidents and diseases and dangerous occurrences and accidents;
- d) Traffic control measures put in place during construction phase of the project;
- e) Safety aspects on the project i.e. provision of PPEs for the workers, OSH trainings, Toolbox meetings;
- f) Number of trees planted;
- g) Number of sensitization meetings held for the community on aspects of the project etc.;
- and
- h) Number of grievances received and the percentage resolved within agreed timelines.

During the construction period, the monitoring activities will focus on ensuring that environmental and social mitigation measures are implemented, and some performance indicators will be monitored to record environmental and social performance and to guide any remedial action to address unexpected impacts.

Proposed monitoring plan to be carried out during the implementation of the project to ensure contractors' compliance with the mitigation measures given in **Section 6 and Section 7** along with the monitoring indicators and frequency. The contractor will carry out the monitoring. The Monitoring **Table xxx below** will also be included in the contract specifications of the Bidding Documents.

[Please populate and complete the Monitoring Table below, as applicable to your subproject]

Environmental and Social Monitoring Parameters

S.No	Monitoring Parameter/ Activity	Means of Monitoring	Compliance Indicator/ threshold limits	Freq	Responsible Agency	
					Implementation	Supervision
1.	Air quality	Visual inspection of equipment/vehicle exhausts and records of vehicle maintenance.	All equipment and vehicles shall be maintained as per manufacturers recommendations.	Monthly	Contractor	RE, PIU
2.	Noise and vibration	Visual inspection of noise control measures.	Controls measures shall be in place for high noise generating equipment.	Monthly	Contractor	RE, PIU
3.	Wastewater discharges	Visual inspection of wastewater discharges.	All wastewater shall be directed to the airport's sewerage facility.	Monthly	Contractor	RE, PIU
4.	Waste management	Waste management as per the approved plan.	Facilities are clean, and waste collection and disposal facilities are in place.	Monthly	Contractor	RE, PIU
5.	Cleanliness at worksites and Residences	Visual inspections	Worksites shall be clean with out rubbish.	Monthly	Contractor	RE, PIU
6.	Water and sanitation facilities at workers' residences	Visual inspections and interviews	Availability of safe drinking water and sanitation facilities, and adequate kitchen supplies.	Monthly	Contractor	RE, PIU
7.	Water and sanitation facilities at worksites	Visual inspections and interviews	Availability of safe drinking water and sanitation facilities.	Monthly	Contractor	RE, PIU
8.	Controls for workplace	Visual inspection to	Implementation of	Monthly	Contractor	RE, PIU

S.No	Monitoring Parameter/ Activity	Means of Monitoring	Compliance Indicator/ threshold limits	Freq	Responsible Agency	
					Implementation	Supervision
	hazards	ensure controls for workplace hazards are in place.	Control Measures specified in the Job Hazard Analysis Reports.			
9.	Workers are trained on ESHS Risks and Code of Conduct	Inspection of training records and interviews with the workers	100 percent of workers are to be trained	Monthly	Contractor	RE, PIU
10.	Work at heights	Visual inspections and documents reviews	Method statement and permit to work in place. Use of safety harness, etc	Monthly	Contractor	RE, PIU
11.	Hydrocarbon and chemical storage and handling	Visual Inspection of storage facilities	No leakages from the containers in the storage. Handling follows procedures to avoid spillages.	Monthly	Contractor	RE, PIU
12.	Emergency Response Mechanism	Visual inspection	Fire extinguishers are in place at all work sites. Emergency routes are displayed.	Monthly	Contractor	RE, PIU
13.	Restoration of Work Sites	Visual inspection	The facilities are clean with no waste at the works sites	Monthly	Contractor	RE, PIU
14.	Traffic safety	Visual inspection for traffic management	The smooth flowing of traffic; and placement of traffic signs and flag-person	Monthly	Contractor	RE, PIU
15.	First Aid Kits at worksites and residences	Visual inspection and interviews	All worksites and worker's residences shall have adequate first aid kits	Monthly	Contractor	RE, PIU
16.	Grievances from labour	Records of grievances	All grievances shall be	Monthly	Contractor	RE, PIU

S.No	Monitoring Parameter/ Activity	Means of Monitoring	Compliance Indicator/ threshold limits	Freq	Responsible Agency	
					Implementation	Supervision
		registered and resolved.	addressed with 15 days of complaint.			
17.	Grievances from community	Records of grievances registered and resolved.	All grievances shall be addressed with 15 days of complaint.	Monthly	Contractor	RE, PIU
18.	Licensed equipment operators and vehicle drivers	Visual inspection of driving licenses	All operators and drivers shall have valid licenses	Monthly	Contractor	RE, PIU
19	Use of PPE by staff	Visual inspection on use of relevant PPEs	100 percent use of PPE	Monthly	Contractor	RE, PIU

9.4 Reporting

Effective communication between contractors, the engineering supervision firm, the PIU, and the Environmental Authority is essential. Monthly reporting of monitoring and evaluation results from the contractors and supervision firm to the PIU is recommended. The PIU will report to the EIA Authority in accordance with national legislation and regulations.

If the *[responsible party in the implementing agency]* becomes aware of a serious incident in connection with the project, which may have significant adverse effects on the environment, the affected communities, the public, or workers, it should notify the World Bank within 48 hours of becoming aware of such incident. A fatality is automatically classified as a serious incident, as are incidents of forced or child labor, abuses of community members by project workers (including gender-based violence incidents), violent community protests, or kidnappings, lost time injury requiring 3 or more days off work, occurrence of a disease in excess of normal expectancy of number of cases, displacement without due process of compensation, unexpected impacts on heritage resources, unexpected impacts on biodiversity resources, environmental pollution incident, cases of sexual exploitation and abuse (SEA), sexual harassment (SH), and any other incident or accident that may have a significant adverse effect on the environment, the affected communities, the public, or the workers, irrespective of whether harm had occurred on that occasion. The incidents reporting, root-cause-analysis and correction action plan forms shall be developed by the PIU and reviewed by the World Bank Task Team to align with both the National reporting requirements with the World Bank Environmental and Social Incident Reporting Tool (ESIRT) Templates. Provide sufficient details regarding the scope, severity, and possible causes of the incident or accident, indicating immediate measures taken or that are planned to be taken to address it, and any information provided by any contractor and/or supervising firm, as appropriate. Subsequently, at the World Bank's request, prepare a report on the incident or accident and propose measures to address it and prevent its recurrence.

9.5 Environmental and Social Auditing

Environmental and social auditing will be carried out periodically during implementation (based on each Country Statutory requirement) and after the completion of project activities.

The E&S project completion Audit will be undertaken at least three months to the end of the implementation contract. The minor and moderate shortfalls can be implemented before the end of the Contract, and any substantial deviations shall be rolled into and implemented within the Defects Liability Period (DLP).

9.6 ESMP Implementation Budget

Table 7: ESMP Implementation Budget [Adopt and complete the Budget Table below]

S.No.	Cost Item/ Activity	Unit Cost (USD)	Quantity	Total (USD)
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	Hiring E&S Staff as part of PIU - (Environmental Specialist, Social Development Specialist)	xx	xx	xx
	E&S Supervision and Monitoring by PIU (At-least Once per Month).	xx	xx	xx
	Periodic (Annual) Environmental and Social Audit.	xx	xx	xx
	Project Completion Audit (Post Project Implementation)			xx
	E&S Office Equipment (Laptops), E&S Monitoring Equipment (Air-Quality, Noise Meter, Insitu-Water Quality, GPS, Vehicle.	xx	xx	xx
				
	etc.....			
	TOTAL Budget			

Annex 1 Complete Table of Risks and Mitigation Measures

The following is the full list of mitigation and monitoring measures in line with WBG EHS Guidelines.

(Detailed reference: IFC (2007) Environmental, Health, and Safety Guidelines for Electric Power Transmission and Distribution (<https://www.ifc.org/content/dam/ifc/doc/2000/2007-electric-transmission-distribution-ehs-guidelines-en.pdf>) and General Environmental, Health, and Safety (EHS) Guidelines (<https://www.ifc.org/content/dam/ifc/doc/2023/ifc-general-ehs-guidelines.pdf>))

Environmental and Social Risks and Mitigation Measures during Planning and Designing Stage

Key Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget (USD)
Identify the location and salient E&S aspects to influence the design.	Location of Distribution line in ecosystem areas and over settlements.	➤ Mainstream identified E&S aspects into the project design and avoid forest and wetland areas as much as possible.	PIU Design Engineer Local Authorities	During development of design & stakeholder consultations	xxx
Identify the needs for temporary construction, such as workshops, laydown areas, working corridors along the RoW, workers' accommodation, temporary access roads, etc.	Location of supporting facilities in environmentally and socially sensitive areas.	➤ Identify sites in consultation with the local authorities. ➤ Secure the required statutory approvals, where applicable.	PIU Design Engineer Local Authorities	During design and prior to commencement of construction	xxx
Identify the needs for securing RoW and existing land-uses (e.g. crops, kiosks)	Displacement of economic and land-uses without due compensation.	➤ Secure the RoW in line with ESS5 requirements. ➤ Compensate for the existing land-uses or secure consent as appropriate.	PIU Design Engineer Local Authorities	During development of design & stakeholder consultations	xxx
Identify needs for workforce and type of project workers	Employment of under-age.	➤ Identify numbers and types of workers ➤ Consider accommodation and measures to minimize cross infection	PIU Design Engineer	During development of design &	xxx

			Local Authorities	stakeholder consultations	
Identify needs for using security personnel during construction.	Use of security forces.	Develop a security management plan.	PIU Design Engineer Local Authorities	During development of design & stakeholder consultations	xxx
General design issues	- Structural safety risk; - Functional layout and engineering control.		PIU Design Engineer Local Authorities	During development of design & stakeholder consultations	xxx

Environmental and Social Risks and Mitigation Measures during Construction Stage

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
Clearing of vegetation and trees, Construction activities including Pole erection. - Impacts on Physical Environment.	- <u>Impacts on Air Quality</u>	- Materials likely to produce dust must be dispensed at strategic locations away from community activities. - Sprinkle water on roads to reduce air pollution. - Advise the public where to temporarily move activities such as petty trading when deemed necessary. - Limit access to construction sites. - Keep heavy vehicles and equipment in good working condition to prevent excessive exhaust fumes. - Risks to workers may be mitigated by the use of protective masks and goggles.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc.]	Prior to, and during construction of the Distribution Line infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
	- <u>Impacts on Landscapes</u>	- Careful site selection including consultation with local communities. - Use only certified sand, gravel, and wood suppliers to be included in contracts.	Design Engineer Contractors [Select monitoring entity. i.e. supervision firm, PIU, public utility company]	Prior to, and during construction of the T&D infrastructure	xxx
	- <u>Impacts from Noise Nuisance</u>	- Appropriate noise prevention and reduction means must be included with regular maintenance of the distribution lines for proper operations. - Only well-kept heavy vehicles and equipment shall be used to prevent excessive noise and vibration. - Works shall not be carried out between 6pm and 8am when there is low background noise and it is the expected period for resting. - Occupational exposures to noise-generating activities that exceed the permissible limits could be managed using ear-protecting devices with adequate noise reduction ratings (of at least 30 decibels). - Appropriate noise prevention and reduction means must be included with regular	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		maintenance of the distribution lines for proper operations. Only well-kept heavy vehicles and equipment shall be used to prevent excessive noise and vibration. - Risks of environmental exposure may be managed by engaging with proximate stakeholders to inform them of project activities and to make special provisions per site, as necessary.			
	- <u>Impacts on Soil</u>	- Sites around new poles must be immediately levelled and cleared of excess materials. - Avoid close proximity to flood prone areas or large gullies which are prone to flooding. - Design appropriate protective measures such as deeper footings, extra reinforcement at base or around the poles etc. where flood prone areas are unavoidable. - All excess materials and waste produced during construction or maintenance must be collected for proper disposal.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure	xxx
	- <u>Waste Management</u>	- Follow the mitigation hierarchy by avoiding generation of waste through product substitution, minimizing generation of waste by buying just enough materials to be used and ensuring efficiency. - Segregating generated waste and disposing it off according to waste types and characteristics. Sensitize workers on waste	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		management to ensure good housekeeping practices and general waste handling. - Collect and transfer recyclable waste to recycling facilities. This includes metal, paper, plastic, wood. - Engage registered waste management companies to handle hazardous waste. - Organic waste shall be disposed of at the municipal landfill of the project area. - Put an impervious layer below the pole stacks so that the creosote is prevented from infiltrating to the soil. - Require Contractors to develop and implement a waste management plan to manage different waste streams (Plastics, hazardous, Bio-degradable and non-biodegradable) in accordance with The National Environment/Waste Management Regulations.			
	- <u>Electric and Magnetic Fields</u>	- Average and peak exposure levels should remain below the Commission on Non-Ionizing Radiation Protection (ICNIRP). - Considering siting new facilities so as to avoid or minimize exposure to the public. - Installation of high voltage equipment above or adjacent to residential properties or other locations intended for highly frequent human occupancy, (e.g. schools or offices), should be avoided;	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		- If EMF levels are confirmed or expected to be above the recommended exposure limits, application of engineering techniques should be considered to reduce the EMF produced by power lines, substations, or transformers. Examples of these techniques include: • Shielding with specific metal alloys. • Burying distribution lines. • Increasing height of distribution poles. • Modifications to size, spacing, and configuration of conductors.			
	- <u>Hazardous Materials Management</u>	- Replacing existing transformers and other electrical equipment containing PCB, and ensuring appropriate storage, decontamination, and disposal of contaminated units. - Prior to final disposal, retired transformers and equipment containing PCB should be stored on a concrete pad with curbs sufficient to contain the liquid contents of these containers should they be spilled or leaked. - The storage area should also have a roof to prevent precipitation from collecting in the storage area. - Disposal should involve facilities capable of	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		safely transporting and disposing of hazardous waste containing PCB. - Surrounding soil exposed to PCB leakage from equipment should be assessed, and appropriate removal and / or remediation measures should be implemented.			
	- <u>Leaching and soil contamination from Wood Preservatives used to treat Poles.</u>	- Poles should be pretreated at an appropriate facility to ensure chemical fixation and prevent leaching, and to impede the formation of surface residues at the right-of-way. - Evaluating the cost and benefit of using alternative pole materials (e.g. steel, concrete, and fiberglass). - Consider use of alternative preservatives (e.g. copper azote); Undertake appropriate disposal of used poles. - Landfill facilities should be capable of handling wastes that may have chemical leaching properties.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure	xxx
Handling or storage of transformers at project sites.	- Spillage of hazardous chemicals	- Transformers will be temporarily stored on saw dust or sand before installation. - The saw dust/sand at the transformer storage site will be checked weekly for leakages and removed as and when stains are noticed. - Any Waste transformer oil will be adequately collected and transferred by a registered waste transporter to a registered hazardous landfill/facility for treatment and			

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		disposal. - Any spills or leakages will be excavated by a licensed waste handler with due attention to relevant environmental, health and safety requirements to avoid worker exposure. - All major vehicle repairs shall be conducted by qualified and experienced personnel at designated service centers (garages) away from the project site.			
Clearing of vegetation and trees, Construction activities including Pole erection - <i>Impacts on the Biological Environment</i>	- <u>Impacts on Agriculture and Livestock [If applicable]</u>	Negative impacts on agriculture and livestock will be addressed through a Resettlement Action Plan (RAP). Any compensation for loss of land or income will be carried out prior to the commencement of works.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure	xxx
	- <u>Impacts on Avifauna collisions and electrocutions.</u>	- Ensure appropriate distance between cables to avoid impacts on avifauna. - The technical design and specifications will provide adequate insulation and protection. - Maintaining 1.5 meter (60-inch) spacing between energized components and grounded hardware or, where spacing is not feasible, covering energized parts and hardware. - Retrofitting existing distribution systems by installing elevated perches, insulating jumper loops, placing obstructive perch	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		deterrents (e.g. insulated "V's"), changing the location of conductors, and / or using raptor hoods. - Considering the installation of underground distribution lines in sensitive areas (e.g. critical natural habitats). - Installing visibility enhancement objects such as marker balls, bird deterrents, or diverters in bird areas.			
	- Impacts on natural habitats, ecological resources and biodiversity <u>including Forests and Vegetation</u>	- As much as possible consideration shall be given to alternative design and pole location to avoid trees. - Overall, where there is need to prune or fell trees this should be done in consultation with the owner/community. - If there is need for a new tree to be planted, the relevant authorities such as the [insert name of relevant authority] shall be consulted in the identification of species and siting of replacement trees. - Installation of distribution lines above existing vegetation to avoid land clearing. - Avoidance of construction activities during the breeding season and other sensitive seasons or times of day. - Revegetation of disturbed areas with native plant species. - Removal of invasive plant species during routine vegetation maintenance.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
Clearing of vegetation and trees, Construction activities including Pole erection - <i>Impacts on Socio-economic environment.</i>	- <u>Impacts on Community Health and Safety</u>	- Stringing across roads and high ways shall be conducted in hours with less traffic on weekends. - Inform affected persons prior to carrying out dusty and noisy activities to get to safer locations. - Clear all waste and excess materials immediately after pole erection and clear derelict poles. - Use well-kept heavy vehicles and equipment to reduce exhaust emissions. - Regular toolbox talks should be conducted for drivers and include issues related to traffic management in addition to enforcing speed limits of up to 20 kph within the project areas. - Store material away from easy public access. - Segregate and restrict work site from public access and use safety signage and symbols. - Extra care must be taken to ensure safety of children in the nearby schools along the corridors. In addition, ensure safety of persons around premises close to where lines and poles will be located. - Public traffic will have to be re-routed or stopped during the stringing of conductors across road sections. Alternatively, Contractors will have to put temporary structures in place that will allow safe passage of public vehicles at reduced speeds,	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		with guidance of traffic marshals on both approaches. - Grounding conducting objects (e.g. fences or other metallic structures) installed near power lines, to prevent shock. - Extensive public consultation during the planning of power line and power line right-of-way locations. - Setting up and operationalizing Community Grievance Redress Mechanism and Committees at both Local and National Level. - Accurate assessment of changes in property values due to power line proximity. - Siting power lines, and designing substations, with due consideration to landscape views and important environmental and community features. - Put in place Emergency Response Plan, Measures and Procedures, popularized to the public and workers to handle project related incidents and accidents. - Develop and implement a Security Management Plan guided by security risk assessment (where Security Personnel are used), undertaking due diligence background check on conduct of personnel deployed, ensuring their regular training on code of conduct and use of proportionate force when handling riots.			

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
	- <u>SEA/SH</u>	- A SEA/SH Action Plan is prepared for the project and will be implemented. - The contractors will be required to prepare and implement a Code of Conduct for construction workers which will include measures relating to SEA/SH, and to monitor the behavior of workers. - Locals will be sensitized and encouraged to report any such behavior or incidents through specific measures included in the project GRM for SEA/SH. - Educate workers on risks and prevention of sexually transmitted infections. - Use local labor as much as possible. - Sensitize workers on appropriate behavior and ensure the Code of Conduct is signed by all workers.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	During construction of the T&D infrastructure	xxx
	- <u>Inadequate stakeholder engagement and exclusion of vulnerable groups</u>	- Undertake engagement with affected communities - Include women and other vulnerable groups in all stakeholder engagement. - Take into consideration the feedback from these groups in the project design and implementation. - Design GRM to make special provisions for addressing grievances from vulnerable groups. - Encourage employment of women, where possible with fair compensation.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
	- <u>Occupational Health and Safety</u>	- Provide training, risk information, and appropriate manual handling machinery. - Develop and use standard operating procedures to avoid electrocution, through use of method statements, accompanied by Permit to Work System, including use of Log-Out-Tag-Out (LOTO) when stringing and testing the distribution lines. - Only allowing trained and certified workers to install, maintain, or repair electrical equipment. - Deactivating and properly grounding live power distribution lines before work is performed on, or in close proximity, to the lines; - Ensuring that live-wire work is conducted by trained workers with strict adherence to specific safety and insulation standards. Qualified or trained employees working on distribution systems should be able to achieve the following: ○ Distinguish live parts from other parts of the electrical system. ○ Determine the voltage of live parts. ○ Understand the minimum approach distances outlined for specific live line voltages. ○ Ensure proper use of special safety equipment and procedures when	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		working near or on exposed energized parts of an electrical system. - Workers should not approach an exposed energized or conductive part even if properly trained unless: - o The worker is properly insulated from the energized part with gloves or other approved insulation; or, - o The energized part is properly insulated from the worker and any other conductive object; or, - o The worker is properly isolated and insulated from any other conductive object (live-line work). - Workers not directly associated with power distribution activities who are operating around power lines or power substations should adhere to local legislation, standards, and guidelines relating to minimum approach distances for excavations, tools, vehicles, pruning, and other activities. - Minimum hot stick distances may only be reduced provided that the distance remaining is greater than the distance between the energized part and a grounded surface. - The contractors will be required to prepare a plan to address Occupation Health and Safety, which is expected to address			

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		induction and training of workers, conduct of tool box sessions, provision of personal protective equipment, provision of first aid kits, etc. - Institutes emergency response procedures to handle any emergency incidents. - Incident/accident reporting through keeping log of incidents/accidents and remedial actions (in the event of an accident). - Provide personal protective equipment and first aid kits. - Setting up Workers' Grievance Redress Committees to handle and process workers' complaints. - Providing workers with Contracts, with clear Terms of Employment and working conditions in accordance with the National Employment and Labour Laws [quote the relevant sections of the applicable laws]. - Provide workers with gender segregated sanitation facilities (mobile toilets), with maintained hygiene.			
	Working at height on poles and structures: Workers may be exposed to occupational hazards when working at elevation during	- <i>Prevention and control measures for working at height include:</i> - Testing structures for integrity prior to undertaking work. - Implementation of a fall protection program that includes training in climbing	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public	During construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
	construction, maintenance, and operation activities.	techniques and use of fall protection measures; inspection, maintenance, and replacement of fall protection equipment; and rescue of fall-arrested workers, among others. - To reduce slips and falls, workers who are to climb the wooden pole will have climbing boots fitted with hooks to enable them anchor to the pole. - Establishment of criteria for use of 100 percent fall protection (typically when working over 2 meters above the working surface, but sometimes extended to 7 meters, depending on the activity). The fall protection system should be appropriate for the tower/ pole structure and necessary movements, including ascent, descent, and moving from point to point. - Installation of fixtures on tower/ pole components to facilitate the use of fall protection systems. - Provision of an adequate work-positioning device system for workers. Connectors on positioning systems should be compatible with the tower components to which they are attached. - Hoisting equipment should be properly rated and maintained and hoist operators properly trained.	utility company, Contractor, etc]		

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		- Safety belts should be of not less than 16 millimetres (mm) (5/8 inch) two-in-one nylon or material of equivalent strength. Rope safety belts should be replaced before signs of aging or fraying of fibres become evident. - When operating power tools at height, workers should use a second (backup) safety strap. - Signs and other obstructions should be removed from poles or structures prior to undertaking work. - An approved tool bag should be used for raising or lowering tools or materials to workers on structures.			
	- <u>Impacts on Public Social Services and Utilities</u>	- Control road traffic. - Avoid peak times and days such as market days. - Inform customers before supply disconnection for work. - Locate and design structures to avoid flood and erosion prone areas that may cause destruction and disturb supply.	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure	xxx
	- <u>Community H&S Social tensions, disease transmission</u>	- Educate workers and communities on risks and prevention of sexually transmitted infections. - Undertake engagement with communities on project activities, presence of workers,	Select an appropriate monitoring entity. i.e. supervision	Prior to, and during construction of the T&D infrastructure	xxx

Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
		risks and impacts. - Use local labor as much as possible. - Setting up and operationalizing Community Grievance Redress Mechanism and Committees at both Local and National Level. -	firm, PIU, public utility company, Contractor, etc]		
	- <u>Land Acquisition, Land Use and Livelihoods</u>	- Draft and implement a Resettlement Action Plan (RAP) to guide the process - List mitigation measures outlined in the RPF/RAP	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of the T&D infrastructure	xxx
	- <u>Impacts on Indigenous Peoples</u>	[List mitigation measures set out by IPPF/IPP]	[Select an appropriate monitoring entity. i.e. supervision firm, PIU, public utility company, Contractor, etc]	Prior to, and during construction of distribution lines	xxx

Environmental and Social Risks and Mitigation Measures during Operation Stage

Activity	Potential Negative Impacts	Mitigation Measures	Responsibility for Mitigation	Responsibility for Monitoring	Timeframe	Budget
OPERATION PHASE OF DISTRIBUTION NETWORK						
Distribution	Increased	- Replace bare cables with insulated	Public utility	[Select	During	xxx

Line operation	noise nuisance from lines	ones. - Regular maintenance of distribution line infrastructure - Avoid overloading - Maintain minimum heights and ROW	engineers to coordinate these activities	monitoring entity. i.e. supervision firm, PIU, public utility company]	Operation Phase and as part of O&M ESMP.	
	Community Health and Safety Risks	- Regular maintenance of lines to avoid sparks. - Routine pruning of trees particularly before rainy seasons after seeking permission of owners. - Prevent public access to transformers. - Removal of disused poles and cables from communities. Old poles cleared for the appropriate management (reuse / recycle / dispose at approved sites)	Public utility engineers to coordinate these activities	[Select monitoring entity. i.e. supervision firm, PIU, public utility company]	During Operation Phase and as part of O&M ESMP.	xxx
	Occupational Health and Safety Risks	- Provide training, risk information, and appropriate machinery. - Provide personal protective equipment and first aid kits. - Develop and use standard operating procedures to avoid electrocution during maintenance. - Apply health and safety guidelines	Public utility Contractors	[Select monitoring entity. i.e. supervision firm, PIU, public utility company]	During Operation Phase and as part of O&M ESMP.	xxx
	Disturbance of farms/land during maintenance [if works cross farmlands]	- Avoid farming periods if possible - Seek consent of farmers/landowners/users - Remove all waste after maintenance works - If needed compensate for loss of assets e.g. crops as a result of maintenance at full replacement cost.	Public utility Contractors	[Select monitoring entity. i.e. supervision firm, PIU, public utility company]	During Operation Phase and as part of O&M ESMP.	xxx
	Bird strikes	- Use design and specification for better	Public utility	[Select	During	xxx

	on lines	insulation and protection.		monitoring entity. i.e. supervision firm, PIU, public utility company]	Operation Phase and as part of O&M ESMP.	
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Annex 2: Waste Management Plan (WMP)

1.0 Introduction

This document is a procedure intended to guide activities relating to Waste Management activities during construction of the power distribution line/s.

1.1 Objective

The objective of the Waste Management Plan is to ensure that construction of the power distribution line/s activities are carried out in such a way that the generation of waste is avoided and/or minimized and where waste is generated, disposal shall not impair environmental systems. Waste management on the project will be undertaken using the principles of avoidance, reduction, re-use and recycling.

The aim of this plan is to promote environmental and economic sustainability of the project and further avoid causing environmental damage or pollution through the mishandling of materials that are deemed waste.

1.2 Scope of the WMP

The scope of WMP includes actions to be undertaken by the Borrower for the management of waste materials generated by the project and its associated activities. The WMP is set to ensure that the contractor puts measures in place for waste source separation and collection at selected points for proper disposal at a designated site. It will also focus on ensuring that poor sanitation practices are addressed and ensure the workers and communities are sensitized on good hygiene practices.

Solid waste is categorized into various types depending on where the waste is generated. The following waste streams are the subject of this plan.

1. Sewage (Human refuse).
2. Food waste.
3. Packaging wastes (Paper, card boards, wood plastic and similar packaging materials)
4. Plastics (hard and soft).
5. Scrap metal/wood (off-cuts).
6. Medical waste (From first aid administering).
7. Hazardous waste (Creosote, Transformer oil, solvents, paints, car service – oil filters and gaskets. etc).
8. Excavation wastes (earth, overburden).

1.3 Responsibility

The Borrower will be responsible for overall management of all types of waste generated during the course of project activities. The Borrower will lead all the necessary planning, and ensuring provision of materials, equipment, tools and training required for appropriate management of waste.

2.0 Legal requirements/guidelines

The management of waste on this project shall be guided by the respective National Environmental Laws and guidelines on Waste management [please list the laws and regulations] and the World Bank's ESS3 on Pollution Prevention and Control.

3.0 Waste Management Actions/ measures

[Local certified waste management facilities (including recycling and final disposal) nearest to the source of wastes (that is, within an economically acceptable distance) shall be used. If not (for example, if

there is no plastic recycling facility within economical distance from the various waste generating sub-project sites), alternative realistic waste management options must be provided].

The starting point for waste management actions will be segregation at source. The entire waste management chain process will be anchored on active separation of wastes at point of generation. The essence of waste segregation at source is to enable re-use, recycling and the choice for the most appropriate disposal technology should the first two fail.

The following waste management measures should be undertaken by the Contractor/s following the waste management hierarchy:

- ❖ All waste from the site is dealt with in accordance with the National regulations and policies laid out in Section 5.0.
- ❖ Each waste stream is identified and appropriate source separation, collection, storage and disposal measures provided in accordance to the WMP to comply with the project's approved ESMP.
- ❖ Waste management awareness and sensitization programs are put in place to drive the waste minimization culture on the Project.
- ❖ The contractor will ensure, so far as is reasonably practicable, that waste produced during construction is re-used, recycled or recovered.
- ❖ Contracted waste transporters are used and ensure that they are licensed and permitted in line with the National Environmental requirements [mention the applicable law].
- ❖ The procedures detailed in the Waste Management Plan should be brought to the notice of all subcontractors, employees and subcontractors' employees.
- ❖
- ❖ Engage and educate personnel: The contractor will put in place a clear communication channel on waste management which will be communicated to all employees.

Temporary Waste Storage and Segregation: On-site short term waste storage facilities will be provided as a secure, short term store for all waste streams generated on site prior to them being collected by relevant waste carriers for final disposal.

3.1 Waste management actions/ measures for different waste streams

a) Human Waste

The Contractor/s shall provide workers with gender segregated mobile toilets, using a ratio of 1 toilet to 20 workers, or in accordance with the guidance from the Ministry in charge of public health [mention the Ministry]. The mobile toilets shall be cleaned regularly. The generated sewage shall be disposed of at the nearest Sewerage works in the Urban areas.

b) Food Waste

Food waste is basically food that is not eaten. Though not assessed as significant, this waste is expected to be generated from leftovers of food by the workers. Workers will be encouraged to reduce food waste as much as possible. The leftovers shall be collected and disposed of by the waste service provider.

c) Paper, card boards and similar packaging materials

This type of waste is expected to be generated from office stationery, transformer packaging (Card board) material and any other type of packaging that will be used made of paper or cardboards. This waste will be collected by the gangs and brought to site office waste management area for further

management. This waste will be sold to other companies for recycling or re-use. The Contractor will establish these companies.

d) Plastics

Very minimal plastics are expected to be generated. These are not directly from the electricity construction materials but rather from food packaging for example soda and water bottles. The Contractor/s will collect all plastics generated at the site offices until substantial amounts are raised and transported to a recycling facility that shall be identified within the course of project implementation.

e) Scrap metal (off-cuts)

Off-cut material is expected to be generated from the conductors. The Contractor/s will utilize all off-cut material in constructing short span lines and along joints to close jumpers. ABC conductor off-cuts can be rejoined together to make one continuous conductor that is re-used in other projects.

f) Medical waste (From first aid ministering)

Minimal medical waste is expected to be generated from first aid administering. This is expected from plasters and cotton material that are used for wound / cut dressing, used and expired drugs among others. The Contractor/s will identify and engage a licensed medical waste handler during the course of project implementation.

g) Transformer oil

Transformer oil is expected to be generated in form of leakages from the transformers that will be stacked at the storage Yard area. The Contractor/s will stack transformers on well compacted murram away from any water source or channel. Also, transformers will be fixed on wood beds and stacked on the compacted murram grounds before installation.

h) Creosote

Wooden Poles shall be stacked at the site office and a tarpaulin paper will be laid under the poles to contain any drips of the creosote from the poles stacked. A memorandum of understanding between the Contractor/s and hazardous waste handler/s to collect, transport and dispose-off the creosote contaminated waste should be used. [The Contractors are required to purchase already dried poles and hence reduce the risk of creosote dripping.

3.2 Roles and Responsibilities

The project manager has overall responsibility for the performance of the Waste Management Plan and compliance with legislation and any Contract conditions in respect of environmental or waste specific issues.

Responsibilities of specific personnel are set out in this section to attain some level of coordination.

Project Manager

- Will be responsible for the overall waste management of the project.
- Shall make final decision of where these elements fit into the Waste Process Map.
- Shall implement the waste management plan identifying the strategy for dealing with each element produced.
- Communicates the initiatives and individual responsibilities to the team members.
- Appoints a Site Waste Management Representative.

Contractor's Environment Officer.

- Acts on behalf of the Project Manager in matters relating to the environment and hence waste management.

- Establish and monitor implementation of the waste management plan.
- Programme and manage the waste management Licenses.
- Design and implement training programmes on waste management for the project personnel.
- Carry out routine inspection, Surveillance and Audit of the waste management system.
- Prepare monthly waste management reports that will later be incorporated in the environmental and social risk management reports.
- Maintain a data base on waste generation and disposal.

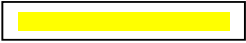
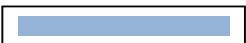
Waste Management Subcontractors

- Waste Subcontractors are responsible for the safe handling, transport, and disposal of waste as per contractual agreements between them and the Contractor.
- It shall be the responsibility of any person who handles, collects, transports and transfers waste on behalf of the Contractor to maintain the administration and collection of data that will enable the Contractor to demonstrate regulatory compliance, performance review and development of strategic targets.

PIU – Environmental Specialist

- Ensure all the contractual provisions for waste management are fulfilled by the contractor. Review contractor monthly reports concerning waste management.
- Ensure implementation of corrective and preventive actions related to waste management.
- Prepare reports on contractor performance with respect to waste management.
- Approval of contractor's waste management plan in coordination with Engineering Supervision Consultant.

Figure 1: Color coding for the different types of wastes

Colour	Colour Name	Meaning
	Green	Food Wastes (Marked "FOOD WASTES ONLY")
	Yellow	Paper/Cardboard (Marked "PAPER/CARDBOARD ONLY")
	Light Blue	Plastic/General Waste (Marked "/GENERAL WASTE ONLY")
	Orange	Medical wastes (Marked "MEDICALWASTES ONLY")
	Grey	Scrap Metal (Marked "METAL ONLY")
	Red	Oily Wastes including Filters (Marked "OILY WASTES ONLY")
	Brown	Wood (Marked "WOOD ONLY")

4.0 Implementation and monitoring

The key actors in the implementation of the WMP as well as monitoring all activities of the Contractor's WMP and their responsibilities are set out in table below:

Table 1: Waste Management Plan Implementation Activities

Activity/Action	Responsibility	Timeframe / Period
Overall implementation and supervision of WMP	Project Manager, Contractor	Throughout the period of project implementation
Site/field implementation of WMP	Foreman, Contractor, Safeguards team	Throughout the 12 months of project implementation
Education and awareness to both workers and members of the community	Contractor safeguards team	Monthly for workers Every sensitization meeting held with the community
Reporting (part of the ESMP reporting for the project)	Contractor safeguards team	Monthly
Monitoring and compliance	Local Authorities and the Client (PIU)	Frequency to be determined by the responsible parties Continuous throughout the project

Table 2: Waste Management Plan Matrix [Please populate and complete this table Summarising Site-Specific Measures presented under Section 4.0]

Activities	Potential E&S Issues and Risks	Proposed Mitigation Measures	Responsibilities	Timeline	Budget
Power Line Installation and operation - waste management plan					
Waste minimization, reuse and recycling					
Transportation, delivery and storage of treated poles, transformers, and other construction materials and supplies.					
Waste segregation, packaging, color coding and labeling.					
Onsite collection and transportation.					
Waste storage.					
Waste transportation to and disposal at offsite treatment and disposal facilities.					
Emergency events	- Spillage. - Occupational exposure to chemicals. - Exposure to EMF. - Accidental releases of hazardous substances to the environment. - Fire. - Other emergent events.	Emergency response plan			
<i>To be expanded as may be needed.</i>					

Annex 3: Occupational Health and Safety Plan (OHSP)**Acronyms and abbreviations**

- ESMP: Environmental and Social Management Plan.
- HSMP: Health and Safety Management Plan.
- ILO: International Labor Organization.
- LV: Low Voltage.
- MV: Medium Voltage.
- OHS: Occupational Health and Safety.
- PPE: Personal Protective Equipment.
- RoW: Right of Way.

I. PROJECT SUMMARY**Project identification**

Project	
Location	
Client	
Objectives of the project	
Scope of the project	The project consists of the construction, of [specify voltage] networks, related distribution transformers and services connections. [provide finer details as per the design].
Objectives of the Plan	The objective of this Health and Safety Plan is to ensure that all possible provisions are taken to address the potential HAZARD of the project on Health and Safety of workers on site as well as the surrounding community. Furthermore, the OHSP: ✓ Outlines project background and the activities that will be undertaken during project implementation as well as it's anticipated the occupational health and safety hazard. ✓ Reviews Country's OHS Legal and Administrative Framework. ✓ Provides Risk Assessment. ✓ Describes available preventive and mitigation measures. ✓ Provides a list of emergency situations and preparedness response. ✓ Defines performance measurement and monitoring program including parameters to be followed, responsibility of implementation and supervision.

Methodology and principles of this plan	This Plan is formulated in accordance to: ✓ ESS2. ✓ Documentation review. ✓ Workers, experts' consultation. [plan should be updated in consultation with the workers and periodically].
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Project related risks and control measures

During the risk identification, please consider factors such as climatic conditions, activities such as road traffic and essentially from the project activities such as material handling, excavation, pole erection, cable and conductors pulling. The risk assessment exercise consists of the analysis of the risk impact by attributing two factors: likelihood and severity taking into account the possible control measures which aim to bring back risks to acceptable level. The risks generated during the project activity are, in descending order of impact, fall from height, risk of electrical shock, risk of road traffic accident, and fall of object. The control measures are of preventive nature to remove the likelihood of the occurrence but also of mitigation nature to reduce the severity of the risk in case of occurrence.

II. HEALTH AND SAFETY REGULATORY AND LEAGAL COMPLIANCE

[Fill out this Table with the Relevant and Applicable OHS Policies and Laws]

Table 2: Summary of Applicable OHS Policies, Laws and Regulations

Reference and title of text	Applicability/ Information	Main Requirement	Compliance	Recommended action plan

III. OCCUPATIONAL HEALTH RISKS ASSESSMENT AND SAFE WORK METHOD STATEMENT

3.1 Risk Assessment

This section aims to give details and assess the type and range of risks likely to result from the different project's activities, measuring its likelihood and severity. The specific purpose of this section is to:

- identify and assess the range of potential risks;
- explain the ways in which the project activities might affect the environment, human health and safety.

[Please undertake Project-specific Risk Assessment and develop a Risk Matrix, as guided below, considering the project activities to be implemented. The Risk Matrix should be customized to the respective sub-projects]

- ✓ Determine routine activities and ad hoc activities in normal operation, abnormal working situations and emergency / accident situations.
- ✓ Identify the hazards and risks generated by the company's operations and existing actions to control these risks. Using the professional risk analysis guide and taking into account the following factors:
 - Human resources (Behavior, skills, training, awareness, number of people in relation to the workload, etc.).
 - Material resources (Infrastructure, production equipment, means of transport, means of transport).
 - Raw materials and consumables including energy, water, compressed air.... The workplace (Design of workspaces, processes, facilities and machinery / equipment as well as the relational aspect and leadership style, etc.).
 - Operating procedures and organization of work.
 - Regulations applicable if any.
- ✓ Identify hazards and risks from outside the workplace that may have a negative impact on the health and safety of those present in the workplace, as well as existing control actions.

The following table relates the identified risks for each project activities and should be used to rank the risks according to the available control provision and mitigation measures, for the specified subproject.

Table 3: OHS Risk Matrix for Construction of a Power Distribution Line *[please assign the Risk Assessment color code based on the local context]*

N°	Activity	Risk	Damages (consequence of Risk)	Affected person	Prevention measures	Mitigation measures	Risk Assessment		
							Severity	Likelihood	Impact
1	During activities	Bite / sting of insects	Infection	All the project team	Awareness of wearing long-sleeved clothing, Available vaccination	Provide First Aid Kit and trained aider	x	x	x
2		Exposure to tropical diseases such as malaria, typhoid	Infection	All the project team	Awareness of tropical diseases and means of prevention Awareness of wearing long-sleeved clothing, Available vaccination Use Mosquito nets Immediate referral to a nearby hospital for further management and treatment.	Provide First Aid Kit and trained aider Immediate Hospitalization	x	x	x
3		Exposure to climatic conditions (heat and humidity)	Fatigue, Embarrassment	All the project team	Awareness of wearing long-sleeved clothing, Wearing sun hat Rest period and stop work under extreme temperatures Provide access to water.	Provide First Aid Kit and trained aider Immediate Hospitalization	x	x	x

N°	Activity	Risk	Damages (consequence of Risk)	Affected person	Prevention measures	Mitigation measures	Risk Assessment		
							Severity	Likelihood	Impact
4		Fire	Injury / Burn	All the project team	Awareness to avoid using fire in work place, Avoid storing and transportation of flammable products Fire signage	Communication means available Firefighting device available and continuously checked List of emergency contact available Emergency plan	x	x	x
5		Traffic accident	Injury / Fatality	Project team / Workers Third party	Start-check of the vehicle (tire, brake), Ensure valid inspection / certificate, Hire skilled driver, Awareness regarding the respect of traffic rules and the wear of safety belt, Organize trips (time, road, weather conditions ...), Respect of the authorized load,	Communication means available List of emergency contact available Emergency plan	x	x	x

N°	Activity	Risk	Damages (consequence of Risk)	Affected person	Prevention measures	Mitigation measures	Risk Assessment		
							Severity	Likelihood	Impact
6		Lack of hygiene	Infection / disease	Project team / Workers	Awareness regarding hygiene of hand, cloths and foods, Provide appropriate mobile toilet on warehouse and ensure to keep it clean, Provision of water and soap for hand washing, provide antibacterial products in the housing site, Ensure continuous cleaning of the housing site and the management of waste, Provide safe drinking water	Provide First Aid Kit and trained first aider	x	x	x
7		Constraining posture	Fatigue, Embarrassment	Workers	Awareness regarding the proper manner of handling	Induction, training and continues engagement of workers on their safety.	x	x	x
8		Conflict and aggression by owners or other person on team member during work	Injury	Project team / Workers	-Inform in advance the local authority of the work to facilitate entry to private properties, Awareness to be in group, Awareness to respect and preserve private properties, Recruit workers locally	Inform authority Provide First Aid Kit and trained first aider HR panel review and workers GRC, as applicable.	x	x	x

N°	Activity	Risk	Damages (consequence of Risk)	Affected person	Prevention measures	Mitigation measures	Risk Assessment		
							Severity	Likelihood	Impact
9		Sexually transmissible Infection / Disease	Infection / disease	Project team / Workers / Third party	-Awareness regarding the Sexually Transmissible Infection / Disease - All worker should undergo pre-employment medical examination	Provide First Aid Kit and trained first aider Contractor to enter into an MoU with nearby Health facility to handle referral cases.	x	x	x
10		Infectious disease	contagious illness	Project team / Workers	All worker should undergo pre-employment medical examination ² Contractor to develop Standard Operating Procedures depending on the nature of the infectious disease	Provide First Aid Kit and trained first aider Contractor to enter into an MoU with nearby Health facility to handle referral cases	x	x	x
1	Warehousing plants and	Falling object	Injury	Project team / Workers	Start check of the delivery (no unexpected collapse), Use proper handling tool, Respect of the authorized charge, Storage organization and storage height	Availability and use of PPE (helmet), Provide First Aid Kit and trained first aider	x	x	x

	materials				limitation, Not personnel under moving charge, install protections to hold stored objects				
3		Contact with sharp object	Injury	Workers	Use of gloves and safety shoes	Provide First Aid Kit and trained first aider	x	x	x
4		Falling from height	Injury	Workers	Assistance and supervision by a supervisor, Storage organization and storage height limitation,	Provide First Aid Kit and presence of trained first aider	x	x	x
5		Collision between person and tool of handling (crane, truck, forklift)	Injury	Project team / Workers	Assistance and supervision by a supervisor, Certified crane, slings and competent operator, Clear visibility for operator (crane, truck, forklift),	Availability and use of PPE (helmet), Provide First Aid Kit and trained first aider	x	x	x
1		Falling object	Injury / Fatality	Third person	Maintain good housekeeping practices Secure the delivery by proper device and continuous check during the trip	Availability and use of appropriate PPE (gloves, safety shoes), Provide First Aid Kit and	x	x	x

2	Plants and materials transportation	Truck reversal	Injury / Fatality	Third person / Driver	Respect of the authorized load and the traffic rules	trained first aider	x	x	x
3		Collision truck with third party road user	Injury / Fatality	Third party / Driver	Start-check of the vehicle / truck (tire, brake), Valid inspection certificate, skilled driver, Awareness regarding the respect of traffic rules and the wear of safety belt, Organize trips (time, road, weather conditions ...), Respect of the authorized load, Use of marking device in case of huge delivery (such as metallic structure, container)	Report incident and activate emergency response procedures	x	x	x
4		Collision between person and tool of handling (crane, truck, forklift)	Injury	Workers	Assistance and supervision by a supervisor, Certified crane, slings and competent operator, Clear visibility for operator (crane, truck, forklift),	Availability and use of PPE (helmet), Provide First Aid Kit and trained first aider	x	x	x

2		Noise (in case of Drilling hammer use)	Ear fatigue , Injury	Workers	Availability of proper tools Awareness regarding safe manner	Availability and use of appropriate PPE (Ear plug, gloves, safety shoes,), Provide First Aid Kit and trained first aider	x	x	x
3		Fall of persons in the hole or trench	Injury	Third party / Workers Animals	-Signaling and markup, -limiting the time between excavation and pole erection	Provide First Aid Kit and trained first aider	x	x	x
4		Third-party traffic accident (in case the work is near to the roadside)	Injury / Fatality	Workers	-Signaling and markup (cone and ribbon, man with flag, "man at work" sign)	Communication mean available List of emergency contact available Emergency plan	x	x	x
5		Collision between person and tool of handling (crane, truck, forklift)	Injury	Workers	Assistance and supervision by a supervisor, Certified crane, slings and competent operator, Clear visibility for operator (crane, truck, forklift),	Availability and use of PPE (helmet), Provide First Aid Kit and trained first aider	x	x	x
1	Transformer	Shock of the worker's foot	Injury	Workers	Availability of proper tools Awareness regarding safe manner	Availability and use of appropriate PPE (gloves, safety shoes), Provide First Aid Kit and trained first aider	x	x	x
2		Constraining posture	Fatigue, Embarrassment	Workers	Awareness regarding the proper manner of handling, Proper number of workers	Provide break time for relieve	x	x	x

3	installation	Fall of structures	Injury / Fatality	Workers	Awareness regarding the proper manner of handling, Proper number of workers, Availability and use of adequate device of pole up keeping Start check and periodic check of lifting and stringing tools	Availability and use of appropriate PPE (gloves, safety shoes), Provide First Aid Kit and trained first aider	x	x	x
4		Shock of third-party person	Injury	Third party person	Prohibit entry of third-party person to the field of activity	Provide First Aid Kit and trained first aider	x	x	x
5		Collision between person and tool of handling (crane, truck, forklift)	Injury	Workers	Assistance and supervision by a supervisor, Certified crane, slings and competent operator, Clear visibility for operator (crane, truck, forklift),	Availability and use of PPE (helmet), Provide First Aid Kit and trained first aider	x	x	x
6		Third-party traffic accident (in case the work is near to the roadside)	Injury / Fatality	Project team / Workers	Signaling and markup (cone and ribbon, man with flag, "man at work" sign	Communication means available List of emergency contact available Emergency plan	x	x	x

1	Pole Erection & dressing	Falling object (tools, structure, equipment)	Injury	Project team / Workers	Prohibit activities under and in the vicinity the pole, Provide to the lineman proper device for keeping and handling its working tools, -Supervision of the activity by a skilled supervisor -Start check and periodic check of lifting and stringing tools	-Availability and use of PPE (helmet), -Provide First Aid Kit and trained first aider	x	x	x
2		Constraining posture	Fatigue, Embarrassment	Workers	Awareness regarding the proper manner of handling	Provide break time for relieve	x	x	x
3		Contact with sharp object	Injury	Project team / Workers	Use of gloves and safety shoes	Provide First Aid Kit and trained first aider	x	x	x
4		Falling from height	Injury	Workers	-Assistance and supervision by a supervisor, -Storage organization -Storage height limitation,	Provide First Aid Kit and presence of trained first aider	x	x	x
5		Lightning	Injury / Fatality	Lineman	Prohibit work under bad weather conditions	- Communication means available - List of emergency contact available / Emergency plan	x	x	x
6		Shock of third-party person	Injury	Third party person	Prohibit entry of third-party person to the field of	Provide First Aid Kit and trained first aider			

					activity		x	x	x
7		Collision between person and tool of handling (crane, truck, forklift)	Injury	Workers	Assistance and supervision by a supervisor, Certified crane, slings and competent operator, Clear visibility for operator (crane, truck, forklift),	-Availability and use of PPE (helmet), -Provide First Aid Kit and trained first aider	x	x	x
8		Third-party traffic accident (in case the work is near to the roadside)	Injury / Fatality	Workers	Signaling and markup (cone and ribbon, man with flag, "man at work" sign	Emergency plan	x	x	x
1	Conductors and cables pulling, stringing and sagging, Service connection	Falling object (tools, equipment)	Injury	Workers	-Prohibit activities under and in the vicinity the line under construction, -Start check and regular check of the pulling tools, -Provide to the lineman proper device for keeping and handling its working tools, -Supervision of the activity by a skilled supervisor	-Availability and use of PPE (helmet), -Provide First Aid Kit and trained first aider	x	x	x
2		Constraining posture	Fatigue, Embarrassment	Workers	Awareness regarding the proper manner of handling	Provide break time for relieve	x	x	x
3		Contact with sharp object	Injury	Workers	Use of gloves and safety shoes	Provide First Aid Kit and presence of trained first aider	x	x	x

4	Falling from height	Injury	Lineman	-Skilled person, -Availability of proper climbing tools, -Availability of proper lifeline tools (harness, anti-fall device), -Start and regular check of these tools, -Presence of skilled supervisor	Provide First Aid Kit and presence of trained first aider	x	x	x
5	Lightning on conductor	Injury / Fatality	Lineman	-Prohibit work under bad weather conditions -Earthing the conductor	- Communication mean available - List of emergency contact available -Emergency plan	x	x	x
6	Electrical shock due to contact with existing energized power line	Injury / Fatality	Lineman	-Work field examination, -Necessary precaution (safety instruction application), -Ask utility services assistance -Power switch off and (safety instruction application) -Earthing the conductor	- Communication mean available - List of emergency contact available -Emergency plan	x	x	x
7	Shock of third-party person	Injury	Third party person	-Prohibit entry of third-party person to the field of activity, -Presence of skilled supervisor	Provide First Aid Kit and trained first aider	x	x	x

8		Collision between person and tool of handling (crane, truck, forklift)	Injury	Workers	Assistance and supervision by a supervisor, Certified crane, slings and competent operator, Clear visibility for operator (crane, truck, forklift),	-Availability and use of PPE (helmet), -Provide First Aid Kit and trained first aider	x	x	x
9		Third-party traffic accident (in case the work is near to the roadside)	Injury / Fatality	Workers	Signaling and markup (cone and ribbon, man with flag, "man at work" sign	- Communication mean available - List of emergency contact available -Emergency plan	x	x	x
1	Commissioning (lines and transformers)	Falling object (tools, equipment)	Injury	Workers	-Prohibit activities under and in the vicinity the line under construction, -Provide to the lineman proper device for keeping and handling its working tools, -Supervision of the activity by a skilled supervisor -Start check and periodic check of lifting and stringing tools	-Availability and use of PPE (helmet), -Provide First Aid Kit and trained first aider	x	x	x
2		Contact with sharp object	Injury	Workers	-Use of gloves and safety shoes	Provide First Aid Kit and presence of trained first aider	x	x	x

3		Falling from height	Injury	Lineman	-Skilled person, -Availability of proper climbing tools, -Availability of proper lifeline tools (harness, anti-fall device), -Start and regular check of these tools, -Presence of skilled supervisor	Provide First Aid Kit and presence of trained first aider	x	x	x
4		Lightning	Injury / Fatality	Lineman	-Avoid work under bad weather conditions, -Earthing the conductor,	- Communication mean available - List of emergency contact available -Emergency plan	x	x	x
5		Electrical shock	Injury / Fatality	Lineman	-Work field examination, -Necessary precaution (safety instruction application), -Ask utility services assistance -Power switch off and (safety instruction application) -Earthing the conductor	- Communication mean available - List of emergency contact available -Emergency plan	x	x	x
6		Shock of third-party person	Injury	Third party person	-Prohibit entry of third-party person to the field of activity, -Presence of skilled supervisor	Provide First Aid Kit and trained first aider	x	x	x

7		Third-party traffic accident (in case the work is near to the roadside)	Injury / Fatality	Workers	Signaling and markup (cone and ribbon, man with flag, "man at work" sign	- Communication mean available - List of emergency contact available / Emergency plan	x	x	x
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3.2 Safety Work Method Statement and Hazard Control

3.2.1 Site Rules

- All personnel shall undergo safety induction training.
- Appropriate Personal Protection Equipment shall always be worn.
- Every accident and near miss event must be reported to the Site Manager immediately.
- Smoking will only be permitted in designated areas.
- Visitors must report to Security and will be allowed entry at Site Manager's entrance. Whilst on site visitors must wear the appropriate PPE.
- Vehicle drivers must wear the appropriate PPE (when outside vehicle). Vehicles are not to be reversed at the front of the building unless under the control of an authorized banksman.
- Vehicle drivers must remain with their vehicle during loading / unloading.
- Safety signs and notices must be followed.
- The public must be protected from hazards associated with project work.
- No person who is under the influence of alcohol or drugs is allowed on site.
- Offensive or inappropriate language and provocative gestures are not allowed.
- No personnel shall indulge in fighting, horseplay or practical jokes within the site or its perimeter.
- Mobile toilets and washrooms must be kept in a clean and hygienic state after use.
- Rubbish must not be allowed to accumulate; work areas are to be kept tidy.
- Combustible materials are to be removed on a regular basis and disposed of in an appropriate manner.
- Permission must be obtained from the Site Manager prior to any work on site.
- All site personnel, for their own safety and for the safety of others, are required to fully comply with their employer's statement of safe working method.
- No person shall operate equipment unless trained and authorized.
- The Supervisor must select safety belts, harnesses and lanyards. The user must inspect the equipment prior to use. No defective personal fall-protection equipment shall be used.

3.2.2 Site Amenities

- Drinking water will be provided on site for all workers.
- All workers are to have good hygiene standards and clean up after themselves.
- Provide workers gender segregated toilets.
- Provide workers with first aid facilities/ kits.
- Provide workers with a rest shade.
- Provide workers changing rooms.

3.2.3 Site Security

The Contractor will, so far as reasonably practicable, secure the site by:

- Securing / fencing off project sites and installations.
- Deploying security guards to protect project equipment.

3.2.4 Site Signage

At a minimum, the Contractor will display the following signs on the entrance to the site:

- Contractor's name, contact details and after-hours telephone number, channels for reporting grievances.
- the location of the site office.
- All safety signage will be clearly visible from outside the workplace, the work area where the construction project is being undertaken.
- Appropriate EHS signage should be displayed at all active worksites at all times. Safety signage is assumed to include safety information and guidance/ directions, hazards warnings, first aid information, meet up locations, worker entitlement and grievance etc.

3.2.5 Personal Protective Equipment

The Contractor will provide the personal protective equipment (PPE) to workers at the workplace and the visitors.

At a minimum, each worker and visitors has to wear (depending on nature of risk exposure):

- Hard hat.
- Safety shoes (leather work boots with steel toe) or over boot.
- Safety Gloves (leather work gloves or insulated gloves) if needs.
- Work cloths/ High visibility jacket.

In addition to these basic PPE, the line man should have harness, anti-fall lanyard and climbing devices.

The person providing the PPE must ensure that the PPE is:

- suitable for the nature of the work and any hazard associated with the work.
- a suitable size and fit and reasonably comfortable for the worker who is to use or wear it.
- maintained, repaired or replaced so that it continues to minimize risk to the worker who uses it, including by:
 - ensuring it is clean and hygienic.
 - ensuring it is in good working order, and replaced when worn-out or misplaced.
 - ensuring it is used or worn by the worker, so far as is reasonably practicable.

The person supplying the PPE must also:

- provide workers with information, training and instruction in the proper use, wearing, storage and maintenance of PPE.
- ensure that any other person at the workplace (such as home owners, clients or inspectors) is appropriately provided with PPE to wear as required.
- Workers must:
 - follow all instructions to wear and use PPE
 - take reasonable care of PPE.

3.0 Managing Construction Hazards

3.1 Falls from Heights

The Contractor will manage the risks associated with falls from heights by:

- ensuring that where practicable, any work involving the risk of a fall is undertaken on the ground or on a solid construction (such as an elevated work platform).
- where this is not practicable, providing a work positioning system such as plant or a structure that enables a person to be positioned and safely supported.
- where this is not practicable, providing a fall arrest system such as a safety harness system.

Workers will be trained in emergency procedures for fall arrest systems.

- When undertaking work involving the risk of a fall from height, workers must:
 - follow all instructions.
 - work with a buddy when using a ladder at any work at height.
 - only use approved work platforms.

3.2 Falling Objects

- Where practical, the Contractor will provide adequate protection against the risk of falling objects through the use of control measures such as barrier screen, toe-boards and by storing and stacking materials safely.
- Where this is not possible, a risk assessment must be undertaken and appropriate control measures implemented to manage the risk of injuries from falling objects.

3.3 Work near overhead or underground services

We will ensure, where reasonably practical, that that no-one comes within an unsafe distance of an overhead or underground power line.

If maintaining a safe distance is not reasonably practical, we will:

- assess the risk associated with the proposed work
- implement control measures consistent with the risk assessment
- contact and consult with the local essential service provided.

3.4 Work near overhead powerlines

- work is not permitted within unsecured distance of overhead power lines.
- the principal contractor (or contractor in charge of the work) must have written authority from the electrical supply authority to work within the “no go” (exclusion) zone.
- when using plant or equipment within 3 to 6.4 meters of overhead power lines ensure you have a safety observer.

3.5 Excavation work near underground essential services

- take all reasonable steps to obtain current underground essential services information before directing or allowing the excavation work to start
- provide this information to any person engaged to carry out the excavation work.
- consider this information when carrying out, directing, or allowing the carrying out of the excavation work.
- Ensure this information is available for inspection.

3.6 Electrical

- Power supplied to the site must only come from:
 - an electricity distributor main.
 - an existing switchboard permanently installed at the premises.
 - a compliant low voltage generator.
 - a compliant inverter.
- Switchboards and distribution boards used on site must:
 - be of robust construction and materials capable of withstanding damage from the weather and other environmental and site influences (IP23 minimum rating).
 - be securely attached to a post, pole, wall or other structure unless it is of a stable freestanding design able to withstand external forces likely to be present.
 - incorporate suitable support and protection for flexible cords and cables and prevent mechanical strain to the cable connections inside the board.

- protect all live parts at all times.
 - be individually distinguished by numbers, letters or a combination of both (where multiple boards are present).
- Workers must report any damaged electrical equipment to the principal contractor. It will be removed from service and either repaired or replaced and subsequently inspected and tested as required.

3.7 Ladder Safety

The Contractor will manage hazards associated with ladders by:

- using ladders according to the manufacturer's instructions.
- only allowing one person at a time on a ladder.
- performing all work from a ladder while facing the ladder.
- not setting up ladders on scaffolds or elevated work platforms to gain extra height.

3.8 Manual Handling

The Contractor will manage hazards associated with manual handling by:

- ensuring all users follow good manual handling practices.
- assessing risk assessments
- providing mechanical lifting aids where applicable

3.9 Sun Safety

All persons on site should:

- Wear adequate clothing (e.g. hats) and other protection methods (e.g. sunscreen) to protect themselves from the effects of working while exposed to UV rays.
- manage working in the sun to avoid dehydration and heat stress related illnesses.

3.10 Animals

During site operations, animals such as dogs, cats, mice, and snakes' may be encountered. Workers shall use discretion and avoid all contact with animals. If these animals present a problem; efforts will be made to remove these animals from the site by contacting the health and safety manager.

3.11 Insects

Insects including bees, wasps, hornets, and spiders may be present at this site making the chance of a bite possible. Some individuals may have a severe allergic reaction to an insect bite or sting that may result in a life-threatening condition. Any individuals who have been bitten or stung by an insect should notify the Safety Manager. The following is a list of preventive measures:

- Wear proper protective clothing (work boots, socks, and light-colored pants).
- When walking in wooded areas, avoid contact with bushes, tall grass, or brush as much as possible.
- Personnel who may have insect allergies should provide this information to the Health and Safety Manager prior to commencing work and shall have bee sting allergy medication on site.
- The Health and Safety Manager will instruct the field crew in the recognition and procedures for encountering poisonous insects at the site.

5.0 Health and Safety Management and Monitoring Program

5.1 Performance Measurement and Monitoring

The Occupational Health and Safety Monitoring Provisions are:

- Monitoring of objectives and indicators, site visit (observation and investigation);
- Control of non-conformities and initiation of improvement actions;

- Analysis of incidents / accidents;

5.2 Monitoring Program

This section aims to define an action plan to reach the Occupational Health and Safety objectives.

These objectives are to avoid as much as possible the occurrence of risk, mitigate the consequence in case of happening as well as to ensure the preparedness to respond to emergency situation.

The management and monitoring program contains indicators to follow up the achievement of the objectives.

The action plan is structured on regulation compliance, prevention of incident and mitigation of the consequence of risks and respond to the various type of risk such as falling risk, risk of injury and risks arising from emergency situation.

Each action is planned over the project duration and has a responsibility center for implementation and are quoted within the project budget. The draft Health and Safety Monitoring Plan is presented in the Table below. **[This should be customized to individual subprojects, based on design and site baseline characteristics].**

Table 4 Health and Safety Monitoring Plan

Policy Focus	Risk	Objective	Indicator	Target	Action Plan	Resp.	Timing	Budget
Compliance to legal requirements	-	Comply with all legal requirement Applicable/ Permits	Rate of conformity	100%	Identify and Review of applicable rules and ensure conformity	Project Manager Health and Safety Manager	End of xxxx	Included in the project budget
	Lack of hygiene	Avoid possible Infection and disease coming from lack of hygiene	Number of affected person	0	-Awareness regarding hygiene of hand, cloths and foods, - Provide appropriate mobile toilet on warehouse, on site and ensure to keep it clean, -Provision of water and soap for hand washing, provide antibacterial products for cleaning, -Ensure continuous cleaning of the housing site and the management of waste, - Provide safe drinking water	Construction Engineer Health and Safety Manager	During all the construction phase	“
Prevent injury and ill health	Falling object	Avoid falling object accident	Number of falling object accident /	0	Ensure start and bi-monthly check of the pulling and lifting	Health and Safety Manager	Ensure start and bi-monthly	“

Policy Focus	Risk	Objective	Indicator	Target	Action Plan	Resp.	Timing	Budget
			incident		devices		during all the	
							construction phase	
	Falling from Height	Avoid falling from height accident	Number of falling object accident / incident	0	Ensure start and bi-monthly check of lifeline devices (harness)	Health and Safety Manager	Ensure start and bi-monthly during all the construction phase	“
	Fire risk in the warehouse and site	Avoid fire damage			Weed Control Action	Health and Safety Manager	Monthly	“
	All Risk	Improve risk awareness	-Rate of first induction attendance -Rate of awareness attendance	100% 80%	-First induction for all workers -Awareness campaign	Health and Safety Manager	Before start work Quarterly	“
Mitigate the impact of risk occurring	All risks	Mitigation of incidents impacts	Availability of EPP	100%	Provide enough EPP with spare quantity	Health and Safety Manager	During all the construction phase	“

Policy Focus	Risk	Objective	Indicator	Target	Action Plan	Resp.	Timing	Budget
	Risk of fire	Mitigation of the fire impact	Availability of operational fire extinguisher and other provision	100%	Provide enough fire extinguisher and regularly check and other provision	Health and Safety Manager	During all the construction phase	“
	Risk related to emergency situation	Ensure Emergency response preparedness	-Number of mock test -Rate of attendance to mock test -Rate of awareness attendance	100% 60% 80%	-First induction for all workers -Awareness campaign	Health and Safety Manager	At any time for new comers or visitors Quarterly	“

IV. EMERGENCY AND INCIDENT MANAGEMENT

6.1 Emergency Response

The purpose of Emergency Response is to ensure that all potential emergency situations that might arise during the Project are properly identified, reported and dealt with in a safe and effective manner. Emergency Response Plan covers:

- Nomination of persons responsible for managing an emergency situation;
- Definition of roles/responsibilities in Emergency Response Team; (ERT)
- Procedures for reporting, communicating and response action in an emergency;
- Rescues and medical treatment of casualties.
- Certified first aiders must be recruited as part of the project team.

All personnel fulfilling a Site Emergency Team role shall have at all times a radio and/or mobile telephone.

The Emergency Alarm will be given by radio, direct communication, megaphone or sirens. The information must be delivered clearly with specific message on time, location, and its current situation.

Emergency Contact numbers shall be displayed at all project installation and construction sites.

Table 5: Emergency Contacts

Name		Contact Details
Client PIU:		
Project Coordinator		
Environmental Specialist		
Social Safeguard specialist		
Contractor:		
Contract Manager		
Site Agent		
EHS & ES Manager		
Social Development Specialist		
Communication Specialist		
Site Nurse		
Other public Utilities: National Police / Firefighting service		
	Police	
	Ambulance Service	
	Emergency Fire & Rescue Service	

6.2 Emergency Response Action

In the event of emergency and on hearing the alarm:

- Do NOT PANIC;

- Stop Work, and leave the area immediately to the designated Assembly Points;
- Do not re-enter the building to save property;
- Shut off power or machines if SAFE to do so;
- Ensure YOU are counted at the ASSEMBLY POINT;
- Return to work ONLY if instructed by Emergency Controller (Project Manager).

6.3 First Aid Kit Contents

All incident cases which cannot be handled by administering first Aid should be referred to the nearest Health Care Facility. The project will maintain or engage the nearest Ambulance Services through a Memorandum of Understanding to handle emergency evacuation situations. Every installation and construction site shall have a designated Emergency Assembly Point, where workers move for safety and farther briefing or evacuation in cases of emergency.

The first aid kit should contain the following items:

- A leaflet giving general guidance on first aid,
- Contents checklist,
- Individually wrapped small, medium and large sterile gauze dressings,
- Individually wrapped, sterile, triangular bandages,
- Safety pins,
- Sterile eye pads,
- Plasters,
- Sterile Wipes,
- Adhesive tape,
- Disposable nitrile gloves (pairs),
- Crêpe rolled bandages,
- Finger dressings,
- Alcohol-free cleansing wipes,
- Burn dressings,
- Distilled water, for cleaning wounds,
- Tweezers,
- Scissors.

6.4 Incident Reporting, Accident Investigation and Analysis

The prompt reporting and thorough analysis of all accidents, incidents, near miss incidents and dangerous occurrences provides an important performance indicator. All incidents (including Near Misses) related to construction activities must be recorded. The incidents shall be notified, reported, and investigated such as:

- Incidents related to personal injury requiring more treatment than a First Aid (FA);
- Environmental releases in excess of the quantities defined in the Spill Contingency Procedure;
- Property Damage of any magnitude;

- Near Misses with high potential severity (e.g. involving cranes and heavy equipment).

It is the duty of Subcontractor to notify the Contractor and/or Resident Engineer of any incident immediately.

6.4.1 Incident Reporting

If the *[responsible party in the implementing agency]* becomes aware of a serious incident in connection with the project, which may have significant adverse effects on the environment, the affected communities, the public, or workers, it should notify the World Bank within 48 hours of becoming aware of such incident. A fatality is automatically classified as a serious incident, as are incidents of forced or child labor, abuses of community members by project workers (including gender-based violence incidents), violent community protests, or kidnappings, lost time injury requiring 3 or more days off work, occurrence of a disease in excess of normal expectancy of number of cases, displacement without due process of compensation, unexpected impacts on heritage resources, unexpected impacts on biodiversity resources, environmental pollution incident, and any other incident or accident that may have a significant adverse effect on the environment, the affected communities, the public, or the workers, irrespective of whether harm had occurred on that occasion.

Preliminary Reporting means conveying detailed information about the incident in a written and structured manner within 48 hours.

Incident Investigation means investigating the incident in a structured manner to find the root causes and to identify preventive and corrective measures. The investigation shall take place within 10 business days from the date of the accident. The preliminary report shall include at least the following information:

- Location, date and time of the incident;
- Brief description of what happened;
- Initial assessment of the incident severity (Severe, Serious, Moderate, Indicative/ Minor).
- The report shall be made available to Site Manager/Project Manager, the Resident Engineer and CLIENT.
- Unsafe Acts/Unsafe Conditions shall be investigated only if they have a very high potential severity.

6.4.2 Investigation and Analysis

In all other areas, the SM shall form the investigation team in case of Major incidents. The Investigation Report shall include at least the following information:

- Incident details;
- Incident severity assessment;
- Incident analysis;
- Incident investigation findings;
- Incident cause identification (with related preventive and corrective measures).

The report shall be made available to the WB, Client/Borrower, RE, Contractor Head Office (according to internal procedures), and relevant Subcontractors. The report shall be compiled following the WB – ESIRT Forms (Environmental and Social Incidents Reporting Tool).

The project shall review all Major and Medium incident reports for ensuring that all preventive and corrective measures are carried out. The Client through RE shall follow up on the implementation of preventive and corrective measures for all incidents.

The PIU shall keep an up-to-date register of all incident reports and the related preventive and corrective measures.

V. INDUCTION, TRAINING AND CAPACITY BUILDING

Worker induction

The Safety Manager conducts day to day induction sessions which covers the following items:

- The expectations outlined in this Management Plan, including all policies and procedures
- The emergency meeting point
- The site rules and facilities or Site's environmental conditions
- Any site-specific hazards: handling, falling, electrical, traffic road ...
- Use and preservation of PPE
- Safe work methods
- Prevention of STD
- Information on new operations or changes in work practices
- the emergency situation
- any site-specific waste
- the hazard substance
- the waste management
- the environment respect and preservation
- any incident reporting
- the respect of the third-party property
- the respect of society values
- the OHS hazard
- the prevention of fire on site

We will work with other subcontractors to ensure that a site-specific induction is provided for all workers before starting work, daily and at any time it seems necessary (after incident / accident, complaints, new activity, new work place ...).

Worker training

The main object of the training is to:

- ensure workers are trained and competent for the work to be carried out
- ensure workers are trained to deal with any risks associated with the work and understand the control measures in place
- ensure workers are trained on first-aids

- ensure workers are trained on firefighting equipment
- ensure on-site training and supervision is provided

The HSE safeguard officer assessed the workers needs in terms of training. He can conduct the training by himself. He can provide external trainer for specific subject.

Training sessions cover the following items:

Table 7: Health and Safety Training Topics/ Areas

Nº	Training description	Target Group	Responsible	Plan
1	First aid	Team leaders, Flaggers	Q HSE Manager	- xxx
2	Hazard identification and assessment	Team leaders,	Q HSE Manager	- xxx
3	Safe work methods	Team leaders,	Q HSE Manager	- xxx
4	Safety for work at height	Team leaders,	Q HSE Manager	- xxx
5	Safety for work on energized network	Team leaders,	Q HSE Manager	- xxx
6	Reporting of Incidents/ Accidents	Team leaders, linemen's	Q HSE Manager	- xxx

VI. OHS IMPLEMENTATION BUDGET

The OHS Plan shall be implemented as part of the overall project ESMP.

VII. REFERENCES

- OHSAS 18001:2007 Occupational Health and Safety Assessment Series.
- ISO 9001:2015 Quality management systems – Requirements.
- ISO 14001:2015 Environmental management systems – Requirement.
- WBG Environmental and Social Standard - 2 Labor and Working Conditions, 2018.
- WBG Environmental and Social Standard 4 – Community Health and Safety, 2018.
- WBG General Environmental Health and Safety Guidelines, 2007.
- WBG Environmental Health and Safety Guidelines for Electric Power Transmission and Distribution, 2007.

Annex 4: Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) Action Plan

The SEA/SH Action Plan for projects with civil works such as Distribution Lines in Urban and Peri-Urban Areas elaborates on a range of potential mitigation measures for works that were assessed to be at Moderate SEA/SH risk. The following template corresponds to Moderate SEA/SH risk.

This Action Plan template below are aligned with the recommendations of the [ESF Good Practice Note on Addressing SEA/SH in IPF Involving Major Civil Works](#) (Civil Works GPN). To strengthen monitoring reporting, the Action Plan integrates recommended standardized indicators. Reporting on progress in the implementation of these actions should be included in project's E&S reports.

The actions described in this sample action plan **should provide a starting point to consider appropriate mitigation of SEA/SH risks and associated budget and responsibility constraints** – they are not a comprehensive list. Decisions about necessary actions should be informed by the project context, design and assessed SEA/SH risk. ESS1 requires Borrowers to utilize “means that are appropriate to the nature and scale of the project and proportionate to the level of...risk” (ESS1, paragraph 2). In addition, each mitigation action includes sample intermediary steps to implement this mitigation action are listed to facilitate planning and budgeting but are project-specific and will require adaptation.

Key mitigation measures of the SEA/SH Action Plan should be integrated in the relevant E&S instruments and documents (LMP, SEP and Grievance Mechanisms SOP, etc.)

SEA/SH Action Plan sample – Moderate SEA/SH risk**Project Name:****Project P code:****Country:****Date of SEA/SH Action Plan:****SEA/SH risk level: Moderate****Brief description of main drivers of risks, including component-specific risks:**

Mitigation actions	Responsible for action (Clearly indicate lead agency/ies), and contributing party/ies)	Timeline for action	Budget	Indicators	Responsible for monitoring and reporting (Clearly indicate lead agency/ies), and contributing party/ies)
RISK ASSESSMENT					
Carry out an assessment of the project's underlying SEA/SH risks as part of the project social assessment and ensure SEA/SH risks are adequately reflected in all E&S project documentation (i.e., Project ESMF/P, C-ESMP, LMP, SEP, etc.). <i>Sample intermediary steps to implement this mitigation action are listed here to facilitate planning and budgeting and may include:</i> - o Integrate assessment of SEA/SH risks in TOR of social	IA, SEA/SH assessment consultant			SEA/SH risks integrated in E&S assessment report (Y/N)	IA, SEA/SH assessment consultant

assessment (or of stand-alone SEA/SH assessment), including mapping of GBV service providers (see below), assessment of existing behavioral standards on SEA/SH, mandatory reporting requirements, etc. - o Train teams carrying out assessment as needed, including on safety and ethical considerations related to GBV data collection - o Carry out assessment - o Plan for and update assessment as part of stakeholder engagement during project implementation					
• Carry out consultations with women and girls and other groups at risks, including on SEA/SH, as part of the project SEP to keep them informed about	IA, consultant mobilized to carry out the SEP			• # women and girls involved in sex-specific consultations/total number of community	IA, consultant mobilized to carry out the SEP

the project, get their feedback on project design and safeguard issues, knowledge and efficacy of mitigation measures, etc.^[1] - o Identify groups particularly at risks of SEA/SH as part of the SEP - o Establish methodology and approaches to consult with the most vulnerable - o Carry out consultations in a safe and enabling manner, with facilitator of the same sex and with the right expertise and culturally sensitive approaches				members consulted with (SEP) or # of focus groups carried out with women only (SEP) • # of CSOs advocating for women and girls, children, LGBTQI, disability rights consulted	
• Develop SEA/SH Action Plan - o Based on the assessment of SEA/SH risks, develop SEA/SH Action Plan, with key indicators, estimated budget,	IA, SEA/SH assessment consultant			• An SEA/SH action plan has been developed (Y/N) • Action plan is regularly updated (Y/N)	IA

timelines for implementation and monitoring indicators and reflect it in the project ESMF/P - o Integrate responsibilities and expectations related to SEA/SH in all contracts, including those related to E&S and incident reporting and in the C-ESMP - o Define timelines and processes to update the SEA/SH actions plans throughout implementation, based on emerging risks and the evolution of the project - o Update regularly and as needed the SEA/SH action plan					
BEHAVIORAL STANDARDS					
• Develop an Accountability and Response Framework - o Document in one place the steps for	IA			• Project has a SEA/SH Prevention and Response Action Plan (Y/N)	IA

handling, reviewing, verifying and investigating allegations, including timeframe, and responsibilities for each stage of the process, reporting requirements, and specific provisions for child survivors. - o Ensure coherence with GM and referral protocols/GBV service mapping - o Reflect in the Ops Manual - o Ensure that accountability and response framework is reflected as needed in bidding documents, offers and contracts - o Update the accountability and response framework based on lessons learned from incident response and other feedbacks.				• Project has an Accountability and Response Framework as part of the ESMP (Y/N)	
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Establish mandatorily enforceable codes of conduct for each category of project workers - o Develop proportional project-specific codes of conduct - o Integrate requirements on CoC in all contracts (see dedicated action) - o Roll-out codes of conduct to ensure they are in place before workers start project-related activities (i.e. have workers sign them individually or as part of training, ensuring that they are aware/trained and that CoC are enforceable)	IA, all project consultants and contractors			• Behavioral standards or CoC which addresses SEA/SH is in place (Y/N) • # training sessions carried out for project actors about Behavioral standards or CoC	IA, supervising engineer, all project consultants and contractors
• Train project workers on expected behaviors and prohibitions related to SEA/SH, GM and support services, ways to file a complaint, etc.	All project consultants and contractors, GBV service			• # of project actors trained on CoC / total # of project actors active in reporting period	Supervising engineer, all project consultants and contractors, GBV service providers (if relevant)

- o Identify proportional training/sensitization solutions for each category of project workers - o Ensure that requirement and expectations on training are included in contracts with consultants/contractors - o Mobilize expertise to ensure that project related training is of quality, rights-centered, etc. - integrate training of workers in responsibilities of GBV actor to be recruited for TA - o Training all project workers before they start activities (solutions proportional to risk level) - o Conduct refresher- or on-the-job training/awareness as part of workers	provider if relevant			• # training session carried out for project actors • GM coordinator has been trained in the survivor centered approach (Y/N)	
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and civil servants ongoing training					
GRIEVANCE MECHANISM AND INCIDENT RESPONSE					
• Map GBV service providers in all areas of project implementation - o Consult what mapping exists in country - o Develop TOR and methodology for mapping, including quality assessment (include in TOR for SEA/SH/social assessment) - o Carry out mapping - o Integrate gap filling GBV service provision in the TOR of GBV service provider as needed - o Develop localized referral protocols, to be integrated in the project Accountability and Response Framework.	IA, SEA/SH assessment consultant			• Localized referral protocols available for all areas of project implementation (Y/N, disaggregated by region)	IA

o Update referral pathways regularly, as needed					
• Establish SEA/SH pathways in GMs (community-based and for workers) and capacity to safely and ethically receive and respond to SEA/SH cases - o Develop survivor-centered SOPs to receive and response to SEA/SH complaints - o Develop intake forms, referral protocols, information sharing tools, etc. - o Develop training plans for all stakeholders involved in management of SEA/SH complaints - o Carry out GM training plans - o Mobilize expertise as needed to provide TA to operationalization	IA			• SEA/SH sensitive SOPs in place as part of broader GM SOPs • # of SEA/SH cases received by the project, (disaggregated by age, sex, form of violence reported, status/open/closed, etc.);	IA

and training related to SEA/SH GM (include in TOR of GBV actor, if relevant). - o Roll out SEA/SH sensitive GM - o Reflect key elements of the GM in the Accountability and Response Framework and Ops Manual					
• Respond to SEA/SH incidents reported to the project in line with a survivor-centered approach - o Offer referral to GBV services based on mapping and referral protocols - o Verify and take action, prioritizing survivors' rights and wishes - o Identify and implement corrective actions	IA, GBV service providers (if relevant), all project consultants and contractors			% of SEA/SH cases where survivors were connected to services (disaggregated by services)	IA
• Raise community awareness on SEA/SH, standards of conduct, GM	IA, GBV service provider			• # of community members targeted by awareness raising	IA

and GBV services available: - o Develop plan for mobilization, depending on project timelines and risk level - o Integrate responsibility in TOR of actor raising awareness on broader GM or of GBV actor to be mobilized for SEA/SH TA - o Develop and review awareness materials, messages, IEC, etc. regularly, based on community's feedbacks, consultations and evolving understanding of risks				(disaggregated by sex) •	
MOBILIZATION OF TECHNICAL EXPERTISE					
				•	
• Clearly define the SEA/SH requirements and expectations, including on	IA (social specialists and procurement)			• SEA/SH requirements and expectations are clearly defined in	IA

CoC, in bid documents and contracts: - o Include requirements on CoC, workers training, SEA/SH reporting, etc. in the bidding documents, based on project action plan and risk level (key elements already on ICB SPD). - o Explain SEA/SH requirements to bidders. - o Assess SEA/SH risk mitigation proposal as part of bidding evaluation - o SEA/SH requirements reflected in C-ESMP and part of offer evaluation, including of contractor's Accountability and Response Framework. - o Requirements on SEA/SH in contracts of consultants with				the bid documents (Y/N) • SEA/SH requirements and expectations are clearly defined in the procurement documents (Y/N)	
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escalation clauses for non-compliance. o SEA/SH costs clearly reflected in contracts (i.e. line items in bill of quantities for clearly defined SEA/SH activities (such as preparation of relevant plans, or specified provisional sums for activities that cannot be defined in advance, such as for implementation of relevant plan/s, etc.))					
o					
o				.	
o				.	
• Train all project stakeholders on project approach to SEA/SH risk management	IA				
M&E					
• Undertake regular M&E of progress on SEA/SH prevention and response activities, including reassessment of risks as appropriate.	IA, contractors, consultants (including GBV actor),			• Protocol for M&E of the project is in place (Y/N) • E&S instruments are updated throughout	IA

- o Integrate advancement of SEA/SH action plan implementation in E&S reporting (all stakeholders) and reports on ESCP implementation (IA) - o Update the ESCP and/or the relevant E&S management tools to incorporate necessary corrective and preventive actions.	supervising engineer.			the life span of the project (Y/N)	
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^[1] This activity can put women and girls at risk, when not planned and implemented accordingly. It is imperative that consultations are prepared and rolled out in line with basic safeguarding measures, enable referrals of participants disclosing experiences of violence, that stakeholders responsible for data collection are trained and experienced in facilitated such consultations and that no individual data on GBV experiences is collected. For further information, consult Annex 2 of the SEA/SH GPN for civil works.