



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

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

**Template for the Construction of Battery
Energy Storage Systems (BESS)**

ANNEXES:

Annex 1: Waste Management Plan (WMP)

Annex 2: Occupational Health and Safety Plan (OHSP)

**Annex 3: Sexual Exploitation and Abuse/ Sexual Harassment
(SEA/SH) Action Plan**

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INTRODUCTION TO THE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) TEMPLATE – ANNEXES

Background

Environmental and Social Management Plan (ESMP) template has been created for the purpose of facilitating the assessment of environmental and social impact factors and the development of adequate mitigation strategies for prospective mini-grid project developers and operators for new countries joining Accelerating Sustainable and Clean Energy Access Transformation (ASCENT) Multi Programmatic Approach (MPA). This is contained in a separate report (VOLUME-1)

Instructions:

This VOLUME-2 provides ANNEXES containing the following: Waste Management Plan, Health and Safety Management Plan, and Sexual Exploitation & Abuse (SEA), Sexual Harassment (SH) and GBV Action Plan. The Annexes should be read and used in conjunction with VOLUME-1 Report.

Annex 1: Waste Management Plan (WMP)

1.0 Introduction

This document is a Procedure intended to guide activities relating to Waste Management activities during installation of the BESS.

1.2 Purpose of the Waste Management Plan

The purpose of this procedure is to outline the waste management requirements necessary to ensure legal compliance and reduce environmental impact associated with generated waste. It also establishes controls for the handling, storage, and transportation of waste, hazardous waste and liquid waste both on and off site. The Borrower shall strive to achieve accepted Good International Industry Practice and the national waste handling requirements throughout the implementation of the Project. To achieve this, mechanisms to minimize waste generation and disposal of waste will be undertaken in a responsible manner and in accordance with the National Environment/ Waste Management Regulations [mention the applicable national waste management laws and regulations] and in line with ESS3, General EHSs.

1.5 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 plan contains provisions for disposal, re-use or recycling of all wastes including solid, liquid and hazardous waste. 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 also focuses 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 (Transformer oil, solvents, paints, car service – oil filters and gaskets. etc).
8. Excavation wastes (earth, overburden).
9. Electrical and electronic waste (batteries).

1.6 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 Potential impacts

Sources and Types of Solid Waste:

The daily activities of the installation of the BESS, campsite and equipment storage yard activities will generate solid and liquid waste which will require to be managed in sustainable manner.

Solid waste consists of:

- ❖ Soil spoils from excavations are sources of dust emissions which cause breathing problems and respiratory diseases.
- ❖ Vegetation matter from site clearance results into a fire risk and contaminate water sources.
- ❖ Garbage from camp sites, offices and other working areas becomes breeding grounds for disease causing germs and flies.
- ❖ Packaging materials like paper cardboards, wood, plastics, cement bags and other materials may contaminate soil and their littering renders poor housekeeping at the construction sites.

Liquid waste consists of:

- ❖ Sewerage from toilets and washrooms (this is in form of domestic septage and domestic wastewater) which cause water borne diseases and breeding ground for mosquitoes.
- ❖ Used oils and lubricants from the workshops contain toxic organic compounds and heavy metals.
- ❖ Kitchen swirls which increase Biochemical Oxygen Demand (BOD) of water bodies and carry disease causing germs.

The above stated solid wastes are generated from workers living quarters (camp site), offices and other working areas. The generated waste like garbage; vegetation matter and sewer sludge are non-hazardous but are of public health concerns while fuel and oil contaminated packages from repair workshops and its contaminated soils are hazardous waste which also cause fire risk as they may be flammable.

Potential impacts associated with generating, storing, handling, transporting, treating and disposing of these wastes include:

- Environmental impacts on site associated with poor handling and storage of wastes on site (for example, dust, surface or water pollution).
- Impacts to workers' health and safety associated with handling and storage of wastes, particularly hazardous wastes and poor housekeeping practices in general at all project sites.

- Impacts associated with poor and wasteful use of resources.
- Impacts to local people associated with increased traffic to transport waste.
- Environmental/health and safety impacts should waste be dumped in transit.
- Environmental/health and safety impacts associated with using facilities for treatment / disposal of waste operated by third parties that are not capable of treating the types or quantities of waste sent.
- The OHS Officer must maintain a waste inventory (types and quantities of waste and their classification, sources, storage requirements, treatment method, disposal location). Assess health, safety and environment risks for each waste stream, including healthcare wastes which is classified as infectious including managing wastes in accordance with the risk assessment undertaken as part of baseline assessment.

4.0 Waste Management Actions/ measures

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.

Separation of wastes at source further reduces chances of cross contamination of waste streams by hazardous wastes hence making it safer for both the waste management stream and the receiving environment. 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 4.0. This is to ensure that materials will be handled efficiently to minimize wastage and that all waste arising from site will be managed appropriately.
- ❖ 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.
- ❖ The contractor will ensure, so far as is reasonably practicable, that waste produced during construction is re-used, recycled or recovered.
- ❖ Only when all other routes are exhausted will waste be sent to the legal landfill approved by the relevant national authorities.
- ❖ A defined waste management area will be set up on site with individual containers provided for wood, concrete, metal, general and recyclable waste.
- ❖ 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.

- ❖ As far as is reasonably practicable that every worker carrying out the construction work is provided with—
 - Suitable site induction on waste streams and their management.
 - Any further information and training needed for the particular work to be carried out within the terms of the site waste management plan.
- ❖ Waste prevention and recycling activities will be discussed at the beginning of each week in toolbox meetings to reinforce project goals and communicate progress to date.
- ❖ All recycling containers will be clearly labeled. Containers shall be located in close proximity to the construction waste generating activity in which recyclables/salvageable materials will be placed.
- ❖ The contractor will appoint recycling coordinators, working directly under the supervision of the Resident Engineer and/or PIU who shall inspect the containers on a weekly basis to ensure that no contamination is occurring and precautions shall also be taken to deter any contamination by the public.
- ❖ Engage and educate personnel: Be clear about how the various elements of the waste management plan will be implemented and ensure personnel have an opportunity to provide feedback on what is/isn't working. 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.

4.1 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]. This requirement should be included in the Contractors' Accommodation Management Plan. 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 given to members of the community that so wish to use them as animal (pigs) feeds or compost.

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 BESS construction and installation 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) 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.

f) Hazardous and Electrical Waste

End-of-life disposal presents significant challenges due to the complex composition of batteries and solar cells, coupled with limited recycling infrastructure. The recycling of battery materials requires specialized processes to recover valuable metals and minimize waste generation, but these technologies are not widely available or cost-effective in most developing countries. Improper disposal of batteries can lead to leachate of heavy metals, electrolytes, with resultant release of hazardous materials into the environment, posing risks to soil, water, and wildlife. This will be addressed through responsible sourcing of materials, ecosystem-friendly operation, and effective recycling and waste management and adopting ethical supply chain practices through the procurement process for batteries and solar panels, engaging with suppliers to trace the origin of materials and address social and environmental risks throughout the supply chain. It is also recommended to establish closed-loop systems for battery collection, recycling, remanufacturing and end-of-life disposal.

5.0 Implementation and monitoring

The key roles and responsibilities 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

Activity/Action	Responsibility	Timeframe / Period
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	Monthly
Waste management inspection, monitoring and compliance	Local Authorities and the Client (PIU)	Frequency to be determined by the responsible parties Continuous throughout the project

5.1 Waste Management and implementation Monitoring Plan

This plan shall be implemented and monitored using the framework as set out in the ESMP document to which it is appended. Of specific importance shall be the commitment of management to facilitate its implementation and workers adhering to basic principles of waste and sanitation management. Awareness shall form a strong component of this plan. Using appropriate approaches for all shall be guided on the proper use of facilities at the camp and on work sites. It will be the responsibility of the Environment officer to ensure that the plan is properly implemented.

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
General Construction Activities of BESS installation – OHS issues	- Physical hazards. - Electrical hazards. - Chemical use. - Ergonomic hazard. - EMF hazard. - Fire.				
BESS Installation and operation - waste management plan					
Waste minimization, reuse and recycling					
Transportation, delivery and storage of construction materials and supplies.					
Waste segregation, packaging, color coding and labeling.					
Onsite collection and transportation.					
Waste storage.					
Onsite waste treatment and disposal.					
Waste transportation to and disposal at offsite treatment and disposal facilities.					
Emergency events	- Spillage. - Occupational exposure to chemicals.	Emergency response plan			

	- Exposure to EMF. - Accidental releases of hazardous substances to the environment. - Failure of solid waste and wastewater treatment facilities. - Fire. - Other emergent events.				
<i>To be expanded as may be needed.</i>					

6.0 Emergency Preparedness and Response Plan

During the project construction phase a number of hazardous waste materials will be used which can cause human injury, destroy property and the environment in the event of a spill of, or an accident like fuel and oil contaminated residues which are flammable and explosive whose storage areas and transport pose a high risk. To prepare for how to deal with such catastrophes an emergency preparedness and response management plan has to be developed to ameliorate the impact of such accidents. Hazardous waste materials containing chemicals or fuel residues and oil residues pose fire and spills risks during their transportation and storage which could cause fire and explosion hazard, besides contaminating the soil and water.

The key elements of an ERP are defined in ESS 4 Community Health and Safety (para. 21), including but not limited to:

- (a) Engineering controls (such as containment, automatic alarms, and shut-off systems) proportionate to the nature and scale of the hazard;
- (b) Identification of and secure access to emergency equipment available on-site and nearby;
- (c) Notification procedures for designated emergency responders;
- (d) Diverse media channels for notification of the affected community and other stakeholders;
- (e) A training program for emergency responders including drills at regular intervals;
- (f) Public evacuation procedures;
- (g) Designated coordinator for ERP implementation; and
- (h) Measures for restoration and clean-up of the environment following any major accident.
- (h) Emergency Kit will be available in the storage area for any accidental spillage (also refer to the “Spill Response Plan”).

7.0 Periodic Review and update of the WMP

As project activities progress, the WMP should be reviewed and updated on an annual basis or when need arises where new waste and recovered material streams arise. The contractor will:

- (a) review the plan;
- (b) record the types and quantities of waste produced;
- (c) record the types and quantities of waste that have been:
 - i. re-used (and whether this was on or off site);
 - ii. recycled (and whether this was on or off site);
 - iii. sent for another form of recovery (and whether this was on or off site);
 - iv. sent to landfill; or
 - v. otherwise disposed of; and
- (d) update the plan to reflect the progress of the project.

Annex 2: Occupational Health and Safety Plan (OHSP)

I. EXECUTIVE SUMMARY

Project identification

Project	
Location	
Client	
Objectives of the project	
Scope of the project	The project consists of the construction and installation of [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 OHSMP: ✓ 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 National Policy, Legal and Administrative Framework. ✓ Provide 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.

II. BACKGROUND INFORMATION

2.0 Project summary

The Government of [name of borrower] has received financing from the World Bank (WB) towards the cost of installation of BESS under the ASCENT Project. The project has the following components:

[list the project components based on design].

All materials supplied in the frame of this project will be newly manufactured, of best quality and sized for working under the conditions specified and withstanding to the variations of temperature and atmospheric conditions arising under working conditions.

[For detailed project description and activities, including implementation schedule, please refer to Section 2 of the ESMP]

III. HEALTH AND SAFETY REGULATORY AND LEAGAL COMPLIANCE

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

Table 1: Summary of Applicable OHS Policies, Laws and Regulations

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

IV. OCCUPATIONAL HEALTH RISKS ASSESSMENT AND SAFE WORK METHOD STATEMENT

4.1 Risk Assessment

This section aims to give details and explanation 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 Matrix should be customized to the BESS Project activities]

- ✓ 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).
 - 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 activity and should be used to rank the risks according to the available control provision and mitigation measures, for the specified subproject.

Table 2: OHS Risk Matrix for installation of a BESS Plant

N°	Activity	Risk	Damages (consequence of Risk)	Affected person	Prevention measures	Mitigation measures	Risk Assessment		
							Severity	Likelihood	Impact
1	During activities all	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	Provide First Aid Kit and trained aider Immediate Hospitalization	x	x	x
3		Exposure to climatic condition (heat and humidity)	Fatigue, Embarrassment	All the project team	Awareness of wearing long-sleeved clothing, Wearing sun hat	Provide First Aid Kit and trained aider Immediate Hospitalization	x	x	x
4		Fire	Injury / Burn	All the project team	Awareness to avoid using fire in work place, Avoid storing and transportation of flammable products	Communication mean 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 contacts available Emergency plan	x	x	x
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		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	Inform authority Provide First Aid Kit and trained first aider	x	x	x

					properties, Recruit workers locally				
9		Sexually transmissible Infection / Disease	Infection / disease	Project team / Workers / Third party	-Awareness regarding the Sexually Transmissible Infection / Disease - All worker should provide medical certificate to witness the cleanliness of Sexually transmissible Infection / Disease	Provide First Aid Kit and trained first aider	x	x	x
10		Infectious disease	contagious illness	Project team / Workers	All worker should provide medical certificate to witness the cleanliness of infectious diseases	Provide First Aid Kit and trained first aider	x	x	x
1	Warehousing plants and materials	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 limitation, Not personnel under moving charge, install protections to hold stored objects	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 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	Plants and materials transportation	Falling object	Injury / Fatality	Third person	Secure the delivery by proper device and continuous check during the trip	Communication mean available List of emergency contact available Emergency plan	x	x	x
2		Truck reversal	Injury / Fatality	Third person / Driver	Respect of the authorized load and the traffic rules		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,		x	x	x

					container)				
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
1	Excavation	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		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	-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
6		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
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	x	x	x

						-Emergency plan			
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		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	Transformer installation	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		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	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

4.2 Safety Work Method Statement and Hazard Control

4.2.1 Site Rules

- All personnel shall undergo safety induction training.
- Appropriate Personal Protection Equipment shall always be provided and worn.
- Every accident and near miss event must be reported to the Site Manager immediately.
- Any person found to be interfering with, or misusing fixtures, fittings or equipment provided in the interest of health, safety and welfare shall be excluded from site.
- 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 alcohol or illegal drugs are to be brought onto the site.
- 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 gambling, threatening or violent behavior.
- 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. Drivers need to have updated and valid Driving licensure and defensive driving training.
- No one may enter an excavation greater than four feet deep unless authorized by the Competent Person/ Foreman.
- Excavations must be sloped or shored properly. Safe means of access and egress from excavations must be maintained.
- Ladders and scaffolds shall be solidly constructed, in good working condition, and inspected prior to use. No one may use defective ladders or scaffolds.
- Fall protection or fall arrest systems must be in place when working at elevations greater than six

feet for temporary working surfaces and four feet for fixed platforms.

- 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.
- Hand and portable power tools must be inspected prior to use. Defective tools and equipment shall not be used.
- Ground fault interrupters shall be used for cord and plug equipment used outdoors or in damp locations.
- Electrical cords shall be kept out of walkways and puddles unless protected and rated for the service.
- Improper use, mishandling, or tampering with health and safety equipment and samples is prohibited.
- All incidents, no matter how minor, must be reported immediately to the Supervisor.
- All personnel shall be familiar with the Site Emergency Response Plan.
- Site fire and emergency alarms, equipment and instructions are designed to protect life, they must be followed.

4.2.2 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.
- Daily collect all wastes from the site work and dispose in the temporary waste bins at the warehouse and site to be managed by the approved collector.

4.2.3 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 and installations.
- The use of armed security guards must be informed by a Security Risk Assessment and situations which warrants their use.
- Armed security guards shall be hired and used in line with ESS4 (para 24-27).

4.2.4 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.
- 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.

4.2.5 Fire

In case a gasoline powered generator and/or air compressor will be used at the site to power the various power tools and for heavy machines, there is a risk of fire during refueling of this generator, particularly if fuel is spilled in the process. To prevent ignition of this fuel, the generator will be staged and operated

outside, away from all ignition sources. Smoking will be prohibited within 30 meters of the generator and fuel storage area. The gasoline will be stored in a safety can and will be bonded to the generator during transfer of fuel. The generator will be grounded to a conducting rod driven into the ground if such grounding is recommended by the manufacturer. A portable dry chemical fire extinguisher and sorbent pads will be staged at the jobsite in the event of fuel spillage or fire.

4.2.6 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.
 - 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.
- Workers must:
 - follow all instructions to wear and use PPE
 - take reasonable care of PPE.

5.0 Managing Construction Hazards

5.1 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 fall prevention device such as secure fencing, edge protection, working platforms and/or covers.
- 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.
 - only use approved work platforms.

5.2 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.

5.3 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.

5.4 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.

5.5 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.

5.6 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).
- Flexible cords used on construction sites must be rated heavy duty.
- To avoid confusion with individual earthing conductors, green-sheathed flexible power cords must not be used on site.
- Flexible cords must be either protected by a suitable enclosure or barrier (flexible or rigid conduit) or located where they are not subjected to mechanical damage, damage by liquids or high temperature (elevated on stands or hung from nonconductive support brackets).
- The Contractor will maintain an in-service inspection and test regime for all portable electrical leads, tools and earth leakage devices.
- The Contractor will ensure that after the equipment has been inspected and tested, it will be fitted with a durable, non-reusable, non-metallic tag. The tag will include the name of the person or company who performed the test and the test and re-test date.
- Records of all inspections, tests, repairs and faults related to all electrical equipment will be recorded in a testing and tagging register.
- RCDs and portable equipment must be inspected, tested and tagged every 3 months.
- Workers must conduct an RCD push button test after connection to a socket and before connection to equipment at least once a day.
- 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.

5.7 Plant

To ensure all plant used complies with the requirements of the H&S Regulations:

- only use plant for the purpose for which it was designed.
- use all health and safety features and warning devices on plant.

- follow all information, training and instruction provided.
- guarding must be permanently fixed and is not permitted to be removed.
- no person other than the operator may ride on the plant unless the person is provided with a level of protection that is equivalent to that provided to the operator.
- The Contractor will ensure that:
 - all plant is regularly maintained, inspected and tested by a relevant competent person.
 - the plant has a warning device that will warn persons who may be at risk from the movement of the plant.
 - all plant that lifts or suspends loads is specifically designed to lift or suspend that load.

5.8 Scaffolds

The Contractor will ensure:

- that the scaffold is erected by a competent person.
- that before using the scaffold, the competent person has advised (in writing) that it is safe.
- that scaffolding is inspected by a competent person:
 - before use of the scaffold is resumed after an incident occurs that may reasonably be expected to affect the stability of the scaffold.
 - before use of the scaffold is resumed after repairs.
 - at least every 30 days.
- that, if an inspection indicates that any scaffold or its supporting structure creates a risk to health or safety:
 - any necessary repairs, alterations and additions will be made or carried out.
 - the scaffold and its supporting structure will be inspected again by a competent person before use of the scaffold is resumed.
- Workers must:
 - not use incomplete scaffolding.
 - report any scaffolding issues to the foreman/ supervisor.
 - comply with the directions of any tags attached to the scaffold.
- We will prevent unauthorized access to the scaffold by:
 - removing ladders where there is no site fencing.

5.9 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.

5.10 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

5.11 Slips, Trips and Falls

The Contractor will manage hazards associated with slips, trips and falls by:

- using a slips, trips and falls checklist as required.
- checking for hazards that could cause someone to slip, trip or fall by doing a visual check.
- ensuring workers keep the site tidy as part of the written site rules.

5.12 Hand Operated and Power Tool Use

The Contractor will manage hazards of hand operated and power tool use by:

- regularly checking all tools to ensure they are in a safe working order
 - recording all electrical tools in a tag and testing register.
 - testing and tagging electrical tools every 3 months.
 - Communicating any issues identified with power tools to workers through a toolbox meeting.
- Before using power tools, workers must ensure:
- electrical connections are secure.
 - electricity supply is through an RCD.
 - safety guards are in position.
 - the machine is switched off before activating the electricity supply.
 - appropriate PPE is used as required by manufacturer's guidelines or as guided by the Resident Engineer.

Workers must report any issues with power tools to the Resident Engineer. Unsafe tools will be tagged and removed from service.

5.13 Noise

To control this exposure hazard, all personnel working near excessively noisy equipment will be required to wear hearing protection. If necessary, sound level measurements will be collected in the work area, as needed, to evaluate this hazard.

5.14 Sun Safety

All persons on site should:

- Wear adequate clothing (eg hats) and other protection methods (eg 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.

5.15 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.

5.16 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.

6.0 Health and Safety Management and Monitoring Program

6.1 Performance Measurement and Monitoring

The Occupational Health and Safety Monitoring Provisions are:

- Monitoring of objectives and indicators, site visit (observation and investigation);
- Regulation survey and compliance;
- Control of non-conformities and initiation of improvement actions;
- Analysis of incidents / accidents;
- Internal audit; and
- External expertise.

6.2 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 incidents and mitigation of the consequence of risks and respond to the various types 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 3 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	Falling	Avoid falling	Number of	0	Ensure start and bi-	Health and	Ensure start	“

Policy Focus	Risk	Objective	Indicator	Target	Action Plan	Resp.	Timing	Budget
and ill health	object	object accident	falling object accident / incident		monthly check of the pulling and lifting devices	Safety Manager	and bi-monthly 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	“

7.0 EMERGENCY AND INCIDENT MANAGEMENT

7.1 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;
- Monitoring, testing and maintenance of alarm systems and early warning devices;
- Training requirement including Mock Drill Exercises for emergencies;
- Rescues and medical treatment of casualties.

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 4: 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		
Ambulance Service		Police
Emergency Fire & Rescue Service		

7.2 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).

7.3 Emergency Evacuation of the Site

The CONTRACTOR will establish a Procedure for the evacuation of the Site in the event of fire, explosion, bomb warning or other emergencies.

The CONTRACTOR shall provide any adequate checking system to ensure that all his employees are removed from the Site in the event of such emergencies. The Procedure will include arrangements for practice evacuation as necessary and shall be agreed with the Engineer.

7.4 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.

7.5 Emergency cases and Action Plan

Emergencies that might develop during construction activities include:

- Falling from height;
- Fire (involving fuels, explosion, gases and other materials);
- Personnel injuries due to traffic accidents and/or external impact, etc.;
- Construction activities (e.g. fall of material, manual and mechanical handling, use of hand tools, use of hazardous substances, etc.);
- Medical cases;
- Flood ;
- Snake bite.

External Events shall be considered in Emergency Response:

- Fire;
- Explosion;
- Ignited Leaks;
- Toxic Leak.
- Terrorism

The following table presents the identified possible emergency situations, their proposed mitigation measures and response actions. The response plan should be checked for readiness before starting project activities to ensure the efficiency of the plan. Mock emergency trials should be undertaken on a quarterly basis to refresh and guarantee the preparedness of the team and the availability and the efficiency of the provided resources.

Table 5: Health and Safety Emergency situation and preparedness response

Nº	Situation	Responsible	Prevention provision	Response	Capacity (minute)	Record	Communication
1	Falling from height	Site supervisor	-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 first aider - Emergency contact list	Minimize worsening the injury by ensuring that there is no immediate danger to the victim (and you yourself). -Reassure the victim. -Evaluate the victim state: -Make sure the person is conscious and responsive: take the victim's hand and ask for his or her name. -Check if the person is responding to simple conversation and instructions: ask him or her to shake hands. - Check for breathing: slow, fast, no breathing ... -Check the pulse of the victim: in case of absence of breathing or pulse, a cardiac massage is vital -Palpate the person: touch the victim's clothes to check the absence of blood 5- Call for rescue - Administer first aid to the victim.	05	Incident report	- Rescue authority - Health and Safety manager -Site Manager - PIU

2	Fire	Site supervisor	-Awareness to avoid using fire in work place, - Avoid storing and transportation of flammable products - Emergency contact list	-In case of localized fire, personnel who have been trained in the use of fire extinguishers intervene to extinguish the fire. - The other persons present must move away from the dangerous zone (go to emergency assembly point) and wait for instructions before returning to their workplace. -In the event of a major fire, all personnel must depart from the fire and call firefighting services.	10	Incident report	- Firefighting services - Rescue authority - Health and Safety manager -Site Manager - PIU
3	Road traffic accident	Site supervisor	-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,	-Avoid aggravating the injury by ensuring that there is no immediate danger to the victim (and you yourself/ first responder). -Park the vehicle properly; -Turn on the emergency/ hazard lights; -Put on the safety vest; - Get the passengers down and help them get as far away as possible from the road; -Indicate accident using triangle or any other possible means. -Reassure the victim/s. - Evaluate the victim/s state: - Make sure the person is conscious and responsive: take the victim's hand and ask for his or her name.	05	Incident report	- Rescue authority - Health and Safety manager -Site Manager - PIU

			-Use of marking device in case of huge delivery (such as metallic structure, container) - Emergency contact list	-Check if the person is responding to simple conversation and instructions: ask him or her to shake hands. - Check for breathing: slow, fast, no breathing ... -Check the pulse of the victim: in case of absence of breathing or pulse, a cardiac massage is vital -Palpate the person: touch the victim's clothes to check the absence of blood 5- Call for rescue 6- Delivery of the first aid act as appropriate.			
4	Conflict with property owner	Site supervisor	-Awareness regarding respect of private properties - Emergency contact list -Inform in advance local authority to inform population and ease the entry to private properties - Recruiting workers locally to intervene to solve conflict -Be in group	-Alert local authority and ask for assistance -Explain to the owner the importance of the work and benefits - Delivery of first aid if necessary	10	Incident report	- Firefighting services - Rescue authority - Health and Safety manager -Site Manager - PIU - Local Authorities

7.6 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.

7.6.1 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 should be made available to the 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.

7.6.2 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.

8 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
- 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

The main Contractor 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 workplace).

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 6: 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	Waste management	Team leaders, linemen's	Q HSE Manager	- xxx
7	Reporting of Incidents/ Accidents	Team leaders, linemen's	Q HSE Manager	- xxx

9 OHS IMPLEMENTATION BUDGET

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

10 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 installation of BESS 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 templates 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 on 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 and design and 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 assessment (or of stand-alone SEA/SH assessment), including mapping of GBV service providers (see below), assessment of existing	IA, SEA/SH assessment consultant			SEA/SH risks integrated in E&S assessment report (Y/N)	IA, SEA/SH assessment consultant

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 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	IA, consultant mobilized to carry out the SEP			• # women and girls involved in sex-specific consultations/total number of community members consulted with (SEP) or # of focus groups carried out with women only (SEP) • # of CSOs advocating for women and girls, children,	IA, consultant mobilized to carry out the SEP

with the right expertise and culturally sensitive approaches				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, 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	IA, SEA/SH assessment consultant			• An SEA/SH action plan has been developed (Y/N) • Action plan is regularly updated (Y/N)	IA
BEHAVIORAL STANDARDS					
• Develop an Accountability and Response Framework - o Document in one place the steps for handling, reviewing,	IA			• Project has a SEA/SH Prevention and	IA

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.				Response Action Plan (Y/N) • Project has an Accountability and Response Framework as part of the ESMP (Y/N)	
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	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

them individually or as part of training, ensuring that they are aware/trained and that CoC are enforceable)					
• Train project workers on expected behaviors and prohibitions related to SEA/SH, GM and support services, ways to file a complaint, etc. - 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 and civil servants ongoing training	All project consultants and contractors, GBV service provider if relevant			• # of project actors trained on CoC / total # of project actors active in reporting period • # training session carried out for project actors • GM coordinator has been trained in the survivor centered approach (Y/N)	Supervising engineer, all project consultants and contractors, GBV service providers (if relevant)

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. - o Update referral pathways regularly, as needed	IA, SEA/SH assessment consultant			• Localized referral protocols available for all areas of project implementation (Y/N, disaggregated by region)	IA
• 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	IA			• SEA/SH sensitive SOPs in place as part of broader GM SOPs • # of SEA/SH cases received by the project,	IA

- 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 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				(disaggregated by age, sex, form of violence reported, status/open/closed, etc.);	
• 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 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	IA, GBV service provider			• # of community members targeted by awareness raising (disaggregated by sex) •	IA
MOBILIZATION OF TECHNICAL EXPERTISE					
				•	
• Clearly define the SEA/SH requirements and expectations, including on 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.	IA (social specialists and procurement)			• SEA/SH requirements and expectations are clearly defined in the bid documents (Y/N) • SEA/SH requirements and expectations are clearly defined in the procurement documents (Y/N)	IA

- 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 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. - 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.	IA, contractors, consultants (including GBV actor), supervising engineer.			• Protocol for M&E of the project is in place (Y/N) • E&S instruments are updated throughout the life span of the project (Y/N)	IA
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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.