



Mui Dinh Wind Farm Environmental and Social Management Plan

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Appendix A. Monitoring Checklists

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Glossary

DONRE	Department of Natural Resources and Environment
ELMD	Elwind Mui Dinh
EPR	Emergency Preparedness Response
EPC	Engineering, Procurement and Contracting
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
GIIP	Good International Industry Practice
HSE	Health, Safety and Environment
IFC	International Finance Corporation
IUCN	International Union for Conservation of Nature
K2M	K2 Management
ROW	Right Of Way
SDG	Sustainable Development Goal

1 Introduction

1.1 Objectives

Mui Dinh Wind Farm is located in Phuoc Dinh Commune, Thuan Nam District, Ninh Thuan Province. The project is developed and owned by El Wind Mui Dinh Ltd. (ELMD), owned by ven-wind New Energy GmbH. The project consists of 16 WTG (ENERCON E-103 EP2 / 2.35 MW) and is currently in the last stage of construction.

An Environmental and Social Impact Assessment (ESIA)¹ has been prepared, identifying and assessing environmental and social impacts and risks associated with the construction and operation of the Project. The ESIA was prepared in accordance with the main governing law on environmental management in Vietnam² and under guidance by the requirements of the World Bank Safeguard Policy on Environmental Assessment (OP 4.01)³. The ESIA is approved by the Department of Natural Resources and Environment (DONRE) of Ninh Thuan Province on 13th March 2015.

A range of management, mitigation and monitoring measures have been identified in the ESIA to reduce anticipated impacts to acceptable levels. Ensuring that the measures are implemented during construction and operation is essential to demonstrate that Elwind Mui Dinh (ELMD)'s commitments to avoiding, minimising or reducing negative environmental and social impacts, and maximising benefits derived from positive impacts can be realised. This is presented in this Environmental and Social Management Plan (ESMP), which presents the management, mitigation and monitoring required to reduce the anticipated impacts to acceptable levels. The ESMP is prepared with the United Nations Sustainable Developments Goals (SDGs) in mind, focussing on the "Leave no one behind" approach, where initiatives towards one SDG should not influence negatively in working towards other SDGs. Focus is naturally on SDG #7 Affordable and Clean Energy, but the ESMP also relates to SDG #5 Gender Equality, SDG #6 Clean Water and Sanitation and SDG #15 Life on Land⁴.

This Environmental and Social Management Plan (ESMP) has been prepared to meet the following objectives:

- Provide strong and integrated guidance to facilitate the implementation of mitigation, management and monitoring measures developed in the ESIA for Mui Dinh.
- Describe how ELMD and construction and operation contractors will put in place an organisational and reporting structure, supplemented by a training and hiring process, which can effectively and efficiently implement this ESMP.
- Describe all management and mitigation measures to be implemented during the construction and operations phase, assigning responsibilities for their implementation and monitoring.
- Provide a framework through which recommended livelihood restoration and community support measures can be implemented.
- Develop a monitoring and review process which provides sufficient oversight of the implementation of management and mitigation measures and identify opportunities for continual improvement.

This document is designed to be read separately to the ESIA and can form a single point of reference for all parties identified as having responsibility for implementation. ELMD has ultimate responsibility for the monitoring and reporting on the overall status of the Project during construction and operations. The ESMP is prepared under guidance of the World Bank Safeguard Policy on Environmental Assessment (OP 4.01), International Finance, Corporation Performance Standards on Environmental and Social Sustainability⁵ and United Nations Sustainable Development Goals (SDGs).

¹ Elwind Mui Dinh Ltd. (2017): Environmental Impact Assessment for 37.6MW Mui Dinh Wind Farm. Ninh Thuan, March 2015. Update October 2017.

² Law no 52/2005/QH11 of 29 November 2005 by the National Assembly on environment protection.

³ The World Bank (2013): Operational Manual 4.01 Environmental Assessment. Available online: <https://policies.worldbank.org/sites/ppf3/PPFDocuments/Forms/DispPage.aspx?docid=1565&ver=current>

⁴ United Nations Sustainable Development Goals: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

⁵ IFC Performance Standards on Environmental and Social Sustainability available online:

1.2 Note on applicability and scope

This ESMP presents a collective point of reference for the implementation of all management, mitigation and monitoring measures developed specifically through the ESIA process for the project. This includes:

- Management of environmental and social impacts caused by the project.
 - Environmental issues are here defined as noise and flicker, dust, waste, water quality, soil erosion, habitual and species (flora and fauna), visual impacts and cultural heritage.
 - Social issues are loss and damage of property and local employment.

During impact identification and assessment in the ESIA, some impacts were identified to be managed outside the scope of this ESMP. These relate to Health and Safety and are to be addressed in separate plans mainly the Occupational Health and Safety Plan and Community Health and Safety Plan. Furthermore, management of land acquisition process and stakeholder engagement can be addressed in detail separately from the ESMP.

A separate Environmental and Social Impact Assessment have been prepared to the Vietnamese regulators, which may have slightly different requirements for environmental and social monitoring. This ESMP does not ensure compliance with the information provided in the ESIA for the Vietnamese regulators.

2 Organisational capacity and competency

2.1 Introduction

ELMD will establish, maintain, and strengthen as necessary an organisational structure that defines roles, responsibilities, and authority to implement this ESMP. Specific personnel with clear lines of responsibility and authority are identified in this chapter. Key Environmental & Social responsibilities are defined and will be communicated to the relevant personnel and to contractors and sub-contractors.

Sufficient management sponsorship and human and financial resources will be provided on an ongoing basis to achieve effective and continuous E&S performance and compliance with the main governing law on environmental management in Vietnam and under guidance by the requirements of the World Bank Safeguard Policy on Environmental Assessment (OP 4.01).

2.2 Roles and responsibilities

ELMD will establish an organisation structure with clearly defined roles and responsibilities which enables the implementation of corporate policies, procedures and meeting regulatory obligations. The environmental and social management organisation chart is shown in Figure 2-1 below, where also other aspects not covered in the ESMP are organised.

The responsibility for day to day implementation of the ESMP is vested with the Project Director. At the lower level, responsibility for the implementation of the various aspects is as following:

- The Project Manager has overall responsibility for all matters covered in the ESMP in relation to the construction and operations phase, and for the Occupational Health and Safety, the Community Health and Safety and the Emergency Preparedness Plan.
- The Community Liaison Officer is responsible for all contact with the local community and local authorities.
- The Construction Manager is responsible for implementation of the environmental and social issues covered in the ESMP during the construction period.
- During construction, the EPC contractor is obliged to report to the Project Manager.
- Site Operations Manager is responsible for the environmental and social issues covered in the ESMP during the operational phase.

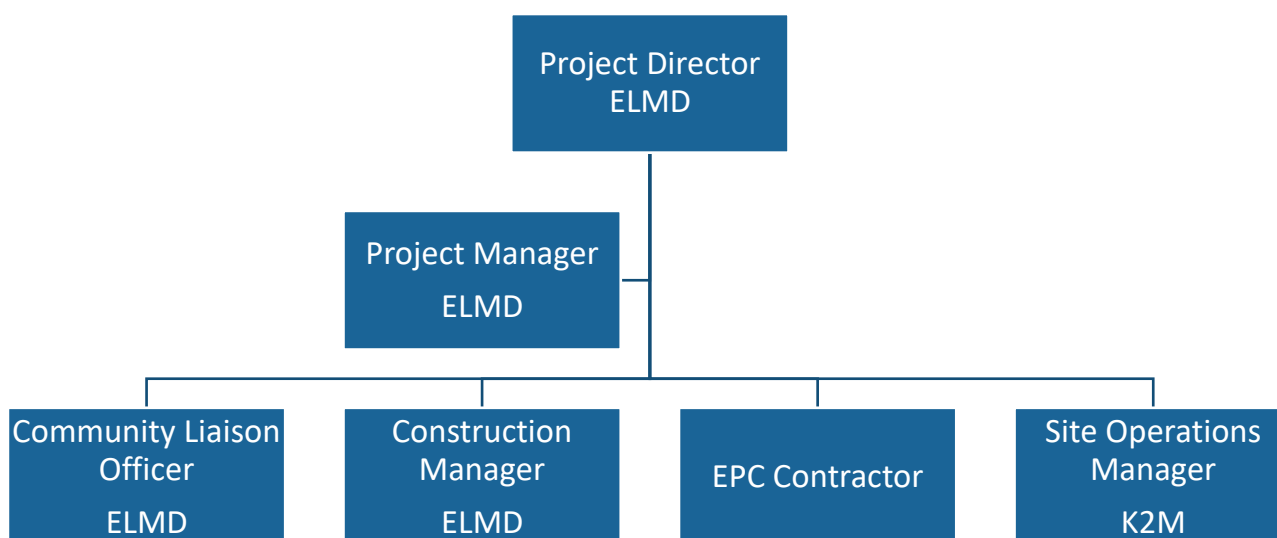


Figure 2-1. Organisational chart for implementation of Environmental and Social Management Plan (ESMP) and for other issues.

2.3 Key roles

2.3.1 Project Director, ELMD

The Project Director will be responsible for all the appointments for environmental and social practices on this Project. The Project Director's role includes the following responsibilities relevant to the ESMP:

- Responsible for all appointments for environmental and social practices.
- Approve of the Project's Environmental and Social Policy.
- Appoint a suitably qualified Project Manager for Construction.
- Appoint a suitably qualified Site Operations Manager.
- Ensure full implementation of the ESMP.

2.3.2 Project Manager (Construction - Site), ELMD

The Project Manager reports to the Project Director.

This role includes the following responsibilities relevant to the ESMP:

- Appoint a suitably qualified Community Liaison Officer.
- Appoint a suitably qualified EPC Contractor and HSE Manager.
- Ensure the ESMP complies with the requirements.
- Report performance monthly to the Project Director.
- Appoint a suitably qualified Construction Manager to implement the ESMP.
- Form an Emergency Response Team.
- Ensure EPC Contractors and sub-contractors comply with the ESMP.
- Ensure there are adequate resources for effective supervision of contractors and sub-contractors and monitoring of compliance with the ESMP.
- Conduct training as required to address deficits, where necessary.
- Undertake periodic reviews of environmental and social performance to ensure ongoing compliance with the ESMP.

2.3.3 Community Liaison Officer, ELMD

This role includes the following responsibilities relevant to the ESMP:

- Act as ELMD's primary point of contact for the local community.
- Review ELMD's monitoring programme and monitoring reports to ensure they contain appropriate coverage of up-to-date social issues.
- Develop and ensure effective implementation of a Grievance Mechanisms.
- Maintain a log of external stakeholder communications.
- Maintain an up-to-date record of internal and external stakeholders' concerns and expectations.
- Report to the Project Manager and Site Operations Manager with regards to social and community issues relevant to the Project.
- Report performance monthly to the Project Manager and Site Operations Manager.

2.3.4 Construction Manager (Site), ELMD

This role includes the following responsibilities relevant to the ESMP:

- Responsible for overall management of the construction phase and contractors.
- Overall responsibility to ensure sufficient resources are available for the implementation of the management measures across all activities.
- Overall responsibility to ensure appropriate corrective actions are implemented as a result of any identified non-compliances or incidents related to environmental and social issues.
- Oversee the monitoring and reporting of compliance with the ESMP.

- Ensure, on an on-going basis, that the requirements of this Plan are communicated via formal training programs to all personnel engaged in work on behalf of the Project.
- Conduct review of existing site plans/procedures and update them as necessary, to incorporate any additional requirements contained within this ESMP.
- Review and assess data from inspections, monitoring and reporting.
- Liaise with relevant organisations as necessary and ensure that all permits are all place.
- Review sub-contractor's procedures to ensure compliance with this ESMP.
- Assist site personnel and contractors to define appropriate corrective actions to be implemented in response to non-compliances and providing project-wide advice to ensure a consistent approach and outcome are achieved.
- Organise relevant site inspections, to include environment and social aspects.
- Monitor the project compliance with the requirements of the Construction ESMP and reporting any non-compliance issues to the Project Manager.

2.3.5 EPC Contractor

Will be monitored by the Project Manager to ensure that the following responsibilities relevant to the ESMP are appropriately implemented:

- Comply with the Project's ESMP and other relevant regulations.
- Coordinate with the Construction Manager to ensure that all aspects of this ESMP are implemented in the EPC's scope of work, including sub-contractor of any tier.

2.3.6 Site Operations Manager, K2M

This role includes the following responsibilities relevant to the ESMP:

- Oversee the monitoring and reporting of compliance with the ESMP during operations.
- Overall responsibility to notify the Project Director and Project Manager sufficient resources are available for the implementation of the management measures across all activities.
- Lead inspections and develop reports to provide the ELMD's Project Manager. During construction, each Contractor should have his own ESMP and reports. The Site Operation Manager will collect and review them.
- Conduct review of existing site plans/procedures and update them as necessary, to incorporate any additional requirements contained within this ESMP.
- Review and assess data from inspections, monitoring and reporting.
- Responsibility to suggest appropriate corrective actions to the Project Manager as the result of any identified non-compliances or incidents related to environmental and social issues.
- Assist site personnel and contractors to define appropriate corrective actions to be implemented as a result of any identified non-compliances and providing project-wide advice to ensure a consistent approach and outcome are achieved.
- Ensure, on an on-going basis, that the requirements of this Plan are communicated via formal training programs to all personnel engaged in work on behalf of the Project.

2.4 Training and competency

ELMD will ensure that all personnel responsible for the implementation of this ESMP are competent in terms of education, training and experience. All personnel shall be provided with Environment and Social training appropriate to their scope of activity and level of responsibility. ELMD will consider new recruitment and/or use of 3rd party to ensure engagement of appropriate individuals for the given tasks, as outlined in International Finance Corporation Performance Standards on Environmental and Social Sustainability.

The Project Director will, with the assistance from the Project Manager, ensure that the training activities are appropriately documented and recorded, including:

- Definitions of role specific training requirements.
- An assessment of need for training.

- Records of training undertaken including detailing the attendees, content, trainer and dates of the induction/training. Contractor’s training, awareness and competency program, including delivery and verification thereof, is subject to ELMD’s review and approval.

2.4.1 Training programme

A training programme will be established, to ensure that staff and contractors have the required competences to implement the ESMP. The content of the training programme is outlined in Table 2-1.

Table 2-1. Recommended training programme for implementation of the ESMP.

Training Program	Content	Personnel	Frequency
Job Specific Training			
Pre-start toolbox meetings	Pre-start toolbox meetings will be undertaken to ensure Project personnel understand their required commitment and responsibilities with regards to particular tasks.	All site personnel involved in the specific task.	Once prior to the commencement of each new task.
Daily toolbox talks	Daily toolbox talks will be undertaken to ensure Project personnel understand their day to day responsibilities, as well as to assess site conditions and identify any changes which may result in new or previously unidentified hazards and require implementation of different management procedures.	All site personnel	Daily Additional toolbox talks as required by ELMD.
Project Environment and Social Alerts	Where required, Project environmental and social alerts will be prepared to convey approved important information to the project team. This information may be triggered by a recent incident, infringement notice, change in acceptable work practices or good practices.	All site personnel	As required
Environment and Social issues training	Issue specific environmental and social training to focus on: <ul style="list-style-type: none"> • The framework of the relevant plan • Mitigation measures required to be implemented including responsibilities. • Objectives and performance goals. • Monitoring and reporting requirements. • External grievance mechanism. • Incident investigation and response. 	Social personnel, Contractor Construction Manager, Operation Manager, and any specialists or personnel identified as responsible for specific tasks.	<ul style="list-style-type: none"> • Training to be provided prior to start-up of identified tasks and updated if tools or procedures change. • Refresher frequency as required based on environmental risks associated with the task.

Further to this, specific training in relation to Health and Safety (H&S) will be undertaken. H&S topic can be included in the toolbox meetings and can be further described in a Occupational Health and Safety Plan.

2.4.2 Training record

Staff will complete and sign an attendance sheet for all courses attended, including the toolbox talks training. Staff will also be asked to complete a course evaluation sheet at the end of each course, to assess the effectiveness of the training delivered.

All records, including the course evaluation sheets and attendance sheets, will be held in a central location by ELMD and the Contractors and made available during any audit conducted as part of the audit programme. The Project will maintain records of all training provided to ELMD’s employees.

2.5 Review and update

ELMD will provide a continuous capacity building programme to improve and enhance the capability of its Project personnel in executing their respective responsibilities toward Environmental and Social compliance.

The Project Manager will:

- Review the monitoring and audit reports and perform a periodic review of ELMD's organisational capacity in implementing the ESMP.
- Identify further needs for training and equipment and seek external resources as necessary.
- Coordinate with relevant departments to implement the improvement measures upon approval from the Project Director.

3 Pre-construction ESMP

3.1 Overview and pre-construction issues

Compliance with the requirements of this ESMP is important for the Project. The Construction Manager is responsible for the monitoring and reporting of overall status of Project compliance with this ESMP throughout the pre-construction phase. To achieve continual improvement, the monitoring will be reviewed and evaluated by Project Manager, and activities will be amended if necessary.

During the pre-construction of the Project, there are no environmental impacts which require mitigation and/or monitoring. Only social impacts have the potential to occur, which arise from land clearing, resulting in loss and/or damage of property. This is presented in Table 3-1.

Table 3-1. Pre-construction Environment and Social Management Plan.

Impact parameter and source		Mitigation measures	Monitoring/verification and reporting		
Impact parameter	Source(s) of impact/activity		Type & Frequency of monitoring	Responsible for monitoring	Reporting requirement
Loss and damage of property	Siting of WTG and access roads.	Site ROW to minimize impacts on properties.	Ongoing	Project Manager	Monthly during planning stage

4 Construction ESMP

4.1 Introduction

During the construction of the Project, there is the potential for environmental and social impacts to arise. Typical activities relevant to the construction phase that may impact the environment include land clearing for site preparation and access routes, excavation, blasting and filling, transportation of materials and fuels, construction of foundations involving excavations and placement of concrete and installation of equipment.

These activities impact several environmental issues, and within each issue, management, mitigation and monitoring measures have been aligned with the specific impacts they are intended to address. This includes:

- Noise and vibration
- Air quality
- Waste and hazardous materials
- Waste water
- Surface water
- Soil erosion
- Habitat alternation and species mortality, injury, disturbance
- Cultural heritage
- Visual impact

The ESMP for the construction phase is divided into environmental and social issues respectively as presented in the following sections. The responsibilities for implementing the ESMP are summarised in Chapter 8 Monitoring, auditing and reporting.

4.1.1 Environmental construction issues

The environmental impacts which may occur and require management and/or monitoring are presented in Table 4-1.

Table 4-1. Construction Environment and Social Management Plan for Environmental issues.

Impact parameter and source		Mitigation measures	Monitoring/verification and reporting		
Impact parameter	Source(s) of impact/activity		Type and frequency of monitoring	Responsible for monitoring	Reporting requirement
Noise and vibration	<ul style="list-style-type: none"> ● Vegetation clearance and earthworks. ● Transport of materials, people and equipment to site. ● Use of heavy / percussive equipment. 	<ul style="list-style-type: none"> ● All construction activities to be carried during normal working hours (08:00 – 17:00). ● Night works are kept to a minimum and local community informed beforehand. ● Regularly check plant and equipment to ensure that it is all functioning well and efficiently. Any issues with equipment should be fixed immediately to maintain a low level of noise. ● Using methods and devices that emit low level of noise and vibration and use horns only when necessary to prevent accidents. 	<p>Ongoing visual monitoring and oversight.</p> <p>Plant maintenance logs to be monitored monthly.</p>	All	Daily checklists

Impact parameter and source		Mitigation measures	Monitoring/verification and reporting		
Impact parameter	Source(s) of impact/activity		Type and frequency of monitoring	Responsible for monitoring	Reporting requirement
Air quality	Dust <ul style="list-style-type: none"> Construction activities such as vegetation clearance, earthworks and traffic. 	<ul style="list-style-type: none"> Employ dust suppression techniques including damping down of exposed surfaces. Keep vehicles to marked trafficable areas that will be maintained in a damp and compacted condition. Cover stockpiles or side-cast materials or employ other dust suppression techniques (e.g. with water). Enforce speed limits to minimise dust generation due to vehicle movement. 	Ongoing visual monitoring and oversight, focusing on visible dust emissions. Plant maintenance logs to be monitored monthly.	EPC	Daily checklists
	Emission <ul style="list-style-type: none"> Exhaust emissions from vehicles or equipment plant. 	<ul style="list-style-type: none"> All vehicles and machinery to have valid operating permits with regards to emission standards in line with the Vietnam Register Department. All plant used on-site (including of suppliers and sub-contractors) must have a valid operation license from Vietnam Government. 	Implement a monitoring and maintenance schedule for construction vehicles and equipment. Plant maintenance logs to be monitored monthly.	EPC	Monthly
	Emission <ul style="list-style-type: none"> Fumes from open burning of waste. 	<ul style="list-style-type: none"> Open burning of waste is prohibited. 	Ongoing visual monitoring and oversight.	All	Report non-compliances and corrective actions
Solid and hazardous waste	General waste from site activities and domestic waste generated by workers.	<ul style="list-style-type: none"> Avoiding or minimizing the generation of waste materials, as far as practicable. Waste will be collected and properly stored (and segregated, if required) in a designated location prior to collection by contractor for disposal. 	Ongoing visual monitoring and oversight.	EPC	Quarterly
	Hazardous waste from use of lubricants, chemicals, or paints	<ul style="list-style-type: none"> Hazardous waste will be contracted to an agency for treatment. Hazardous materials should be stored in closed containers (preferably in a dedicated hazardous waste storage facility), appropriately labelled and away from direct sunlight, wind, and rain. 	Ongoing visual monitoring and oversight. Regular inspection, maintenance, and reporting of hazardous waste inventory.	EPC	Monthly

Impact parameter and source		Mitigation measures	Monitoring/verification and reporting		
Impact parameter	Source(s) of impact/activity		Type and frequency of monitoring	Responsible for monitoring	Reporting requirement
Waste water	Use of oils and/ or hazardous substances.	<ul style="list-style-type: none"> All oils and hazardous substances to be stored away from any watercourses, to be located on hard-standing ground and covered when not in use. 	<p>Ongoing visual monitoring and oversight.</p> <p>Where spills or leaks are detected, ongoing monitoring of clean-up efforts to be undertaken as required.</p>	EPC	<p>Daily checklist</p> <p>Hazardous waste manifest to be provided monthly</p>
	Concreting	<ul style="list-style-type: none"> Designated concrete washout or brush out container to be located within a bunded area. Any washout water must be directed to a settling pond and allowed to evaporate. 	Ongoing visual monitoring and oversight.	EPC	Daily checklist
	Domestic wastewater from worker's office and rest areas.	<ul style="list-style-type: none"> Appropriate on-site treatment/collection system (e.g. septic tanks) must be put up. Domestic wastewater from workers' cafeteria/kitchen should be collected into three-compartment septic tank prior to discharge into the environment. No grey water should be discharged directly into lands not owned by the Project. 	Ongoing visual monitoring and oversight.	EPC	Daily checklist
Surface water	Water use by the Project (both construction and domestic).	<ul style="list-style-type: none"> Estimate water needs of the Project, to better assess the adequacy of flow for proposed water intake sources. Engage with local communities and stakeholders to understand competing uses of the proposed water intake sources and come to agreement on water usage. A water permit will be required for all water extraction and will be included as part of the Project's Permit Register. 	A water abstraction meter reader will be installed to monitor water usage.	EPC	Daily checklist
	Road and drainage works.	<ul style="list-style-type: none"> All drainage structures and culverts to be installed in accordance with the approved design plans. Scheduling of completion of all Project road and drainage to be prior of planting season (i.e. May). 	Ongoing visual monitoring and oversight.	ELMD	Monthly

Impact parameter and source		Mitigation measures	Monitoring/verification and reporting		
Impact parameter	Source(s) of impact/activity		Type and frequency of monitoring	Responsible for monitoring	Reporting requirement
Soil erosion	Impact on surface water quality from erosion and sedimentation from site clearance and earthworks.	<ul style="list-style-type: none"> Landscaping and earth packing should be carried out at the base of all wind turbine steel lattice masts to minimize erosion and sedimentation during the rainy season. Landscaping should be carried out as soon as possible based on completed plots or areas Minimise earthworks during the rainy season. Cover stockpiles (e.g. with canvas) if not in active usage. 	Ongoing visual monitoring and oversight. Regular observation for evidence of erosion especially after each major precipitation/run-off event.	EPC	Daily checklist
Habitat alteration, species mortality or injury and disturbance	Flora <ul style="list-style-type: none"> Vegetation clearance 	<ul style="list-style-type: none"> Only clear or remove vegetation as required by the Project. Minimise risk of excessive or accidental removal of vegetation by clearly pre-identifying trees or areas to be cleared. Collect and use the materials to provide wood or firewood for local community. Vehicles to adhere to controlled/designated traffic routes. Undertake ground works only after vegetation clearance. 	Ongoing visual monitoring and oversight.	EPC	Daily checklist
	Fauna <ul style="list-style-type: none"> Impact from all construction activities and associated traffic 	<ul style="list-style-type: none"> Prevent accidental harming or trapping of wildlife due to excavation works: <ul style="list-style-type: none"> Minimise time excavations are open Protect deep excavations overnight Check excavations before filling Remove invasive species from machinery by wash down before bringing to site. 	Ongoing visual monitoring and oversight	EPC	Daily checklist
Cultural heritage	Construction activities	<ul style="list-style-type: none"> The Chance Find procedure is to be implemented. Training induction processes to include. 	Ongoing visual monitoring and oversight	All	Daily checklist
Visual impacts	Use of flood lights during installation activities.	<ul style="list-style-type: none"> If night works are necessary, lighting is to be task-based and directed into the works area. 	Ongoing visual monitoring and oversight	EPC	Daily checklist

4.1.2 Social construction issues

The social impacts which may occur and require management and/or monitoring are presented in Table 4-2.

Table 4-2. Construction Environment and Social Management Plan for Social issues.

Impact parameter and source		Mitigation measures	Monitoring/verification and reporting		
Impact parameter	Source(s) of impact/activity		Type & Frequency of monitoring	Responsible for monitoring	Reporting requirement
Loss and damage of property	Siting of WTG, access roads and T/L towers	<ul style="list-style-type: none"> Consult commune heads and community prior to construction. Contractor/s to compensate landowners/occupants and repair any damage to public infrastructure caused by construction activities, at Contractor's cost, to at least the same standard and condition before. Revegetate with native species if land clearing is unavoidable. 	Consultation with local community and authorities. Ongoing visual monitoring and oversight.	Community Liaison Officer and EPC	Monthly
Social management	<ul style="list-style-type: none"> Stakeholder engagement and grievances 	<ul style="list-style-type: none"> Engage with local community through ongoing liaison. A Grievance Mechanism to be prepared and implemented. All construction works (including overburden disposal) are to be undertaken within the agreed project footprint and the area identified as being acquired by ELMD. 	Ongoing liaison and monitoring.	Community Liaison Officer	Monthly
	<ul style="list-style-type: none"> Employment Opportunities 	<ul style="list-style-type: none"> Consider hiring local workers, if possible, for less-skilled works that can be easily obtained from the local community. 	Ongoing liaison and monitoring.	Project Director	Monthly
	<ul style="list-style-type: none"> Economic displacement 	<ul style="list-style-type: none"> Create passageways, if possible, for grazing areas at safe distance from the construction site. 	Ongoing liaison and monitoring..	Project Director	Monthly

5 Operational ESMP

5.1 Introduction

During the operation of the Project, there is the potential for environmental and social impacts to arise. Typical activities relevant to the operation phase that may impact the environment include WTG presence and operation, use of materials and water, transport of staff and materials.

These activities impact several environmental issues, and within each issue, management, mitigation and monitoring measures have been aligned with the specific impacts they are intended to address. This includes:

- Noise
- Shadow flicker
- Waste and hazardous materials
- Waste water and surface water
- Habitat alternation and species mortality, injury, disturbance
- Visual impact

Compliance with the requirements of this ESMP is important for the Project. The Site Operations Manager is responsible for the monitoring and reporting of overall status of Project compliance with this ESMP throughout the construction phase. To achieve continual improvement, the monitoring will be reviewed and evaluated by Project Manager, and activities / the Projects will be amended if necessary.

The ESMP for the operation phase is divided into environmental and social issues respectively as presented in the following sections. The responsibilities for implementing the ESMP is summarised in Chapter 8 Monitoring, auditing and reporting.

5.1.1 Environmental operation issues

The environmental impacts which may occur and require management and/or monitoring are presented in Table 5-1.

Table 5-1. Operational Environmental and Social Management Plan for Environmental issues.

Impact parameter and source		Mitigation measure	Monitoring/verification and reporting		
Impact parameter	Source(s) of impact/activity		Frequency of monitoring	Responsible for monitoring	Reporting requirement
Noise	Turbine operation	<ul style="list-style-type: none"> ● Far field and near field noise monitoring ● Adhere to national/international acoustic design standards for WTG. ● Operate a grievance mechanism and monitor complaints related to operational noise. ● Detailed noise modelling may be considered if considerable grievances are made. 	Quarterly far field and near field noise monitoring	Site Operations Manager	Quarterly
			Monthly follow-up on registered grievances.	Community Liaison Officer	Monthly
Shadow flicker	Turbine operations – rotation of turbine blades	<ul style="list-style-type: none"> ● A Grievance Mechanism and ongoing consultation with affected communities is to be implemented. 	Monthly follow-up on registered grievances.	Community Liaison Officer	Monthly
Waste	General waste from site activities	<ul style="list-style-type: none"> ● Avoiding or minimizing the generation waste materials, as far as practicable. 	Ongoing visual monitoring and oversight.	Site Operations Manager	Monthly

Impact parameter and source		Mitigation measure	Monitoring/verification and reporting		
Impact parameter	Source(s) of impact/activity		Frequency of monitoring	Responsible for monitoring	Reporting requirement
	Domestic waste generated by workers	<ul style="list-style-type: none"> Waste will be collected and properly stored (and segregated, if required) in a designated location prior to collection by contractor for disposal. Disposal of solid waste will be contracted to a competent company in the province for collection and treatment. 	Regular inspection, maintenance, and reporting		
	Hazardous waste from use of lubricants, chemicals, or paints	<ul style="list-style-type: none"> Hazardous waste will be contracted to an agency for treatment in compliance with current legislation. Hazardous waste disposal manifest or inventory are to be maintained. Implement waste segregation between general and hazardous waste to prevent contamination. Hazardous waste should be stored in closed containers (preferably in a dedicated hazardous waste storage facility) away from direct sunlight, wind, and rain. Train workers on the correct transfer and handling of fuels and chemicals and the response to spills Provide portable spill containment and clean-up equipment on site and training in the equipment deployment. 	<p>Ongoing visual monitoring and oversight.</p> <p>Regular inspection, maintenance, and reporting of hazardous waste inventory.</p>	Site Operations Manager	Monthly
Water Quality	Waste water	<ul style="list-style-type: none"> Provide adequate permanent sanitation facilities. Pre-treat effluent containing oil and grease, by installing oil & grease traps, prior to discharge into sewer systems. If sewage from the facility is to be discharged to surface water, a septic system, or where land is used as part of the treatment system, it must comply with wastewater discharge standards. 	<p>Obtain license from local authority.</p> <p>Ongoing visual monitoring and oversight.</p>	<p>ELMD to obtain license.</p> <p>Site Operations Manager</p>	Weekly checklist
	Surface water	<ul style="list-style-type: none"> All oils and hazardous substances to be stored away from any watercourses, to be located on hard-standing ground and covered when not in use. Spill kits and drip trays to be deployed to works area as appropriate. Implement good management practices as prescribed under Hazardous waste from use of lubricants, chemicals, or paints. 	Ongoing visual monitoring and oversight for oil/chemical spills.	Site Operations Manager	Weekly checklist

Impact parameter and source		Mitigation measure	Monitoring/verification and reporting		
Impact parameter	Source(s) of impact/activity		Frequency of monitoring	Responsible for monitoring	Reporting requirement
Habitat alteration and species mortality, injury and disturbance	Changes to the flora	<ul style="list-style-type: none"> Remove invasive plant species, whenever possible, and cultivate native plant species. Cleared land should be promptly re-vegetated with local seed stock of native species. Restrict vehicle movement to existing roads. Avoid off-road driving. 	Ongoing visual monitoring and oversight.	Site Operations Manager	<p>Monthly</p> <p>Weekly checklist</p>
	Impacts on birds and bats from WTG operation	<ul style="list-style-type: none"> Avoid open-water areas for feeding or nesting. Site screening and initial survey for bats by competent 3rd party. Depending on results from screening and 1st survey, quarterly surveys for a full year to be undertaken by competent 3rd party. Register sighting of birds. If any bird or bat commuting seasons, threatened or endangered species or carcasses (IUCN Red List) have been identified, assess the need to incorporate operational downtime for the WTGs may be required. 	<p>Screening and survey(s) for bats.</p> <p>Ongoing visual monitoring and oversight.</p>	Site Operations Manager with assistance from 3 rd party	<p>Half yearly reporting of bat survey.</p> <p>Weekly checklist</p>
Visual impact, light and illumination		<ul style="list-style-type: none"> Maintain Switchyard Area compact, clean, and painted to match with the local environment. Allow areas of the Project Site to be green, specifically areas on top of the underground cables. Choose native plant species that will suit a wind farm, i.e., does not block or reduce wind resource for the WTGs, and which does not have roots which may impact the underground cables. 	Ongoing visual monitoring and oversight.	Site Operations Manager	Weekly checklist

5.1.2 Social operation issues

The social impacts which may occur and require management and/or monitoring are presented in Table 5-2.

Table 5-2. Operation Environment and Social Management Plan for Social issues.

Impact parameter and source		Mitigation measures	Monitoring/verification and reporting		
Impact parameter	Source(s) of impact/activity		Type & Frequency of monitoring	Responsible for monitoring	Reporting requirement
Social management	Stakeholder engagement and grievances	<ul style="list-style-type: none"> Effective stakeholder engagement needs to be implemented to ensure meaningful communication between the stakeholders and Project parties A Grievance Mechanism is to be prepared and implemented. 	Ongoing liaison and monitoring.	Community Liaison Officer	Monthly.
	Employment Opportunities	Hiring local workers (both genders), if possible, for less-skilled works that can be easily obtained from the local community.	Ongoing liaison and monitoring.	Project Director	Monthly

6 Livelihood restoration and community support

The project consists of WTG, underground cables and substation. The project connects to the national grid directly at the substation, and thus no overhead transmission lines are constructed by the Project. WTG, roads and substation are constructed on land owned by the Project. Sections of underground cables will be installed on land with other ownership, but without any households or land use of importance.

This results in negligible impacts on the local community and livelihood and it is not anticipated to be requirements or need for restoration of the livelihood at the local community.

A Grievance Mechanism will be developed, and a grievance log will be updated monthly and reported to the Project Director.

In liaison with the local community, the following issues will be in focus:

- Both men and women will be invited to participate in public meeting.
- A male and female representative will be invited to participate in the resolution of grievances.
- Special attention will be extended to elderly, disabled and woman-headed households.

The Project will focus on hiring local workers (both genders), if possible, for less-skilled works that can be easily obtained from the local community.

7 Emergency Preparedness and Response

7.1 Introduction

Emergency Preparedness and Response (EPR) is relevant to both the construction and operational phases of the Project. The EPR is to provide an organisational structure so that the scheme can effectively prepare for both external and internal disasters that can potentially negatively affect the Project. The EPR will be prepared in accordance with IFC Performance Standard 1⁶, Good International Industry Practice (GIIP), as well as Vietnamese national legislation.

Responsibility for developing the EPR lies with the EPC Contractor. Ultimately, in the preparation of the EPR, the following process will need to be followed:

- Perform HAZOP (hazard and operations study) analysis for all schemes and this should cover the construction and operational phases of the Project. Completion of the HAZOP should be undertaken in a workshop or series of workshops and include inputs from all relevant stakeholders (such as the Sponsor, the EPC contractors, local communities, District/Commune Level government and local emergency services representatives etc.).
- Document the perceived level of risk (in a risk register) and the appropriate mitigation measures which are required to reduce risks to acceptable levels. All mitigation measures should have responsibilities and timeframes attached to them.
- Inform potentially affected communities of significant hazards giving explanations to aid understanding
- Summarise and disclose the EPRP in a culturally appropriate manner

The EPC Contractors Emergency Response Plan will be the core EPR for implementation throughout the construction and operational phase. This chapter describes the roles and responsibilities of parties external to The EPC Contractor (e.g. ELMD and K2M) in relation to the implementation of the EPR. It also describes basic emergency response and prevention measures which are to be implemented during the operations phase.

7.2 National laws and regulations

The following legislative texts apply to emergency preparedness and response planning. It should be noted, that the below legislation will need to be updated continually, as new legislation may be passed:

- Circular No. 43/2010/TT-BCT Regulations on Safety Management in Industry and Trade.
- Joint Circular No. 01/2011/TTLT-BLDTBXH-BYT (01/2011) of MoLISA and MoH on guiding the organization of labour safety and sanitation work in labour-employing establishments.
- Circular No. 19/2011/TT-BYT (06/2011) of MoH on guiding the management of labour hygiene, laborers' health and occupational disease.

7.3 International standards

The following international standards apply to emergency preparedness and response planning:

- The IFC's Performance Standards on Social and Environmental Sustainability (2012)⁷
 - Organisational structure to implement the management programme
 - Training programmes for staff, including simulations and drills

⁶ IFC Performance Standards on Environmental and Social Sustainability available online: https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/Performance-Standards

⁷ IFC Performance Standards on Environmental and Social Sustainability available online: https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/Performance-Standards

- Periodic review and revisions of the EPRP to reflect changing conditions, if any
- Documentation of EPRP activities, resources, and responsibilities
- IFC's Environmental Health and Safety Guidelines⁸.
- World Bank Group EHS Guidelines on Wind Energy⁹

Where both Vietnamese and international standards are applicable, the Project will aim to apply the most stringent.

7.4 EPR roles and responsibilities

This section provides details of the various roles and responsibilities of those people in relation to meeting its requirements, including the EPC Contractor and their sub-contractors.

The roles and responsibilities of key resources involved in the emergency preparedness and response during the construction and the operations phase of the Project, under the ELMD EPR, are noted in the following sections.

7.4.1 Project Director, ELMD

The Overall Project Director is responsible for the arrangements and for ensuring that the construction and operation of the Project is executed at all time in such a manner as to ensure, so far as is reasonably practicable, the health, safety and welfare of all employees and others who may be affected by its construction. In particular the Project Director will:

- Ensure there is an effective company policy for emergency preparedness and response and that all employees, contractors and temporary workers are made aware of their individual responsibility.
- Ensure that the EPR is maintained and is fit for purpose.
- Ensure that the operation is sufficiently resourced with competent and trained personnel to comply with the requirements of the EPR.
- Ensure that all managers, ELMD staff, and Contractors understand and fulfil their responsibilities with regard to the EPR.

7.4.2 Health and Safety Construction Manager, ELMD

The roles and responsibilities of the Health and Safety Construction Manager are listed as follows:

- Ensure that ELMD's corporate and project level policies especially the emergency preparedness and response procedures are being applied by all workers on site, regardless of whether they are a ELMD employee, EPC Contractor, Sub-contractors or visitor.
- Provide support to operations (including Sub-contractors) towards the implementation and maintenance of the Emergency Response Plan which forms the core of the EPR.
- Lead, facilitate or assist with the investigation of emergency incidents and development and implementation of corrective and preventive actions.
- Ensure that notification and reporting procedures to the relevant statutory authorities are carried out.
- Lead annual reviews of the EPR on an annual basis, or on each occasion that the site condition or hazards change to a degree that review is considered necessary.

⁸ IFC, Environmental, Health and Safety Guidelines. Available online: https://www.ifc.org/wps/wcm/connect/top-ics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

⁹ IFC, Environmental, Health and Safety Guidelines for wind energy. Available online: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_policy_ehs-wind_energy

7.4.3 EPC Contractor HSE Manager

All EPC contractors must have a HSE Team in place during the construction phase of the Project. The roles and responsibilities of the EPC contractors HSE Team is as follows:

- Establish and implement the Emergency Response Plan.
- Manage their subcontractors and suppliers in line with the Emergency Response Plan.
- Ensure their workers are fully competent by ensuring their attendance at the training organised and provided as required.
- Report all incidents to the Health and Safety Construction Manager and participate in and assist incident investigations conducted by ELMD.
- Participate in regular inspections and audits conducted by their own regularly.
- Conduct HSE and Emergency Preparedness and Response monitoring onsite in line with the Monitoring Plan
- Report their HSE and Emergency Preparedness and Response performance to the ELMD Site Construction Manager.

7.4.4 Sub-contractors

All sub-contractors must:

- Comply with the EPC Contractor's Emergency Response Plan.
- Establish HSE Teams comprised of sufficient resources and competency to ensure compliance with the Emergency Response Plans.
- Report HSE performance to the EPC Contractors regularly as required.
- Report all incidents to the EPC Contractors and participate in and assist incident investigations conducted by Health and Safety Construction Manager.
- Participate in regular inspections and audits conducted by the Health and Safety Construction Manager and EPC Contractors.
- Participate in HSE committees organised by the Health and Safety Construction Manager and communicate HSE information and notifications to relevant people with their organisation as required.
- Ensure their workers are fully competent by ensuring their attendance at the training organised and provided as required.

7.4.5 Authorities and Emergency Support Services

The Health and Safety Construction Manager must identify and contact local emergency support services and relevant regulatory authorities and provide a project outline to key personnel, including details of the establish emergency response procedures. The EPC Contractor EPRP's must identify when they will call upon extra support, on local emergency services and the contact procedures, including relevant phone numbers. These are described within The Emergency Response Plan.

7.5 Evacuation

There must be a single site general alarm, which will be a continuous 'siren' that can be initiated from a Security Control Room. On hearing the alarm all personnel must stop work, make their worksites safe and proceed to their nominated Assembly Points without delay.

The EPC Contractor must identify safe excavation routes and assembly points, within or in close proximity to its work area.

The location of the assembly points and evacuation routes must be depicted clearly on a site, displayed through the work area, appropriately sign posted and be communicated to all staff.

As the project develops, the Emergency Muster Points and Evacuation routes must be updated to reflect the Project's current status and associated work activity.

In addition to the general site alarm, there are procedures with training and evacuation drills being conducted independently to the emergency response plan. For offices, indoor workshops, and other workspaces such plans shall include:

- Preparedness for evacuation in emergency.
- Set up sirens or loudspeakers or other communicating measures.
- Make the evacuation routes and muster points clearly visible.
- Put the evacuation route figures on room walls.
- Carry out evacuation training and exercise periodically.
- Instruct evacuation routes whenever visitor comes.

7.6 Communications

7.6.1 Internal communication

Internal communication is defined as a communication between the Health and Safety Construction Manager and EPC Contractors HSE Team, with regards to emergency preparedness and response issues. The communication might include but not limit to:

- Routine daily, weekly, and monthly communication and monitoring and inspection.
- Formal monthly reporting and meeting to report progress and implementation, as well as follow-up non-compliance issues.
- Urgent communication when needed to address issues of immediate threat to the environment.
- Conduct quarterly internal audits against the ELMD's EPR (Construction Phase).

Apart from regular self-monitoring/inspections (daily, weekly or monthly) by EPC Contractors, a regular monthly meeting to discuss monitoring and inspections is to be set up with participants from ELMD, EPC contractor and, where relevant, subcontractors. The meeting agenda will be prepared before the meeting and inspection.

7.6.2 External communication

External communication is defined as a communication between the Project (ELMD and EPC Contractor) and third parties such as Lenders, Vietnam Government or relevant authorities, local communities on emergency preparedness and response issues.

External communication may include but not limit to:

- Routine communication and joint monitoring and inspection programs upon request from Lenders and local authorities.
- Urgent communication when needed to address issues of immediate threat to the people, environment, assets and security.
- Public Disclosure (refer to Framework Stakeholder Engagement Plan).
- External audits.

7.7 Preparedness against hazards specific to wind farm constructions and operations

7.7.1 Blade failure

Blade failure is typically due to three causes:

- 1) Human interference with a control system leading to an overspeed situation,
- 2) Lightning strike, and
- 3) Manufacturing defects in the blade.

Overspeed situations are rare due to the implementation of strict operational standards for control systems - including backup systems - to control rotor speed. Lightning protection systems and best practice standards have led to a significant reduction in blade failure in the event of a lightning strike. Manufacturing defects have also been reduced through improved quality and experience within the industry.

To be certified under these standards, full-scale strength and load testing must be conducted for every turbine blade. The probability of injury due to blade failure or loss can be further reduced through establishment of adequate setbacks from structures and adjacent uses, including public roads, transmission lines, buildings and recreational trails.

7.7.2 Fire

Fire hazards are limited mostly to the construction phase of wind farm projects, where there is an increased number of construction workers in the Project area, use of machinery, as well as the storage and handling of combustible materials. The risk of fire can be reduced by a variety of factors:

- Burial of electrical collection systems
- Fire prevention plans
- Close coordination with and training of local firefighters
- Adherence to regular and appropriate maintenance schedules

All on-site personnel should be trained and provided with a fire prevention and emergency response plan.

7.7.3 Stray voltage

Stray voltage can be found in any electrical system if the system is improperly grounded, or when there is a change in the pattern in the distribution line. Wind turbines must comply with utility and grid standards, and the electrical distribution system should be separated from the power interconnection and collection system. Hence, as long as industry standards are applied, stray voltage resulting from a wind farm should not occur.

7.7.4 Lightning strikes

All wind turbines have a built-in grounding system to dissipate the energy from a lightning strike into the ground. If a worker is adjacent to the turbine or working in it when a lightning strike occurred, there would be some risk of electrocution from voltage traveling between the ground and the tower or between two spots on the ground.

This risk can be reduced considerably by implementing lightning protection systems in turbine design, and through following appropriate safety protocols in the event of a thunderstorm.

These safety protocols include:

- Stopping work inside of turbines if there is a thunderstorm warning or watch
- Safety training
- Designated shelters
- Lightning prediction and warning systems
- Evacuation protocols in the event of a thunderstorm

8 Monitoring, auditing and reporting

8.1 Overview and objectives

This section presents the monitoring programme for the routine monitoring and evaluation of environmental and social performance throughout the life of the Project.

Overall, the programme aims to:

- Routinely monitor and audit compliance with the prescriptive and procedural terms as detailed in this management plan.
- Ensure adequate and appropriate interventions to address non-compliance.
- Provide a mechanism for the follow-up and resolution of complaints by members of the public and/or contractors and/or workers on site.
- Ensure appropriate and adequate record keeping related to compliance.
- Determine the effectiveness of the specifications and recommend necessary changes and updates based on audit outcomes, and to enhance the effectiveness of environmental and social management on site.
- Aid communication and feedback to authorities and stakeholders.

The aims of the monitoring programme will be achieved through a combination of daily and weekly inspections, monthly audits, and a structured approach to non-conformance management. In accordance with the relatively low impact nature of the Project, environmental sampling of parameters such as water quality, noise, air quality etc. is not required. Inspections will rely on structured observations and the intervals at which they will be undertaken dependent upon the works being undertaken at the time.

8.2 Inspections during construction

8.2.1 Daily and weekly inspections

Daily inspections must be undertaken during earthworks for the development of the internal roads, WTG foundations and underground cabling and during WTG installation. Following completion of these works, dedicated environmental and social inspections will be undertaken on a weekly basis, supplemented by daily site walk-overs by the Construction Manager and EPC Contractor to identify any immediate actions which may need rectifying (e.g. improperly stored waste).

The purpose of the Daily/Weekly inspections is to track performance. The Daily/Weekly inspections are to be undertaken by the EPC Contractor HSE Manager and submitted to the Construction Manager for approval. A Daily Inspection Form has been developed for the daily environmental and social inspections and will be utilised for the purposes of tracking compliance with the ESMP. The Site Operations Manager will be presented can be limited to few days weekly, depending on the current site activities.

All workers on site are to be continually monitoring for the occurrence (or potential occurrence) of any incidents or non-conformances. These are to be immediately reported to the Construction Manager.

8.2.2 Monthly inspections/audits

A monthly audit style inspection is to be carried out at the end of each four-week period and be attended by the Project Manager, Community Liaison Officer, Construction Manager/ Site Operations Manager (at a minimum). ELMD also commits to providing the dates of these audits to the Lender who reserve the right to participate (or nominate someone on their behalf) in these monthly inspections. The purpose of these inspections/audits is to assess the overall compliance of the works against the provisions of this ESMP and identify opportunities for improved performance.

This monthly inspection will include:

- Review of all daily/weekly inspection checklists, grievances, stakeholder engagement log, corrective actions, and any other relevant documents.
- Walk-over of all areas of the Project site which have been active in the preceding four weeks.
- Interview with occupants of nearby residences focusing on matters such as noise levels, air quality and presence of the construction workforce.
- Interview with commune level Peoples Committee.

The report shall be prepared by the Construction Manager / Site Operations Manager and report of the status of the site and current activities, measure compliance against the ESMP and develop any corrective actions considered necessary. This report can be presented in PowerPoint format and should be communicated to the Project Director and the Project Manager. Reporting of the outcomes to the Lender(s) will be undertaken as part of the quarterly reporting.

8.3 Operations monitoring and mitigation

During the operational phase, the Site Operations Manager will be responsible for undertaking routine monitoring, reporting and resolution of environmental and social issues. All monitoring and reporting activities will be sustained by the ELMD to ensure that mitigation measures are effectively implemented.

Monitoring is to be ongoing throughout the operations phase. In the first year of operations, the monitoring will involve the following:

By Project Manager (ELMD)

- Hire local workers, if possible, for less-skilled works that can be easily obtained from the local community.

By Site Operations Manager (K2M)

- During the first year, quarterly far field and near field 48 hours continuous noise monitoring is to be undertaken at 2-3 locations. Detailed noise modelling may be considered depending on the noise results and if considerable grievances are made (Appendix A.1).
- Re-vegetate cleared land with local seed stock of native species (Appendix A.2).
- Screening and initial survey for bats lasting at least 2 days. Depending on outcome of screening and initial survey, quarterly surveys for the durations of 1 year. The survey must be undertaken by 3rd party with adequate equipment and sufficient competences (Appendix A.3 and separate scope of works).
- Ongoing (weekly) registrations of bird occurrences (Appendix A.3).
- Weekly site walk-over to assess matters such as effectiveness of erosion and sediment control features, lack to open water bodies waste management and general site housekeeping (Appendix A.3 and A.4).

Further to this, the following checklist may be relevant to implement, depending on the outcome of the A.4 Environmental Walkthrough Checklist. These are attached in Appendix B.

Community Liaison Officer

- Interview with occupants on nearby residents focusing on matters such as noise levels, access to farming areas, impacts to irrigation systems and impacts to livelihoods.
- Interview with commune level People's Committee.
- Maintenance and review of Grievance log.

At the conclusion of the first year of operations, the ESMP will be reviewed to determine if additional noise monitoring, bird and bat assessment, and/or others are required.

8.4 Livelihoods and community development monitoring

Public meetings will be documented through Minutes of Meetings and will be reported to the Project Director and incorporated in the quarterly reporting to the Lender(s). The grievances log will likewise be reported in the quarterly reporting.

8.5 Reporting

8.5.1 Reporting to Lenders

ELMD is to submit a quarterly report on all their activities to The Lender(s) which includes an update Environment and Social performance. A sample format would be as below:

- Table of Contents
- Introduction (scope, objectives, reporting requirements)
- Project summary (schedule, major activities during reporting period)
- Environmental and social monitoring undertaken during reporting period
- Results of monitoring
 - Environmental
 - Noise
 - Shadow flicker
 - Waste Management
 - Water quality (wastewater and surface water)
 - Flora
 - Fauna (birds and bats)
 - Visual impacts
 - Social
 - Grievance mechanism
 - Labour (local, gender equality, etc.)
- Permitting Status
- Internal capacity and resources
- Summary of non-compliances during reporting period
- Appendices

The structure of this report may vary depending on the requirements of The Lender(s), changes in regulatory reporting requirements or when ongoing monitoring has determined that certain matters are closed.

Appendix A Monitoring Checklists

Appendix A.1 Noise Survey Monitoring

Appendix A.2 Terrestrial Flora Monitoring Checklist

Appendix A.3 Terrestrial Fauna Monitoring Checklist

Appendix A.4 Environmental Walkthrough Checklist

Appendix B Further Monitoring Checklists

Appendix B.1 Environmental Inspection Checklist

Appendix B.2 Spill Kit Inspection Checklist

Appendix B.3 Hazardous Chemical Storage Checklist