SAĞANAK ENERJİ

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KANDIRA WIND POWER PLANT

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

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REVISION HISTORY

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ABBREVIATIONS

AIIB	Asian Infrastructure Investment Bank
E&H	Environmental and Health
E&S	Environmental and Social
EHS	Environmental, Health, and Safety
EIA	Environmental Impact Assessment
EMRA	Energy Market Regulatory Authority
ESAP	Environmental and Social Action Plan
ESF	Environmental and Social Framework
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESS	Environmental and Social Standards
EU	European Union
GIIP	Good International Industry Practices
GPS	Global Positioning System
H&S	Health and Safety
HSE-Q	Health, Safety, and Environment - Quality
IFC	International Finance Corporation
MoEU or Ministry	Ministry of Environment and Urbanization
MSDS	Material Safety Data Sheet
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment
PPF	Project Presentation File
Project	Kandira Wind Power Plant
PS	Performance Standards
Saganak or Project Owner	Saganak Enerji Yatirim Uretim ve Ticaret A.S
TurkStat	Turkish Statistical Institute
WPP	Wind Power Plant

1. INTRODUCTION

This Environmental and Social Management Plan (ESMP) has been prepared for the Kandira Wind Power Plant (WPP) Project ("Kandira WPP Project", "the Project"), which is planned to be constructed and operated in Kocaeli province, within the administrative borders of Kandira district. Saganak Enerji Yatirim Uretim ve Ticaret A.S. will implement the Project, hereafter referred to as the Project Company or Saganak. The Energy Generation License ("License") for the Project was obtained from the Energy Market Regulatory Authority (EMRA).

A Project Presentation File (PPF) was prepared for the Project, in line with the national Environmental Impact Assessment (EIA) Regulation. The Project obtained an "EIA Not Required" decision, with decision number 36 on 2 July 2010 from the Ministry of Environment and Urbanization ("MoEU" or the "Ministry"). In the process after the "EIA Not Required" decision was obtained, some changes were made regarding the technical properties of the Project. Initially the Project was designed with 17 turbines and the "EIA Not Required" decision was obtained with regard to the initial design. However, the turbine count was decreased to 10 after a revision on the Project. In the scope of the mentioned revision, Saganak had applied to the Ministry, on 30 April 2020 the Ministry instructed Saganak to prepare a PPF under the Scope of the Annex-2 list of the EIA Regulation before applying to the Ministry. Therefore, a PPF was prepared for the Kandira WPP Project, and "EIA Not Required" is once again secured for the Project. The final design of the Project consist of 10 turbines with a total installed power of 49.8 MWm/49 MWe.

The Project is categorized as a Category B project considering the Asian Infrastructure Investment Bank (AIIB) categorization. Category B Projects are defined as the projects with potential limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures. As indicated in the AIIB's Environmental and Social Framework (ESF), Category B Projects requires the client to conduct an initial review of the environmental and social implications of the Project. This ESMP and its sub-plans have been developed accordingly. In the development of ESMP, Saganak policies, commitments undertaken by Saganak in the Environmental and Social Action Plan (ESAP) prepared for the Kandira WPP Project, Turkish regulatory framework, International Finance Corporation (IFC) Performance Standards (PSs), IFC General and Sector Specific Environment, Health and Safety (EHS) Guidelines, and AIIB ESF have been taken into consideration. Where no national regulation or IFC, AIIB standard/guideline applies, the Plan considers the adoption of Good International Industry Practices (GIIP).

The Project is located within administrative borders of Hacimazli, Antapli, Bagirganli and Bollu Villages located in Kandira District of Kocaeli Province of Turkey. Kocaeli City Centre is located at a distance of about 35 km (air distance) from the Project License Area. Photos from the Project site as of October 2020 are provided in Appendix A.

The closest settlement to a turbine is the Hacimazli neighbourhood, located at a distance of about 1.1 km to the south of Turbine 6. Other settlements close to the turbine locations are provided in Table 1.

Table 1 Settlements Closest to the Project Turbines

Settlement	District the settlement is located at	Closest Turbine to the Settlement	The Distance of the Settlement to the Closest Turbine (km)	Direction of Settlement Relative to the Turbine	Population of the Settlement (TurkStat, 2019)
Bagirganli	Kandira	T1	2.2	North West	738
Bolu	Kandira	T6	1.1	East	410
Hacimazli	Kandira	T6	1.1	South	230
Safali	Kandira	T6	3.7	South East	438
Hacimazli	Kandira	T7	1.2	East-South East	230
Antapli	Kandira	T9	1.3	South West	231
Merkez Erikli	Kandira	T9	2.5	South	344
Antapli	Kandira	T10	1.1	South	231
Beylerbeyi	Kandira	T10	2.1	South West	472

A layout of the Kandira WPP Project is presented below in Figure 1.

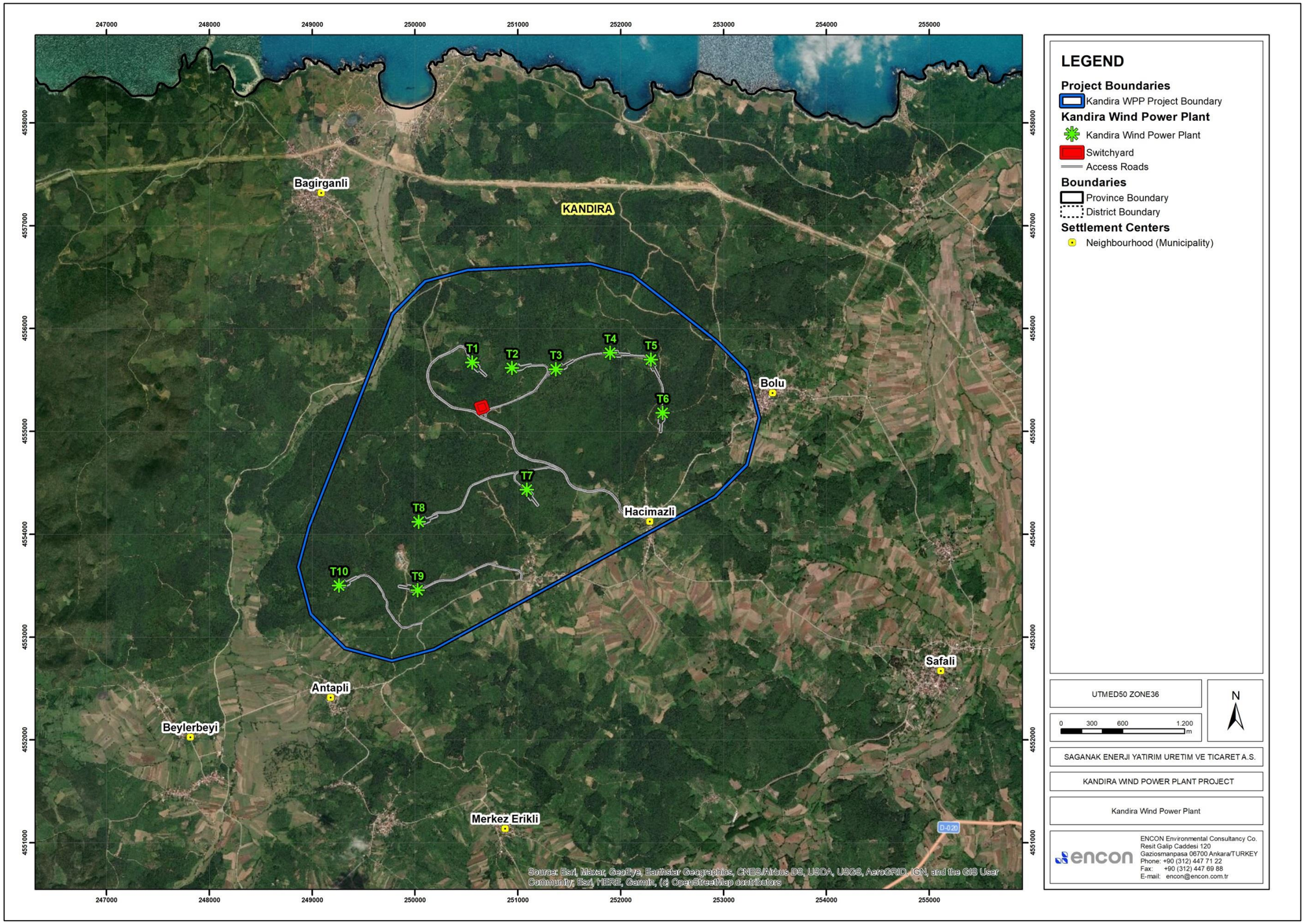

Figure 1 Layout of the Kandira WPP Project

2. PURPOSE AND SCOPE

The general purpose of this ESMP is to describe various measures to avoid possible adverse impacts of the project related matters on environment and the community during the construction and operation of the Project and to describe the necessary the monitoring requirements for implementing this plan. This plan will cover and act as a summarized version for each individual Management Plan that is prepared under the scope of the Kandira WPP Project's ESMS. The plan aims to achieve its purposes by incorporation of local legislation, requirements of IFC, Asian Infrastructure Investment Bank (AIIB) and international best practices.

The primary aim of the ESMP is to facilitate the avoidance, reduction, and mitigation of environmental and social risks and impacts associated with all phases of the Project and define the required monitoring parameters to implement this plan in a successful manner.

This Plan provides necessary means and measures to achieve goals of the Project. These assessments/measures are applicable to all Project personnel, contractors, subcontractors, visitors and the general public (including any government authority or similar site visitors) and covers both construction and operation phases.

This Plan will be updated as and when necessary. The scope of the Plan includes following aspects:

- Legislative requirements and standards
- Roles and responsibilities
- A summary of mitigation measures defined in each individual Management Plan that is prepared under the scope of the Projects' ESMS
- Monitoring requirements for the Project
- Reporting
- Review and Update

3. LEGISLATIVE REQUIREMENTS and STANDARDS

Kandira WPP Project is an essential project for meeting the growing renewable energy demand in Turkey. The Project will be developed in line with the Turkish Energy Policy, focusing on use of domestic resources, as well as the strategic goals set by the National Renewable Energy Action Plan as; increasing the share of renewable energy within the general energy consumption to 20% by 2023, and reaching 20,000 MW of installed capacity in wind power.

The Project will be developed in line with the Turkish legislation, as well as the European and international environmental and social standards and guidelines. Accordingly, the regulations the Project is subjected to, are presented in detail in the Management Plans prepared under the scope of the ESMS of the Project. For further information on the legal requirements of the Project please refer to the related Management Plans.

4. ROLES AND RESPONSIBILITIES

Under the scope of the ESMS of the Kandira WPP Project, the required management plans are developed. For each management plan the necessary responsibilities for the staff of the Projects is explained in detail. A list of the staff that is expected to take part in the Project is given below. For detailed information on the responsibilities of the specified roles, please refer to necessary management plans of the Project.

- Project Owner: The head of the business; bears business responsibility for successful project implementation.

- Managing Director: The head of the project; responsible for the daily operations of the project.

- Project Manager: Responsible for achieving the approved project objectives/goals by leading the project through initiation, planning & organizing, resource management, execution and closure by managing the change through time, budget and scope to the required quality expectations.

- Internal Counsel and Legal Advisor: Responsible for solving the organizational problems (generally legal matters) and implement solutions for improving the performance of the organization.

- Administrative Affairs Manager: Responsible for planning and managing the support services of the Project such as food, transportation, security and cleaning.

- Construction/Operation Manager: Responsible for overseeing the activities on the Project site, and monitor the project under the direction of Project Manager.

- HSE-Q Expert: Responsible to manage and maintain the Combined Management System (CMS) for Health, Safety, Environment and Quality processes and procedures.

- Community Liaison Officer: Communicates and coordinates activities between the organization and a community.

- Contractors: Responsible for providing all of the material, labor, equipment (such as engineering vehicles and tools) and services necessary for the construction of the project. A general contractor often hires specialized subcontractors to perform all or portions of the construction work. When using subcontractors, the general contractor is responsible for the quality of all work performed by any and all of the hires.

- Contractor Supervisors: Designated by Contractor to oversee Contractor’s employees in the performance of the work under this Contract.

5. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

In this chapter, the required mitigation measures for decreasing the risks that can result from the Project-related activities are described along with the necessary monitoring. This ESMP Report acts as a summary document containing all the management plans prepared for the Kandira WPP Project. If the information sought cannot be found in this document, the relevant management plans should be referred to.

5.1 Mitigation Measures

The mitigation measures which are provided in the Management Plans of the Project are listed as follows.

5.1.1 Cultural Heritage Management Plan

- Should an archaeological and cultural property be found on the Project Site during excavation works, all the construction activities shall be stopped and the Kocaeli Museum Directorate will be informed immediately.
- Further construction activities will be conducted along with the instructions of the authorities.
- In any case no chance find will be disturbed further until an assessment by competent professionals is made in agreement with the authorities.
- Constructions and physical interventions will not be allowed on the protected and cultural assets. Substantial repair, construction, installation, drilling, partial or complete demolition, burning, excavation or similar works will be considered as construction and physical intervention.
- In case of previously unknown archeological finds are encountered the following measures will be put in place, consistently with the instruction given by the authorities:

    - record keeping and expert verification procedures,
    - chain of custody instructions for movable finds, and
    - clear criteria for potential temporary work stoppages that could be required for rapid disposition of issues related to the finds.

- In case of previously unknown archeological finds are encountered the Affected Communities will be consulted as part of the Stakeholder Engagement Plan (SEP), to incorporate into the decision-making process the views of the Affected Communities.
- In case of previously unknown archeological finds are encountered the Cultural Heritage item will be managed according to IFC PS8.

5.1.2 Traffic Management Plan

- Develop a specific Traffic Management Procedure including, at least the following information:

    - Identify in maps and layouts the roads network for the transportation of goods and material to and from Project area to be used.
    - Identify blade lifter transfer points on transportation route.
    - Identify specific areas to be avoided (e.g. because of the presence of sensitive human receptors or residential areas).

- Implement traffic safety measures for the residents:

    - Scheduling of traffic to avoid peak hours on local roads.
    - Adopting best transport safety practices with the goal of preventing traffic accidents and minimizing injuries suffered by project personnel and the public.

- Emphasizing safety aspects among project drivers; specifically ensure drivers respect speed limits through built areas and urban centres.
- Regularly maintaining vehicles to minimize potentially serious accidents.

- The Traffic Management Procedure will include the measures for the minimization of the transportation related safety risks. Nevertheless, following mitigation measures as a minimum will be included in this Management Plan and will be implemented by contractor.

  - Community members will be informed and consulted for the location of the crossing points; they will be informed on the health and safety precautions and procedures through consultation meetings.
  - Roads and intersections subject to intense construction traffic will be provided with additional mitigation measures such as traffic control, speed reduction systems, warning signals and informing drives on such hotspots.
  - Transport during night-time will be avoided to the extent possible in order to prevent road accidents.

- Use traffic control and appropriate signs to highlight warnings and to improve safety especially at intersections and junctions.
- Use easy-to-read signs to indicate any type of diversion or traffic changes related to Project activities.
- Ensure that the following measures for industrial vehicle driving and site traffic are in place:

  - Ensuring drivers undergo medical surveillance
  - Ensuring moving equipment with restricted rear visibility is outfitted with audible back-up alarms
  - Establishing rights-of-way, site speed limits, vehicle inspection requirements, operating rules and procedures (e.g. prohibiting operation of forklifts with forks in down position), and control of traffic patterns or direction
  - Restricting the circulation of delivery and private vehicles to defined routes and areas, giving preference to 'one-way' circulation, where appropriate.

- Ensure that the following measures for traffic safety are in place:

  - Implement safe traffic control measures, such as road signs/flag-persons to warn of dangerous conditions;
  - Emphasizing safety aspects among drivers;
  - Use of speed control devices on trucks, and remote monitoring of driver actions;
  - Minimizing pedestrian interaction with construction vehicles;
  - Collaboration with local communities and responsible authorities to improve signage, visibility and overall safety of roads, particularly along stretches located near schools or other locations where children may be present. Collaborating with local communities on education about traffic and pedestrian safety;
  - Using locally sourced materials, whenever possible, to minimize transport distances.
  - Regular maintenance of vehicles and use of manufacturer approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure.

- Ensure that the following specific noise emission control measures are in place:

  - Schedule Project traffic for daylight hours, where possible.
  - Schedule large vehicle (trucks and buses) trips as convoys to reduce the number of times per day a disturbance may occur.
  - Maintain vehicles in good condition to ensure they are no louder than other, similar vehicles on the roadways.
  - Reduce Project traffic routing through community areas wherever possible.

- Ensure that the following specific air pollution control measures are in place:
    - Use closed injection systems and low level volatility of diesel fuel to prevent vaporization losses.
    - Minimize dust from open area sources by using control measures such as installing enclosures and covers, and increasing the moisture content.
    - Comply the provisions indicated in Regulation on Control of Exhaust Gas Emissions for the exhaust gas emissions arising from the engine land vehicles.
- Require licensing of all drivers and improve driving skills.
- Train and license industrial vehicle operators in the safe operation of specialized vehicles such as forklifts, including safe loading/unloading, load limits.

5.1.3 Community Health and Safety Management Plan

Noise

- The working hours will be limited from Monday to Friday and 7 a.m. to 7 p.m., if possible. Some flexibility may be required in working hours during the delivery and erection of the wind turbines depending on the weather conditions.
- The final time schedule of the transport movements will be clarified with the authorities and the local communities.

Shadow Flicker Effect

- Shadow flicker shutdown modules will be implemented to the required wind turbines. The installation of shadow flicker shutdown modules in the turbines is a very common and an often-applied mitigation measure. Shutdown modules will eliminate the possibility for exceedances of annual and day limits. An automatic shadow-flicker shutdown system shuts down the turbine when the sun is shining (direct sunshine on a horizontal area > 120 W/m²). These systems shut down a turbine when one of two conditions are reached:
    - More than 30 minutes of shadow-flicker occur on one day at a receptor.
    - The maximum annual quota of shadow-flicker at a receptor is exceeded.
- The use of shadow flicker shutdown modules will have a (small) negative effect on the energy yield of the WPP.

Blade and Ice Throw

Mitigation measures for blade throw events are listed below:

- Establishing a setback distance between the turbines and populated locations. The minimum setback distance is 1.5 x turbine height (tower + rotor radius), although modeling suggests that the theoretical blade throw distance can vary with the size, shape, weight, and speed of the blades, and the height of the turbine. It is therefore recommended that the minimum setback distances required to meet noise and shadow flicker limits be maintained with respect to sensitive residential receptors to provide further protection.
- Minimizing the probability of a blade failure by selecting wind turbines that have been subject to independent design verification/certification (e.g., IEC 61400-1), and surveillance of manufacturing quality.
- Ensuring that lightning protection systems are properly installed and maintained.
- Carrying out periodic blade inspections and repairing any defects that could affect blade integrity.

- Equipping wind turbines with vibration sensors that can react to any imbalance in the rotor blades and shut down the turbine if necessary.

Mitigation measures for ice throw events are listed below:

- Establishing a setback distance as explained in the blade throw mitigation measures.
- Curtailing wind turbine operations in weather conditions that can lead to ice accretion.
- Equipping turbines with ice detectors that shut down the turbine to an idling state when ice is present.
- Posting warning signs at least one rotor diameter from the wind turbine in all directions, if turbines are required to operate in icing conditions, and in a remote location where people are unlikely to be put at risk.
- Equipping turbines with ice detectors to control blade-heating systems, which are designed to release ice from the blade surface, thereby maintaining the efficiency of the turbine; the blade surface finish may also affect the efficiency of heating systems.
- Posting warning signs at entrance points to the wind energy facility.
- Ensuring that working procedures include precautions such as shutting down wind turbines before maintenance personnel access the site in icing conditions.

Traffic Safety

Please refer to Traffic Management Plan for the information and mitigation measures for the Project.

Water Quality and Availability

- Wastewater will be collected and disposed according to Water Pollution Control Regulation.
- Water tanks and distribution lines will be sanitized according to related legislation.
- In case of groundwater usage, necessary permits and work will be done according to related legislation.
- The potential effect of groundwater or surface water abstraction for project activities will be properly assessed through a combination of field testing and modeling techniques, accounting for seasonal variability and projected changes in demand in the project area.

Fire Safety

- Necessary training will be provided to all personnel regarding fire management
- Emergency Preparedness and Response Plan will be implemented.
- Fire extinguisher equipment (ex. Ladders, ventilation devices, fire extinguishers etc.) will be purchased and will be kept in good condition.
- Fire extinguisher equipment will be labeled /signed according to related regulations and will be placed at easily accessible locations.
- Fire extinguishers will be placed close to areas which have fire risks such as chemical storage and welding areas.
- Only authorized personnel will be allowed to intervene in the electrical installation and equipment.
- Electrical appliances will be closed and unplugged when they are not in use.
- Personnel who are responsible for the management of inflammable materials will be appointed and will be trained. Storage, transportation and use of these inflammable will be established in compliance with national and international standards.
- Leakage and spillage of inflammable liquids will be immediately cleaned.
- Fire exits and exit doors will be installed in both temporary and permanent structures/buildings and will be kept open all the time.

- A smoking area out of the plant will be designated and a fire extinguisher will be provided for this area.
- Fire practices will be established according to health and safety regulations.

Hazardous Materials Management and Safety

- All hazardous materials shall be assessed in accordance with relevant regulatory and international requirements.
- All chemicals purchased from suppliers used on the site will be accompanied by their MSDSs that meet the standards.
- Storage of fuel will be in tanks equipped with locking devices and which have secondary containment (with %110 volume capacity) that are located on a platform in a designated area located away from any watercourse or drain.
- Spill kits, protective equipment, and other necessary equipment will be available where hazardous materials are handled, to enable any spills to be cleaned up.
- Appropriate first aid will be located close to hazardous material storage areas such as eye-wash, showers, and first aid kits.
- Hazardous materials will only be transported in vehicles authorized for the transport of hazardous substances.
- The transfer of hazardous materials from vehicles to storage tanks shall be conducted on impervious hard standing, which is sloped to a collection or a containment structure, not connected to municipal wastewater/storm water collection system.
- Incompatible materials (acids, bases, flammables, oxidizers, reactive chemicals) shall be stored in separate areas, and with containment facilities separating material storage areas.
- Internal and external investigations will be planned and conducted.
- Risk assessment of hazardous materials usage will be done according to related legislations.
- The storage and use of hazardous substances shall be done under conditions of maximum security.
- Drummed hazardous materials shall be stored in areas with impervious surfaces that are sloped to retain any spills/leaks.
- Containers holding flammable and/or toxic materials will be kept permanently closed and covered. They shall be kept in their original packaging and they shall be handled and transported under maximum security.
- Any accidental leaks of fuel or oil will be immediately cleaned up with absorbent material, collected in closed and labeled containers and temporarily stored in specially designed spaces until delivery to HSE-Q Expert.
- Any spill or incident investigation will be done according to related legislations and internal processes.
- All visitors and contractors will be informed about hazardous materials management plan and they will be expected to comply with site rules and related legislations.
- Chemicals with different hazard symbols shall not be stored together.
- All hazardous materials shall be disposed of according to the requirements of relevant regulation.

Infrastructure and Equipment Design Safety

- Optimize road transport requirements including consideration for logistics management (minimization of vehicle movements etc.)
- Implement speed restrictions for contractor vehicles
- Maintain active grievance process
- To the extent possible, provide access for pedestrians at locations where their interaction with Project vehicle is high.

Community Exposure to Disease

- Providing surveillance and active screening and treatment of workers according to Regulation on Education, Duties, Powers and Responsibilities of Occupational Physicians and Other Health Personnel
- Preventing illness among workers by
    - Organizing health awareness and training.
    - Providing health services according to related regulation.
- Providing treatment through standard case management in on-site or community health care facilities.
- Ensuring ready access to medical treatment, confidentiality and, appropriate care, particularly with respect to external workers.
- Prevention of larval and adult propagation through sanitary improvement and elimination of breeding habitats close to human settlements.
- Elimination of unusable impounded water.
- Implementation of integrated vector control programs.
- Promoting use of repellents, clothing, netting and other barriers to prevent insect bites.
- Educating project personnel and area residents on risks, prevention, and available cases.
- Following safety guidelines for the storage, transport, and distribution of pesticides to minimize the potential for misuse spills, and accidental human exposure.
- Following the stipulations of Ministry Circular on COVID-19 Measures to be taken at Construction and Operation Sites.

Emergency Preparedness and Response

- Train personnel to respond to emergencies in accordance with the requirements.
- Alarm bells, visual alarms, or other forms of communication will be used to reliably alert workers to an emergency. Related measures include:
    - Testing warning systems.
    - Back-up system for communications on-site with off-site resources.
- If a local community may be at risk from a potential emergency arising at the Kandira WPP, Saganak will implement communication measures to alert community.
- Saganak will consider the level of local fire-fighting capacity and whether equipment is available for use at the facility in the event of a major emergency or natural disaster.
- Saganak will provide first aid attendants for the facility as well as medical equipment suitable for the personnel type of operation, and the degree of treatment likely to be required prior to transportation to hospital.
- Saganak will take appropriate measures for managing the availability or resources in case of an emergency:
    - Maintaining a list of external equipment, personnel, facilities, funding, expert knowledge, and materials that may be required to respond to emergencies.
    - Providing personnel who can readily call-up resources, as required.

  - Tracking and managing the costs associated with emergency resources.
  - Considering the quantity, response time, capability limitations, and cost of these resources, for both site-specific emergencies, and community or regional emergencies.
  - Considering if external resources are unable to provide sufficient capacity during a regional emergency and whether additional resources may need to be maintained on-site.

- Where appropriate, mutual aid agreements can be maintained with other organizations to allow for sharing of personnel and specialized equipment.
- Saganak will develop a list of contact information for all internal and external resources and personnel.
- Developing and enrollment training program for emergency situations and equipment.
- Measures to address business continuity and contingency include:

  - Identifying replacement supplies or facilities to allow business continuity following an emergency.
  - Using redundant or duplicate supply systems as part of facility operations to increase the likelihood of business continuity.
  - Maintaining back-ups of critical information in a secure location to expedite the return to normal operations following an emergency

Security

- Ensure that those providing security are not implicated in past abuses.
- Ensure security personnel to act within relevant regulations and international standards.
- Consider and, where appropriate, investigate all allegations of unlawful or abusive acts of security personnel, take action (or urge appropriate parties to take action) to prevent recurrence, and report unlawful and abusive acts to public authorities.
- Fence the turbine locations for community encroachment.

Security Personnel will undergo the following training topics:

- Healthy working conditions and safety knowledge of rules for health and safety.
- Induction-introduction to the working environment, policies and practices organizational structure, and Introduction to the company mission, vision, values and goals.
- Use of force (and where applicable; firearms).
- Appropriate conduct toward workers and communities.
- Human rights.

Structural Safety of Project Infrastructure

- Inclusion of buffer strips or other methods of physical separation around project site to protect the public from major hazards associated with hazardous materials incidents of process failure, as well as nuisance issues related to noise, odors, or other emissions.
- Incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, wind, flooding, landslide and fire. To this end all project structures should be designed in accordance with engineering and design criteria mandated by site-specific risks, including but not limited to seismic activity, slope stability, wind loading, and other dynamic loads.
- Application of locally regulated or internationally recognized building codes to ensure structures are designed and constructed in accordance with sound architectural and engineering practice, including aspects of fire prevention and response.

- Engineers and architects responsible for designing and constructing facilities, building, plants and other structures will certify the applicability and appropriateness of the structural criteria employed.

Illustrative management actions, applicable to hazardous material storage and use, include:

- Reducing inventories of hazardous materials through inventory management and process changes to greatly reduce or eliminate the potential off-site consequences of a release.
- Modifying process or storage conditions to reduce the potential consequences of an accidental off-site release.
- Improving shut-down and secondary containment to reduce the amount of material escaping from containment and to reduce the release duration.
- Reducing the probability that releases will occur through improved site operations and control, and through improvements in maintenance and inspection.
- Reducing off-site impacts of releases through measures intended to contain explosions and fires, alert the public, provide for evacuation of surrounding areas establish safety zones around a site, and ensure the provision of emergency medical services to the public.

5.1.4 Contractor Management Plan

Saganak will have in place a Contractor and Supplier Evaluation Mechanism, with criteria targeting the assessment of sufficiency and compliance of existing HSE and labor practices of the contractor/supplier that is being considered. In this aspect Saganak will implement a Contractor Management Process. The process will follow the steps presented below.

Contractor Selection and Contractual Agreements;

- Identification of Scope of Work and Relation to Project Standards,
- Contractor/Supplier Evaluation and Selection (Including identification and assessment of HSE and labor risks),
- Draw Up and Sign Contract with Clause(s) Ensuring Compliance with Project Standards.

Implementation;

- Contractors prepare monthly HSE and Labor Review and Incident Reports for the Project Owner,
- Reports reviewed by the Project Owner and assistance provided to contractor as required,
- Contractors implement identified actions.

Inspection;

- Periodic audits by the Project Owner,
- Daily and periodic inspections and audits by the Contractors and reporting of findings within the scope of monthly HSE review and incident reports,
- Contractors implement identified actions.

The final step of the Contractor Management Process will be the investigation of repetitive incompliances or unimplemented actions and cancellation of contract if required.

For further information of Contractor Management System of the Project please refer to Contractor Management Plan.

5.1.5 Emergency Preparedness and Response Plan

Emergency Management

- Establish a Crisis Desk that automatically collects the essential experts within the framework of the crisis management in the decision-making process (Chairman, Coordinator), the risk assessment process (Communication, Law), the communication process (Spokesperson) or organizational (Secretary).
- Members should be company's employees who need to be informed when there is a crisis and when the crisis desk needs to be assembled.
- The crisis team must have substitute members who can act immediately in the absence of permanent members. These substitute members should also have the technical skills of the permanent members they replace.
- Organize a decision-making team that will be on the task 24/7.
- Prepare a "call flow" (who will call whom?) to be implemented in the event of a crisis in written and develop a call system that will allow crisis team members to be reached and bring them together in less than three hours.
- According to crisis type and in case of a crisis establish a target list of personnel (within and outside the company) who need to be contacted and keep this list up to date (with all the information: surname, name, telephone number, fax number and address).
- A list containing personal addresses, home, work and mobile numbers, fax numbers, business and personal e-mail addresses of any expert who is likely to participate in the crisis management and members of the Emergency Preparedness and Response Team (EPRT) (experts from within and outside the company) should be prepared.
- Organize crisis management rooms that are isolated, located in a quiet place, dedicated only to this work, fully equipped, and having sufficient space and accessed easily. If the main building is occupied or in a dangerous state, it is necessary to select a different place outside the company.
- Inform those who need to provide in-company services, especially central office and reception, as well as those who provide catering, transportation and any other services.
- During the process implementation, ensure that there is a 24-hour continuous double security system for computers, monitoring systems and doors.
- Prepare an operational guidance regarding crisis management for the use of crisis management teams.
- Create crisis scenarios (simulations) and organize drills according to related legislations.
- According to the crisis types, prepare messages for the media together with the crisis communication consultants and the external communication department.

Occupational Accidents Emergency

Preventing Emergency Situations:

- Take precautions by performing risk assessments of all the planned work and conditions that might cause danger.
- PPE that will be used in every activity should be distributed to related employee.
- Electrical installation and work should be performed only by qualified personnel.
- All personnel should follow written procedures (e.g. management plans.) and personnel who are not authorized should not engage any task, equipment or material without necessary permits.
- Training on occupational accidents, prevention of occupational accidents and other occupational health and safety subjects should be carried out.

First Aid Response:

- According to related legislations, First Aid Response Team should be assigned and trained.
- Only first aid response team, occupational physicians or paramedics could apply first aid.
- Depending on the health status of the victim, Emergency Coordinator contacts necessary health units.
- In case of the transfer of the victim to the hospital, monitoring of health status of the victim is performed by emergency coordinator/ deputy emergency coordinator

Human Resources Department:

- Immediately report the incident to law enforcement officers.
- Inform Social Security Institution (SGK) online about the incident within three days.
- Prepare an incident investigation file with the help of HSE-Q Expert that includes:
    - Statement of employment of the personnel involved in the incident,
    - Health Certificate of the personnel that is taken during recruitment, and
    - Payrolls of the last four months, training records, and incident report.

For criminal, natural disaster, industrial and other emergencies' mitigation measures, please refer to the Emergency Preparedness and Response Plan.

5.1.6 Noise Management Plan

The following measures will be in place for control of construction phase noise:

- Noise sensitive receptors and dwellers will be informed about the construction schedule and activities to be conducted, especially the schedule of abnormal load transportations, via the methods provided by the Stakeholder Engagement Plan (SEP). Information on Grievance Mechanism will also be provided through appropriate mediums.
- Activities at sites close to noise sensitive receptors will only be conducted during day time. In addition, high noise emitting activities will also be limited to daytime.
- Some activities such as delivery of large turbine components or erecting turbine components may require to be conducted outside of scheduled hours (e.g. due to traffic conditions, unfavourable meteorological conditions, etc.), in case halting such an activity is considered to be risky in terms of OHS or community health and safety. In such cases, closest receptors to the area these activities are conducted at will be informed of the schedule change.
- Speed limits will be implemented, covering both abnormal load transportation (i.e. turbine component transport) and other transportation requirements (i.e. construction materials and worker transport).
- Access to site will be provided by only the designated access roads.
- The access roads will be assessed in terms of stability, improved where required, checked routinely for deterioration of physical conditions and immediately be repaired in cases where damage is identified, in order to minimise related noise generation.
- All construction vehicles and materials will be periodically checked and maintained by competent experts.
- A noise monitoring program will be conducted to verify compliance with national regulatory requirements and Project Standards; in case any incompliance is identified, the source activity will be halted until further actions are taken.
- All related grievances will be recorded and responded to in a timely manner, as set by SEP. In case any incompliance is identified, the source activity will be halted until further actions are taken.

During the operation phase, noise will mainly be generated by operation of the wind turbines. The following measures will be implemented to achieve compliance with Project Standards:

- Turbine operation will be optimised based on wind speeds, noise generation and monitoring results.
- Periodic maintenance of turbines will be conducted.
- Clearance of vegetation will be limited to ensure maximum screening of noise.
- In case of any grievances regarding noise, the noise source will be investigated and complaints will be resolved. This will include noise level monitoring at locations subject to grievances.

5.1.7 Occupational Health and Safety (OHS) Management Plan

General Facility Design and Operation

- An emergency eyewash unit shall be located at the administrative building.
- All on-site activities will be conducted during daylight hours. If work after dusk becomes necessary adequate lighting must be provided.
- Hazardous work, such as handling hazardous materials and heavy loads, and equipment operation, etc. should not be conducted during severe storms.
- All temporary electrical power must have a ground fault circuit interrupter (GFCI) as part of its circuit if the circuit is not part of permanent wiring. All equipment must be suitable and approved for the class of hazard present.
- All occupational injuries/illnesses, vehicle accidents, and near miss incidents must be reported promptly to the HSE-Q Expert and Construction/Operation Manager and investigated.
- Weekly safety meetings will be held at a date to be determined.
- Contractors and subcontractors are required to attend all tailgate meetings.
- Employees must attend weekly safety meetings.
- The site supervisor, with assistance from the HSE-Q Expert, will inspect the site as appropriate and interview one or two site workers regarding areas of safety concerns or ideas for safety improvement.
- Any personnel who identify safety and occupational health deficiencies and will bring them to the attention of their supervisor and HSE-Q Expert and will suggest corrective measures.
- Formal safety review inspections will be conducted as needed and recorded and filed for reference by the Project management. These inspections will be shared by the Construction/Operation Manager and HSE-Q Expert. Contractor supervisory personnel will be asked to participate in inspections.
- Any deficiencies in the effectiveness of this Plan will be immediately brought to the attention to the HSE-Q Expert and corrected.
- Colour codes and their corresponders are given as yellow; gas, oil or petroleum, red; electric, orange; television, telephone, communication, blue; potable water, green; sanitary sewer, storm sewer.
- Construction/Operation Manager should be contacted to have utility lines marked prior to excavation/trenching or drilling.
- Private utility locating service should be hired for mark outs on private property. Site drawings or customer interviews provide assistance but should not be solely relied upon.
- Hand dig, probe or geophysical methods should be applied near the utility marker to avoid breaking subsurface structures.
- Maintaining appropriate distance from overhead utilities:
    - Maintaining at least 3 meter distance from overhead power lines, up to 50 kV.
    - If voltage is unknown, remaining at least 6 meter distance from overhead power lines.

- Conducting daily site inspection to determine where activities will take place and the location of overhead utilities and overhead obstructions. Once identified, placing warning tapes on poles and/or guy wires and attempting to plan the work so that no contact will be made with the overhead utilities or obstructions. The information will be shared with all site personnel. HSE-Q Expert will perform the daily site inspection.
- As a precaution, a spotter will be used at all times during the maintenance phase when near overhead utilities or overhead obstructions. If contact is deemed unavoidable, consultation should be done with HSE-Q Executive to evaluate the area to determine if the particular overhead utility or obstruction can be removed prior to engaging in the activity.
- If equipment accidentally comes into contact with an energized overhead line, the equipment operator should stay inside the equipment until the line can be safely de-energized. If the equipment operator must evacuate the equipment (for example, due to fire), he must jump from the equipment and not make contact with the equipment and the ground at the same time.
- All entries to The Project area are subject to the security personnel's supervision to ensure that all entries are carried out in accordance with the health and safety system and to prevent unauthorized access. The HSE-Q Expert conducts necessary training for security personnel to meet both legislative and international standards.
- There will be designated open-air areas for smoking and smoking is only allowed in these areas. Employees smoking other than designated areas are warned in written form and fined according to the warning sign placed in accordance with the Law No. 4207.
- For parking, only designated areas shall be used in plant area.
- It is forbidden to park in front of fire extinguishers or hydrants, waste storage areas and emergency exits.
- Back-up alarms of construction machinery and trucks shall be operational.
- All vehicles shall have a fire extinguisher.
- All vehicles shall have a first aid kit.
- If there is no sight during manoeuvres, a banksman shall be present.
- It is forbidden to dump for trucks and reverse manoeuvre for construction machinery without a banksman.
- Permissions shall be obtained for road closure and all departments shall be noticed.
- Personnel/human transportation with non-passenger vehicles is forbidden.
- Speed limit in the site is 30 km/h.
- Compliance with the speed limits in the special places in the site shall be ensured.
- Workers must wear gloves while attaching support members to protect against pinching injuries.
- While working from elevated levels greater than four feet, ensure that all employees have 100% fall protection i.e. full body harnesses or guardrails.
- Workers do not stand under loads that are being raised or lowered with cranes.
- The subcontractor must conduct pre-operational inspections of all equipment. In addition, daily inspections should be conducted on the equipment prior to site activities.
- Employees should always stay out of the swing radius of all heavy equipment. Also, employees should always use a spotter during movement of equipment. The spotter and others, as appropriate, shall maintain constant communication with the operator.
- All operators must have adequate training and be qualified to operate the particular heavy equipment unit.
- Site evaluation should be conducted to determine proper positioning for the unit. Making sure surface is level. Cordon off holes, drop-offs, bumps or weak ground surfaces.
- Equipment used must have functioning back-up alarms.
- Cab glass will not be cracked or otherwise damaged.
- Industrial hygiene training shall be included in general OHS training for all employees and further training, awareness sessions etc. shall be organized by workplace/company doctor to raise industrial hygiene awareness.
- Eating in the plant site is forbidden. Only designated areas shall be used for eating purposes. Cafeteria(s)/dining hall(s) shall be kept clean and all personnel works in

cafeterias and dining halls should be examined by workplace/company doctor to prevent and disease.

- Restrooms shall be cleaned, and soap and tissue dispensers shall be refilled on a daily basis.
- Working environment (in terms of dust, noise, lighting, temperature, airflow & quality, etc.) should be adjusted according to related regulations and measurements should be completed according to Regulation on Occupational Hygiene Measurement, Testing and Analysis Laboratories.
- Shower(s) shall be available for employees who might need.
- The working hours shall be in accordance with the legal work and overtime hours stated in the Labor Law No. 4857
- Under extreme conditions such as exposure to ultraviolet radiation and extreme hot, cold and humid environments, special working hour arrangements are made to prevent health risks of employees.
- Work and rest periods for activities performed in confined spaces, in gaseous, dusty or noisy areas are determined and implemented by work-specific risk assessments.
- Office floors shall be cleaned at times when there are no employees around. If it is not ensured, necessary warning signs shall be placed indicating the floor is slippery.
- Deteriorations on the office floors shall be repaired immediately after detection.
- Shelves and other materials on the wall shall be fixed.
- All stairs shall be coated with non-slip materials or strips. All stairs shall be equipped with handrails.
- All cleaners and other employees using cleaning chemicals shall be equipped with necessary PPE and informed about Material Safety Data Sheets MSDSs of the chemicals they use.
- Cleaning chemicals shall not be mixed with each other and stored according to their Material Safety Data Sheets (MSDSs).
- Offices shall be regularly ventilated.
- Air conditioning devices shall be regularly controlled according to industrial hygiene necessities (Regulation on Occupational Hygiene Measurement, Testing and Analysis Laboratories).
- Sufficient lighting (500 lux) shall be provided in all areas.
- Electrical equipment shall be checked and labelled with colour codes in every three months by the electricians.
- Residual current device shall be connected to main electrical distribution panel.
- Electrical distribution panels and fuse boxes are kept locked, labelled, and prevented from unauthorized use.
- Offices shall be equipped with detectors and fire extinguishers against fire hazard.
- Emergency exit doors and roads are set at least 80 cm in length.
- All employees shall be trained on office ergonomics during the induction training.
- Employees who are exposed to workplace violence, retaliation, mobbing or any types of discrimination shall be encouraged to report the situation as stated in the Grievance Procedure.
- Trip and fall hazards: Materials and equipment left on the floor can cause trip and fall of an employee. The result can be bone fractures and severe injury. If trip and fall is happened in a higher place without fall protection equipment, the incident may result with fatality.
- Drop of a Material: Materials left in higher places may fall down and cause injuries.
- Hygiene: Non-clean areas threaten employee health. Biological risks that may arise in the site are also assessed in this context and are tried to be avoided. All employees should wash their hands regularly, especially prior to eating and drinking.

To ensure safe storage conditions;

- Spare parts and material storage

    - Spare parts and materials shall be stored in designated areas.
    - Maximum stacking height shall be 3 m.

- Spare parts shall be stored by considering their availability in the market and storage conditions.
- Heavy materials shall be stored on lower shelves while lighter ones on the higher shelves as a measure against falling.

- Chemical storage

  - Chemicals shall be stored according to their hazardousness classifications and MSDSs.
  - All chemicals shall be ordered according to need and stored according to MSDSs. Bulk buying and storage should not be allowed.
  - In the storage of gas cylinders, these issues are taken into consideration:

    - Separate and fixed storage of empty and full cylinders,
    - Availability of caps,
    - Storage in ventilated and protected areas,

- Storage vertically and on their hand trucks
- Emergency scenarios shall be identified and emergency preparedness and response plans with the allocation of responsibilities to local communities and authorities (where appropriate) shall be developed.
- First Aid training will be covered and provided according to related legislation.
- Specific stakeholder engagement plan based on consultation and participation with government and communities regarding the nature and potential consequences of the project related risks shall be developed.
- Train personnel to respond to emergencies in accordance with the requirements outlined in the specifications.
- Emergency drills shall be conducted in a frequency and format according to Regulation on Emergencies in Workplaces.
- Findings and lessons learnt from drills should be evaluated and relevant corrective actions shall be taken and shared with all relevant parties (workers, worker representatives, OHS committee and management).

Physical Hazards

Mitigation measures for reducing noise both in the construction and operation phases are provided below.

- Equipment shall be selected with lower sound power levels.
- Silencers shall be installed for fans.
- Suitable mufflers shall be installed on engine exhausts and compressor components.
- Acoustic barriers without gaps shall be installed to minimize transmission of sound through the barrier.
- High noise areas will be identified and marked and personnel will wear personal noise protecting gears all the time when working in such high noise areas. (areas with noise levels >85 dB(A))
- Noise barriers such as berms and vegetation shall be used to limit ambient noise at plant property lines where sensitive receptors may exist.
- Structures shall be selected according to their noise isolation effects.
- Generators will be designed to meet the applicable occupational noise levels.
- Sound insulated control rooms with noise levels below limit values set by related regulations shall be met.
- No employee shall be exposed to a noise level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection.
- The grievance mechanism shall be used effectively.

Mitigation measures for reducing vibration both in the construction and operation phases are provided below.

- Select lower vibration tools and equipment.
- Supply protective clothing to keep employees warm and dry.
- Replace old, high vibrating tools and equipment with new, low vibrating ones.
- Implement task rotation and time limits on activities with high exposure levels.
- Ensure that equipment is right for the job, well maintained and in good condition.
- Provide information and train employees in tool maintenance and usage, for example make sure they avoid gripping the tool too tightly.

For further information on the mitigation measures of the Project please refer to the OHS Management Plan.

5.1.8 Stakeholder Engagement

The information should be shared with stakeholders to prevent any kind of problem related with stakeholders.

During the construction phase of the Project following information will be shared with stakeholders;

- Update notes on Project development;
- Precautions preventing damages over infrastructure and public and private properties (roads, electric network, walls, fences etc.) and relevant mitigation measures against dust, noise and traffic-related impacts;
- Design of capacity development program for local people through targeted training programs internally and with key external training partners;
- Job vacancies;
- Up to date Project schedule;
- Procurement of supplies and services; and
- Community Development Programme that will be provided to the affected communities by the Project Company
- Direct communication (through the CLO) and consultation with the farmers/stockbreeders within the License Area will also be continued to inform them about the planned activities and their schedule.

During the operation phase of the Project following information will be shared with stakeholders;

- Scheduling for commissioning activities and potential impacts on health and safety measures/ mechanisms;
- Provision of information on grievance mechanism during operation phase;
- Provide training on Company policies (employees and contractors) on respectful and appropriate behaviours with communities;
- Relevant mitigation measures against noise and dust formation;
- Periodic monitoring of contract implementation with communities; and
- Community Development Programme that will be provided to the affected communities by the Project Company.

5.1.9 Biodiversity Action Plan

Biodiversity conservation actions are defined together with a hierarchy approach to mitigation in line with IFC PS 6, which aims to "zero net loss" in terms of biodiversity. Accordingly, a hierarchy of mitigation measures for the successful implementation of BEP without compromising natural habitats and wildlife species has been proposed. Hierarchy is listed in order of priority.

- Avoiding negative impacts on biodiversity

- When impacts cannot be avoided, various means are taken to minimize impacts on biodiversity.
- Identification of mitigating actions where impacts cannot be prevented or minimized.
- In cases where residual impacts are present following prevention, minimization and mitigation efforts, define the necessary actions to compensate for impacts on biodiversity.

The specific actions necessary to protect the biodiversity of the Project Area are explained in detail in the Biodiversity Action Plan of the Kandira WPP Project.

5.1.10 Air Quality Management Plan

- Loading and unloading of material will be carried out without scattering e.g. water spray dampening soils and spoil.
- Excess excavated materials will be covered with nylon canvas during transportation.
- Dust suppression methods such as watering with water trucks will be applied to access roads and internal roads (as required during dry season).
- Access roads and internal roads will be covered with plant mix.
- Speed limitations will be applied for vehicles.
- Upper layers of the stored excavated material will be kept at a humidity level of about 10%.
- Construction vehicles will not be permitted to keep engines running while waiting to enter to the site or waiting on-site.
- Construction vehicles leaving the site will be washed to prevent the transmission of soil from the site to the public roads.
- Drop height of materials that have potential to generate dust will be kept as minimum as possible.
- Well and adequate maintained vehicles will be used and regular maintenance of these vehicles will be ensured.
- In order to minimize air emissions sourced from construction machinery, trucks and personnel transport vehicles; relevant provisions of the Industrial Air Pollution Control Regulation and the Regulation on Assessment and Management of Air Quality will be complied with.
- Monitoring of project related emissions will be carried out and additional actions will be developed and implemented as required, during all phases of the Project.
- Stakeholder Engagement Plan will be implemented to collect complaints and suggestions through the grievance mechanism to be established. Following investigation of any related complaint, additional actions will be developed and implemented as required.

5.1.11 Waste Management Plan

- Reduction of waste generation (through management practices, avoiding or decreasing materials use, etc.) is the primary goal of the Plan.
- Proper housekeeping and operating practices will be applied including inventory control to reduce the amount of waste resulting from materials that are out-of-date, off-specification, contaminated, damaged, or excess to plant needs.
- Non-hazardous wastes will be segregated from hazardous wastes.
- Recycling of wastes will be mandatory throughout all Project activities and related trainings will be provided.
- Recyclable products will be identified and reintroduced into the activity at the site if possible.
- Where vegetation has been removed for construction purposes, the green waste will be recycled onsite wherever practicable, or disposed of offsite.
- Wastes to be sent to licensed recycling/recovery firms will be segregated by type.

- Effort will be made to minimize the quantity of hazardous materials used.
- Personnel that handle hazardous materials and wastes, will be trained for proper handling and management.
- Spills of hazardous materials will be prevented through careful and sensible management of the materials.
- Where possible, non-hazardous alternatives will be used in place of hazardous materials.
- Regular inspections of storage areas will be conducted. If damaged or leaking containers are detected, they will be replaced.
- Preventive maintenance will be performed on equipment to avoid potential spills.
- Waste storage areas will have secondary containment or spill trays.
- Under no circumstances, waste will be disposed and burnt on-site.
- Working areas are to be maintained, kept free of rubbish and cleaned up at the end of each working day.

For further information on the mitigation measures of the waste types which are expected to occur within the scope of the Project please refer to the Waste Management Plan.

5.1.12 Wastewater Management Plan

- The generated wastewater will be collected in septic tanks that are planned to be built on site.
- The direct discharge of wastewater to the receiving environments is strictly forbidden.
- The collected wastewater will be transferred to the nearest municipal wastewater treatment plant with vacuum trucks regularly.
- The septic tanks will be designed and installed in accordance with local regulations and guidance to prevent any hazard to public health or contamination of land, surface or groundwater.
- The septic tanks will be installed in areas with sufficient soil percolation.
- The septic tanks will be installed in areas of stable soils that are nearly level, well drained, and permeable, with enough separation between the drain field and the groundwater table or other receiving waters.
- Adequate capacity for the septic tank and peak sewer flows will be provided.
- Portable toilets will be supplied for the workers at the construction site that will be connected to septic tanks.
- The wastewaters arising from cleaning or washing vehicles and construction equipment will be collected in septic tanks.
- Grease traps will be used in segregation of oil and grease containing wastewaters before collecting the wastewater in septic tanks.
- The sewer collection lines will be constructed using concrete with appropriate cement ratio and durability to provide basement impermeability in order to prevent any leakages to soil and possible groundwater.
- Sewer lines will be cleaned annually.
- Sewer overflows will be prevented by regular collection of wastewaters with vacuum trucks, completion of maintenance schedule, following established responsibilities and reporting protocols.
- The number and impact of sewer overflows will be minimized by proper trainings.
- Surface runoff due to watering for dust suppression activities will be prevented.
- Regular visual inspections around septic tanks will be conducted to determine any leakage from the septic tanks. If leakage detected, proper maintenance and repair will be provided.

5.2 Monitoring Plan

In order to ensure the continuity and effectiveness of the implementation of mitigation management strategies defined, monitoring plays a key role. The main objective of the Monitoring Plan is to provide a basis for the evaluation of the impacts of the Project.

Information collected with the monitoring can be used to improve management plans during all phases of the Project. While impact assessment attempts to encompass all relevant potential impacts to identify their significance and include appropriate responses for these impacts, unanticipated impacts may still arise, which can be managed or mitigated before they become a problem using the information obtained through monitoring. Therefore, monitoring will ensure the successful implementation of the mitigation/management plans and optimize environmental protection through good practice at each and every stage of the Project.

Consequently, monitoring studies will provide implementation of impact mitigation measures and optimization of environmental protection by using best practices at the all stages of the Project.

Some of the monitoring parameters are determined in the scope of engineering design studies. Monitoring studies will ensure the accordance with the relevant legislation, contract necessities and implementation of impact mitigation measures.

Monitoring activities are submitted in tabular form in Table 2.

Table 2 Monitoring Activities of Kandira WPP during Construction Phase

Management Plan	Monitoring Parameter/ Performance Indicator	Monitoring Station /Location	Monitoring Method	Monitoring Frequency	Responsibility
Cultural Heritage Management Plan	Number of chance finds	On and around the working location	Visual observation Official notification to authorities	Daily basis starting from the initialization of land preparation and construction phase	Contractor
Traffic Management Plan	Investigation of the incidents and accidents and use of lessons learned to improve traffic mitigations.	Project area and its vicinity	No. of Accidents	Continuous	Contractor HSE-Q Expert
	Driver education monitoring to ensure it takes place.	Project area	Training Records	Monthly	Contractor
	Comments and/or complaints received from ongoing consultations or from grievances to improve traffic mitigations.	Project area and its vicinity	Grievance Records on Project vehicles and drivers	Monthly	Contractor Community Liaison Officer
	Air quality (i.e. PM10) and noise monitoring due to the heavy duty vehicles.	Nearest sensitive receptors	Emission Reports	Monthly	Contractor
	Feedback from local stakeholders regarding to any perceived changes in noise impacts and air quality changes linked to heavy traffic.	Project area and its vicinity	Grievance Records on Project vehicles	Monthly	Contractor Community Liaison Officer
	Condition of traffic signage	Project area and its vicinity Site access roads	Conditions of signage	Weekly	Contractor HSE-Q Expert
	Condition of site access roads	Site access roads	Visual observation	Monthly	Contractor Construction/Operation Manager HSE-Q Expert
	Permit/license requirements	Project area and its vicinity	Availability and validity of permits	Quarterly	Administrative Affairs Manager HSE-Q Expert
Community Health and Safety Management Plan	General housekeeping and community health and safety management practices Conditions of the storage area (top cover, drainage, impermeability of ground, etc.)	Construction site	Visual observation	Weekly	Contractors
	Number of grievances received from local communities on community health, safety, and security issues	Administration office	Grievance records	Monthly	Contractor
	Environmental training topics covering the Community Health and Safety issues	Administration office	Training records	Monthly	Contractor
	Spill prevention, containment and countermeasure	Construction site	Documentation	Quarterly	Contractor

Management Plan	Monitoring Parameter/ Performance Indicator	Monitoring Station /Location	Monitoring Method	Monitoring Frequency	Responsibility
	forms				
	Community conflicts	Vicinity of Project area	Grievance records Findings of stakeholder meetings	Monthly	Contractor
	Project vehicle movements	Administration office	GPS tracking system reports	Weekly	Contractor
	Hazardous material management	Construction site	Visual observation Planned inspections	Daily Weekly(inspections)	Contractor
	Noise	At complainant's resident	Noise measurements	In case of a grievance	Contractor
	Presence of firefighting equipment	Construction site	Visual observation Periodic inspections	Every 6 months	Contractor
	General housekeeping and community health and safety management practices Conditions of the storage area (top cover, drainage, impermeability of ground, etc.)	Construction site	Visual observation	Weekly	Contractor
	Number of grievances received from local communities on community health, safety, and security issues	Administration office	Grievance records	Monthly	Contractor
	Environmental training topics covering the Community Health and Safety issues	Administration office	Training records	Monthly	Contractor
	Spill prevention, containment and countermeasure forms	Construction site	Documentation	Quarterly	Contractor
	Community conflicts	Vicinity of Project area	Grievance records Findings of stakeholder meetings	Monthly	Contractor
	Project vehicle movements	Administration office	GPS tracking system reports	Weekly	Contractor
	Hazardous material management	Construction site	Visual observation Planned inspections	Daily Weekly(inspections)	Contractor
	Noise	At complainant's resident	Noise measurements	In case of a grievance	Contractor
	Presence of firefighting equipment	Construction site	Visual observation Periodic inspections	Every 6 months	Contractor
Emergency Preparedness and Response Plan	Hazardous Materials/Chemicals Inventory	Construction sites	Visual observation	Weekly	Contractor
	Spill and Leak forms	Construction sites	Visual observation	Daily	Contractor
	Proper storage of hazardous materials	Construction sites	Visual observation	Weekly	Contractor
	Floors of the chemical and hazardous material	Construction sites	Visual observation	Weekly	Contractor

Management Plan	Monitoring Parameter/ Performance Indicator	Monitoring Station /Location	Monitoring Method	Monitoring Frequency	Responsibility
	storage areas				
	MSDSs of all chemicals listed in the inventory	Construction sites	Documentation	Weekly	Contractor
	Labels of the hazardous materials	Construction sites	Visual observation	Weekly	Contractor
	General housekeeping Conditions of the storage area (top cover, drainage, impermeability of ground, etc.)	Construction site	Visual observation	Weekly	Contractor
	Number of grievances received from local communities on community health, safety, and security issues	Construction site	Grievance records	Monthly	Contractor
	Records of drills and trainings on emergency preparedness and response	Construction site	Training records	Monthly	Contractor
	Meetings with Workers' Representatives to strengthen dialogue	Construction site	Face-to-face meetings Minutes of meetings	Quarterly	Contractor
OHS Management Plan	Risk Assessment Reports	Project site	Risk Analysis Tables	Annually	Contractor
	OHS Communication Meetings Monthly OHS Meetings Accident/incident Investigation Meetings Risk Assessment Meetings	Project site	Minutes of meetings Incident reports	Daily/Weekly/Monthly	Contractor
	Up-to-date information on notice boards	Project site	Visual observation	Weekly	Contractor
	Accidents/incidents reports	Project site	Documentation	Monthly	Contractor
	Audit Reports	Project site	Documentation	Annually	Contractor
	Compliance to emergency precautions	Project site	Visual observation	Daily/Weekly/Monthly	Contractor
	Inventory of emergency equipment and ease of access	Project site	Incident Records	Biannually	Contractor
	First Aid Treatment Log	Project site	Visual Observation	Annually	Contractor
	Training records	Project site	Documentation	Monthly	Contractor
	Calibration records of measurement instruments	Project site	Visual Observation	Annually	Contractor
Stakeholder Engagement Plan	Number of community complaints or grievances	Project site	Grievance Records	Monthly	HSE-Q Expert
	Number complaints resolved within one month	Project site	Grievance Records	Monthly	HSE-Q Expert
	Reporting back to stakeholders on implementation of the Grievance Procedure	Project site	Grievance Records	Upon implementing the GRM	HSE-Q Expert
	Auditing Grievance Procedure to ensure that it is being implemented and grievances are being adequately addressed.	Project site	Grievance Records	Quarterly	HSE-Q Expert

Management Plan	Monitoring Parameter/ Performance Indicator	Monitoring Station /Location	Monitoring Method	Monitoring Frequency	Responsibility
Biodiversity Action Plan	Terrestrial habitats and flora types	Project site	Observation	Once a year	Project owner / Expert botanist
	Terrestrial fauna species (mammals and reptiles)	Project site	Observation	Once a year	Project owner / Expert zoologist
	Bird species	Observation points Carcass screening in the project area	Observation	15 days in spring 15 days in autumn	Project owner / Expert ornithologist
Air Quality Management Plan	PM10 emissions	At complainant's resident	Sampling/analysis	In case of a grievance	Contractor
Waste Management Plan	Waste Amount	Project Site	Visual observation	Daily	HSE-Q Expert
	Waste Types	Project Site	Visual observation	Daily	HSE-Q Expert
	Waste Classifications	Project Site	Visual observation	Daily	HSE-Q Expert
Wastewater Management Plan	Levels of Septic Tanks	Project Site	Visual observation	Monthly	Contractor
	Disposal of the wastewater collected in septic tanks	Project Site	Visual Observation Vacuum truck receipts Monthly average wastewater generation	Quarterly	Contractor

Table 3 Monitoring Activities of Kandira WPP during Operation Phase

Management Plan	Monitoring Parameter/ Performance Indicator	Monitoring Station /Location	Monitoring Method	Monitoring Frequency	Responsibility
Cultural Heritage Management Plan	Number of chance finds	On and around the working location	Visual observation Official notification to authorities	Daily basis starting from the initialization of land preparation and construction phase	Project Owner
Traffic Management Plan	Investigation of the incidents and accidents and use of lessons learned to improve traffic mitigations.	Project area and its vicinity	No. of Accidents	Continuous	Project Owner HSE-Q Expert
	Driver education monitoring to ensure it takes place.	Project area	Training Records	Monthly	Project and contractor managements
	Comments and/or complaints received from ongoing consultations or from grievances to improve traffic mitigations.	Project area and its vicinity	Grievance Records on Project vehicles and drivers	Monthly	Project Owner Community Liaison Officer
	Air quality (i.e. PM10) and noise monitoring due to the heavy duty vehicles.	Nearest sensitive receptors	Emission Reports	Monthly	Project Owner
	Feedback from local stakeholders regarding to any perceived changes in noise impacts and air quality changes linked to heavy traffic.	Project area and its vicinity	Grievance Records on Project vehicles	Monthly	Project Owner Community Liaison Officer
	Condition of traffic signage	Project area and its vicinity Site access roads	Conditions of signage	Weekly	Project Owner HSE-Q Expert
	Condition of site access roads	Site access roads	Visual observation	Monthly	Project Owner Construction/Operation Manager HSE-Q Expert
	Permit/license requirements	Project area and its vicinity	Availability and validity of permits	Quarterly	Administrative Affairs Manager HSE-Q Expert
Community Health and Safety Management Plan	Number of grievances received from local communities on community health, safety, and security issues	Administration office	Grievance records	Monthly	Project Owner
	MSDS forms	Chemical storage sites	Visual observation and site inspections	When new chemicals are purchased	Project Owner
	Training records on road safety and speed limits	Administration office	Visual observation Monitoring of training records	Annually	Project Owner
	Presence and condition of security fence around	Project area	Visual observation	Every 6 months	Project Owner

Management Plan	Monitoring Parameter/ Performance Indicator	Monitoring Station /Location	Monitoring Method	Monitoring Frequency	Responsibility
	turbine locations				
	Presence of condition of security and traffic signs around the project site.	Site access roads	Visual observation	Every 6 months	Project Owner
	Records of injuries, grievances and losses	Administration office	Monitoring of records	During operation	Project Owner
	Hazardous material management	Project area	Visual observation Planned inspections	Daily Weekly(inspections)	Project Owner
	Noise	At complainant's resident	Noise measurements	In case of a grievance	Project Owner
	Presence of firefighting equipment	Project area	Visual observation Periodic inspections	Every 6 months	Project Owner
	Conditions of the rotor blades	Project area	Periodic inspections Maintenance	Monthly	Project Owner
Emergency Preparedness and Response Plan	Number of grievances received from local communities on community health, safety, and security issues	Project site	Grievance records	Monthly	Project Owner
	MSDS forms	Storage sites	Visual observation and site inspections	When new chemicals are purchased	Project Owner
	Records of drills and trainings on emergency preparedness and response	Project site	Monitoring of training records	Every 6 months	Project Owner
	Presence and condition of security fence around site	Project site	Visual observation	Every 6 months	Project Owner
	Presence of condition of security and traffic signs around the project site.	Site access roads	Visual observation	Every 6 months	Project Owner
	Records of injuries, complaints and losses	Project site	Monitoring of records	During operation	Project Owner
	Proper storage of chemicals e.g. discharge valves of chemical and oil storage tanks	Storage sites	Visual observation	Weekly	Project Owner
	Transformers	Transfer areas	Visual observation	When necessary	Project Owner
	MSDS of all chemicals listed in the inventory	Storage sites	Documentation	Weekly	Project Owner
	Labels of the hazardous materials	Storage sites	Visual observation	Weekly	Project Owner
	Number of reported leakages and spills	Project site	Documentation	Monthly	Project Owner
	Number of situations that trigger emergency response	Project site	Documentation	Quarterly	Project Owner
OHS Management Plan	Risk Assessment Reports	Project site	Risk Analysis Tables	Annually	Project Owner
	OHS Communication Meetings Monthly OHS Meetings Accident/incident Investigation Meetings	Project site	Minutes of meetings Incident reports	Daily/Weekly/Monthly	Project Owner

Management Plan	Monitoring Parameter/ Performance Indicator	Monitoring Station /Location	Monitoring Method	Monitoring Frequency	Responsibility
	Risk Assessment Meetings				
	Up-to-date information on notice boards	Project site	Visual observation	Weekly	Project Owner
	Accidents/incidents reports	Project site	Documentation	Monthly	Project Owner
	Audit Reports	Project site	Documentation	Annually	Project Owner
	Compliance to emergency precautions	Project site	Visual observation	Daily/Weekly/Monthly	Project Owner
	Inventory of emergency equipment and ease of access	Project site	Incident Records	Biannually	Project Owner
	First Aid Treatment Log	Project site	Visual Observation	Annually	Project Owner
	Training records	Project site	Documentation	Monthly	Project Owner
	Calibration records of measurement instruments	Project site	Visual Observation	Annually	Project Owner
Stakeholder Engagement Plan	Number of community complaints or grievances	Project site	Grievance Records	Monthly	HSE-Q Expert
	Number complaints resolved within one month	Project site	Grievance Records	Monthly	HSE-Q Expert
	Reporting back to stakeholders on implementation of the Grievance Procedure	Project site	Grievance Records	Upon implementing the GRM	HSE-Q Expert
	Auditing Grievance Procedure to ensure that it is being implemented and grievances are being adequately addressed.	Project site	Grievance Records	Quarterly	HSE-Q Expert
Biodiversity Action Plan	Terrestrial habitats and flora types	Project site	Observation	Once a year	Project owner / Expert botanist
	Terrestrial fauna species (mammals and reptiles)	Project site	Observation	Once a year	Project owner / Expert zoologist
	Bird species	Observation points Carcass screening in the project area	Observation	15 days in spring 15 days in autumn	Project owner / Expert ornithologist
	Bat species	Carcass screening in the project area	Observation	Twice a year	Project owner / Expert zoologist
Waste Management Plan	Waste Amount	Project Site	Visual observation	Daily	HSE-Q Expert
	Waste Types	Project Site	Visual observation	Daily	HSE-Q Expert
	Waste Classifications	Project Site	Visual observation	Daily	HSE-Q Expert
Wastewater Management Plan	Levels of Septic Tanks	Project Site	Visual observation	Monthly	Project Owner
	Disposal of the wastewater collected in septic tanks	Project Site	Visual Observation Vacuum truck receipts Monthly average wastewater generation	Quarterly	Project Owner

6. REPORTING

Environmental performance reporting is an integral part of ISO 14001 and provides management with knowledge to make meaningful and effective improvements. It is also intended to ensure that the competent authorities are fully aware of how the proponent manages its environmental and social efficiency, that periodic reports are prepared by the contractor during the construction process and that the proponent during the operation phase in compliance with the quality system of each party.

Within the scope of all management plans, it is suggested to prepare performance reports every six months. Only within the scope of SEP and Community Health and Safety Management Plan, it is recommended to prepare monthly reports. Besides their monthly reporting requirements, these issues will also be considered in the scope of six-monthly performance reports. These performance reports can be prepared by either the HSE-Q Expert of the Project Company or Saganak's appointed independent environmental and social consultant.

7. REVIEW AND UPDATE

Saganak's HSE-Q Expert determines the review and update needs of this ESMP. In general, it is expected that this Plan will be reviewed at least once in every three months during the construction phase of the Project. In the operation phase of the Project, the expected review and update frequency is determined as at least once in a year. If the predetermined frequencies are found insufficient by the HSE-Q Expert, the expert has rights to review and update the Plan when deemed necessary.

If the reports indicate any issues with the way the construction or operation is carried out or in the performance of the environmental and social management systems, the required adjustments will be made and the ESMP that will be prepared would be revised to reflect these changes.

ESMP is not a document that cannot be changed. The Plan need to be responsive to change, such as changes in policy, changes in environmental conditions, social conditions and changes in project detail.

Appendix A: Photos from the Project Site (as of October 2020)

Figure 1. T1 and Switchyard

Figure 2. T6

Figure 3. T1

Figure 4. Switchyard

Figure 5. Switchyard and Control Building