



**SAGANAK ENERJİ**

**SAGANAK ENERJİ YATIRIM  
URETİM VE TİCARET A.Ş.**

**KANDIRA WIND POWER PLANT**

**COMMUNITY HEALTH AND  
SAFETY MANAGEMENT PLAN**

**DECEMBER 2020**

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**REVISION HISTORY**

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## **ABBREVIATIONS**

<b>AIIB</b>		Asian Infrastructure Investment Bank
<b>E&amp;H</b>		Environmental and Health
<b>E&amp;S</b>		Environmental and Social
<b>EHS</b>		Environmental, Health, and Safety
<b>ESF</b>		Environmental and Social Framework
<b>ESS</b>		Environmental and Social Standards
<b>GPS</b>		Global Positioning System
<b>H&amp;S</b>		Health and Safety
<b>HSE-Q</b>		Health, Safety, and Environment - Quality
<b>IFC</b>		International Finance Corporation
<b>MSDS</b>		Material Safety Data Sheet
<b>OHS</b>		Occupational Health and Safety
<b>Plan or CHSMP</b>		Community Health and Safety Management Plan
<b>PPE</b>		Personal Protective Equipment
<b>Project</b>		Kandira Wind Power Plant
<b>Saganak Owner</b>	<b>or</b>	<b>Project</b> Saganak Enerji Yatirim Uretim ve Ticaret A.S
<b>TurkStat</b>		Turkish Statistical Institute
<b>WPP</b>		Wind Power Plant

## **1. PURPOSE AND SCOPE**

The Community Health and Safety Management Plan (“the Plan” or “CHSMP”) has been developed in accordance with Saganak Enerji Yatırım Üretim ve Ticaret A.Ş. (hereinafter referred to as “Saganak” or “the Project Owner”) policies, with the commitments undertaken by Saganak in the Environmental and Social Action Plan (ESAP) prepared for the Kandira Wind Power Plant (WPP) Project (“the Project”), with Turkish regulatory framework, with International Finance Corporation (IFC) Performance Standards (PSs) with IFC General and Sector Specific Environment, Health and Safety (EHS) Guidelines and Asian Infrastructure Investment Bank’s (AIIB) Environmental and Social Framework (ESF). Where no national regulation, IFC standard/guideline or AIIB standard applies, the Plan considers the adoption of Good International Industry Practices (GIIP).

### **1.1 Purpose**

The general purpose of this CHSMP is to describe various measures to avoid possible adverse impacts on the health and safety of the affected community during the construction and operation of the Project. The plan aims to achieve these by incorporation of local legislation, requirements of IFC, AIIB and international best practices.

The primary aim of the CHSMP is to facilitate the avoidance, reduction, and mitigation of environmental, social and community health, safety and security risks and impacts associated with all phases of the Project.

### **1.2 Scope**

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
- Provisions/measures regarding noise
- Provisions/measures regarding shadow flicker effect
- Provisions/measures regarding blade and ice throw
- Provisions/measures regarding traffic safety
- Provisions/measures regarding water quality and availability
- Provisions/measures regarding fire safety
- Provisions/measures regarding hazardous materials management and safety
- Provisions/measures regarding infrastructure and equipment design safety
- Provisions/measures regarding community exposure to disease
- Provisions/measures regarding emergency preparedness and response
- Provisions/measures regarding security
- Provisions/measures regarding structural safety of project infrastructure
- Monitoring and reporting
- Training
- Review and Update

## 2. LEGISLATIVE REQUIREMENTS and STANDARDS

### 2.1 National Legislation

Turkish Legislation that the Project will comply with laws/regulations/standards below:

- Occupational Health and Safety Law No. 6331
- Labor Law No. 4857
- Regulation on Education, Duties, Powers and Responsibilities of Occupational Physicians and Other Health Personnel
- Regulation on Risk Assessment of Health and Safety
- Regulation on Occupational Health and Safety Services
- Regulation on Occupational Health and Safety Signs
- Regulation on Emergency Situations in the Workplaces
- Regulation on Occupational Hygiene Measurement, Testing and Analysis Laboratories
- Regulation on Principles and Procedures for Occupational Health and Safety Training of Employees
- Regulation on Health and Safety Measures to be taken in Workplace Buildings and Annexes
- Regulation on the Health and Safety Conditions on the Use of Work Equipment
- Regulation on the Occupational Health and Safety Requirements for Construction Sites
- Regulation on the Use of Personal Protective Equipment at Workplaces
- Regulation on the Occupational Health and Safety Requirements for Temporary or Fixed-Term Employment
- Regulation on the Occupational Health and Safety in Construction Works
- Regulation on Safety and Health in Working with Chemical Substances
- Regulation on the Protection of Workers against Exposure to Dangerous or Explosive Atmospheres
- Regulation on the Protection of Buildings from Fire
- Regulation on Emergencies in Workplaces
- Regulation on First Aid
- Regulation on the Protection of Employees from Risks About Vibration
- Regulation on Health and Safety Measures in Asbestos Works
- Regulation on Duty, Authority, Responsibility of Occupational Physicians
- Regulation on Ground Water Quality
- Regulation on Water Pollution Control
- Regulation Regarding Prevention of Major Industrial Accidents and Reduction of Their Effects
- Regulation on the Implementation of the Law Concerning Private Security Services
- Regulation on the Road Transportation of Hazardous Goods

### 2.2 International Standards

Applicable International Finance Institutions (IFIs) standards and guideline requirements for the community health and safety management are provided in the following references:

- IFC PSs (especially PS4)
- IFC General Environmental, Health, and Safety (EHS) Guidelines
- IFC EHS Guidelines for Wind Energy
- AIIB Environmental and Social Framework
- AIIB Environmental and Social Standards (particularly ESS1)

Aforementioned standards and guidelines set a framework to adopt of best guidance for community health and safety management, and address some aspects of project activities which may have an impact beyond the life of the Project and practices across all aspects of project

operations with the goal of preventing infrastructural damages, traffic accidents and minimizing risks on the Project personnel and the community.

### **3. ROLES AND RESPONSIBILITIES**

#### **Managing Director**

- Owner and confirmatory of this Plan.
- Ensures sufficient and qualified resources are allocated on an ongoing basis to achieve effective implementation of this Plan.

#### **Project Manager**

- Develops, implements, circulates and maintains this Plan.
- Provides sufficient resources to implement the requirements of this Plan.

#### **Administrative Affairs Manager**

- Ensures that all employees are aware of, and appropriately trained on the implementation of this Plan.
- Ensures that security personnel do not have a criminal record and are well trained especially on appropriate force usage, anger management, and conflict management.

#### **Construction/Operation Manager**

- Complies fully with applicable requirements of this Plan.
- Controls general day-to-day implementation of this Plan.
- Ensures that Saganak develops healthy and open relationship with the community.
- Ensures that no community health, safety, and security threatening action is taken by Project personnel.
- Reports to the Project Manager issues impacting on the implementation of this Plan.

#### **HSE-Q Expert**

- Ensures that this Plan is up to date and appropriate to the nature and scale of Saganak.
- Monitors the effective implementation of this Plan by the contractors and subcontractors.
- Ensures that action/measures and monitoring activities directly under Saganak responsibilities are carried out timely and adequately according to this procedure.
- Proposes to Saganak management, if necessary, amendments and/or updates to this plan and issuing plan revisions.
- Programs and performs inspections and audit activities to ensure the correct implementation of this plan.
- Addresses non-conformities through the definition of preventive/corrective actions.
- Brings major non-conformities immediately to the attention of Saganak management.
- Collects, organizes, and reviews monitoring data and performance monitoring reports and provides summary results of such reports to Saganak management.

#### **Community Liaison Officer**

- Manages Saganak's relation with the community.
- Logs grievances from members of the public with respect issues covered in the scope of this Plan.
- Communicates with the community and/or community representatives regarding the actions taken regarding the grievances.



### **Contractors**

- Ensures sufficient and qualified resources are allocated on an ongoing basis to achieve effective implementation of this Plan.
- Ensures the effective implementation of this Plan by issuing its own procedures addressing, detailing and customizing specific actions, measures and monitoring activities under contractors' responsibility.
- Provides relevant monitoring data and monitoring reports to Saganak as required.
- Stipulates Saganak's policies and standards to any subcontractor for duly implementing requirements.

#### 4. COMMUNITY HEALTH AND SAFETY MANAGEMENT

In terms of Community Health and Safety, this management plan provides implementing programs that contribute to mitigating community health, safety, and risks that may arise as a direct or indirect result of the Project. In the context of the Project, some impacts related to issues (traffic safety, fire safety, disposal of wastes/hazardous wastes, usage of chemicals and hazardous materials, infrastructure and equipment design and safety, community exposure to disease, emergency preparedness and response, security etc.) may be formed. By implementing the guidelines provided in this Plan, it is expected to mitigate the impacts on the community by the construction and operation of the Project.

In Table 1, the nearest settlements to the turbines located in the Project site are presented together with their population stats. It means that these settlements will be directly or indirectly affected from the Project's positive and negative impacts in terms of community health, safety and security. Therefore, the mitigation measures and monitoring actions defined in this Plan are majorly focuses to manage any risks to the communities residing in these settlements. A map showing the locations of the nearest settlements and the distances of the settlements to the wind turbines is presented in Figure 1.

**Table 1 Distances of the nearest Settlements to the Kandira WPP 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)
Bagırganlı	Kandira	T1	2.2	North West	738
Bolu	Kandira	T6	1.1	East	410
Hacımazlı	Kandira	T6	1.1	South	230
Safalı	Kandira	T6	3.7	South East	438
Hacımazlı	Kandira	T7	1.2	East-South East	230
Antaplı	Kandira	T9	1.3	South West	231
Merkez Erikli	Kandira	T9	2.5	South	344
Antaplı	Kandira	T10	1.1	South	231
Beylerbeyi	Kandira	T10	2.1	South West	472

Following issues are the CHSMP's main approach:

- To avoid incidents and accidents while vehicles are being driven and while transporting.
- To raise greater safety awareness in each driver and to ensure the compliance of all safe driving provisions for all the vehicles.
- To ensure compliance of all standards established in Turkish legislation.
- To avoid the pollution that can be created due to noise and emissions generated by equipment, machinery, and vehicles.
- To ensure prevention of adverse impacts of chemicals/waste on human health and the environment.
- To raise greater safety awareness in personnel while using, storing and transporting hazardous materials/wastes.
- To reduce potential hazards posed to the public while accessing project activities and to reduce the consequences of a failure or accident.
- To ensure measures for fire and provide training to all personnel about emergency preparedness and response.
- To ensure the prevention of traffic accidents and promoting traffic safety by all Project personnel.

- To ensure compliance with regulations for the transportation of hazardous materials as well as measures for preventing or minimizing the consequences of releases of hazardous materials.
- To ensure structural safety for both the plant itself and the infrastructure of the local community
- To avoid or minimize the potential exposure to water-borne, water-based, water-related, and vector-borne diseases, and communicable diseases that could result from poor management of waste, wastewater and others.
- To assist and collaborate with the community, local governmental agencies, mukhtars and other relevant parties to effectively respond to emergencies originating from the Plant activities.

In the following sub-sections, the subjects that may have impacts on community health, and safety are presented and mitigation measures are defined to manage any impact on the community.



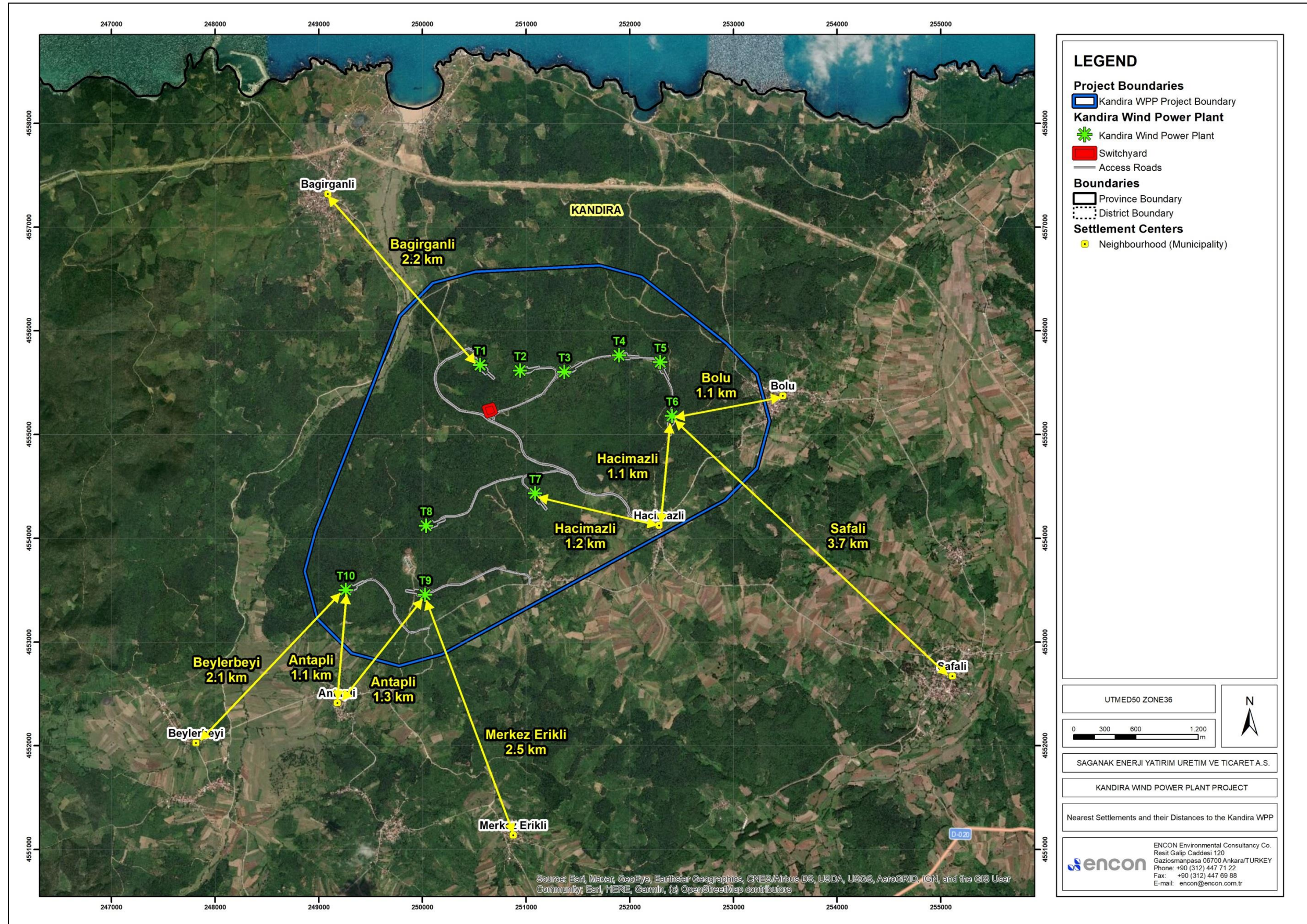


Figure 1 Map Showing the Locations of the Nearest Settlements and the Distances of the Settlements to the Wind Turbines



#### 4.1 Noise

During the construction phase of the Project, noise-producing activities include piling, construction of road and turbine foundation and the erection of the turbines themselves. To mitigate noise-related impacts on community, Saganak will take following measures:

- 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.

Wind turbines produce noise through a number of different mechanisms, which can be roughly grouped into mechanical and aerodynamic sources. The major mechanical components include the gearbox, generator, and yaw motors, each of which produce their own characteristic sounds. The interaction of air and the turbine blades produces aerodynamic noise through a variety of processes as air passes over and past the blades. Although noise levels at the nearest receptors anticipated to be low due to the distances to those, Saganak will take following measures to reduce noise generation to further during the operation phase:

- In order to comply with the noise limit values (both legislative and IFC General EHS Guidelines), the wind turbines will be operated in noise reduced modes where required. When the operation phase of the Project starts a noise assessment study will be made, in case of incompliance with the limit values of the related regulations the turbines causing the incompliance will be switched to noise reduced modes.
- The maintenance of the turbines will be made regularly to ensure that they do not become louder over time.

#### 4.2 Shadow Flicker Effect

Shadow flicker is the effect of the sun (low on the horizon) shining through the rotating blades of a wind turbine, casting a moving shadow. It will be perceived as a “flicker” due to the rotating blades repeatedly casting the shadow. Although in many cases shadow flicker occurs only a few hours in a year, it can potentially create a nuisance for homeowners in close proximity to turbines.

Shadow flicker only occurs when the turbines are operating, thus this event will only occur during the operation phase of the Project.

During the operation phase of the Project, in case of occurrence of shadow flicker effect Saganak will take following measures:

- 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  $> 120 \text{ W/m}^2$ ). 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.

#### 4.3 Blade and Ice Throw

A failure of the rotor blades on the wind turbines can result in the “throwing” of a rotor blade or a part of it. This situation may affect public safety. Although, the overall risk of blade throw is extremely low, some mitigation measures for blade throw event are presented in this section. Furthermore, sometimes ice accretion can occur on blades of the wind turbines especially in cold climate regions; this may cause throwing of pieces of ice from the rotor blades during operation, or dropped from it if the turbine is idling. One of the most effective mitigation measures regarding the throwing of blades or ice is the correct positioning of the turbines. The turbines must be sited at an acceptable distance (“setback”) from the nearest sensitive receptors in order to maintain the public safety in case of the said events.

Mitigation measures for blade throw events are listed below:

- Establishing a setback distance between the turbines and populated locations. The minimum setback distance is  $1.5 \times$  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.

#### 4.4 Traffic Safety

Mitigation measures for traffic safety are proposed in this section. A brief description of traffic sources for both construction and operation phases will be established. Please refer to Traffic Management Plan for more information and details.

During construction period, traffic related impacts will be caused by transportation of equipment and other materials required for the Project, including abnormal load transportation, and additionally by construction activities in the Project area. Some general potential impacts related to traffic caused by the Project are listed below:

- Traffic congestions and delays that may be caused by additional traffic load
- Disruptions in traffic due to abnormal load transports
- Dust and other emissions, spillage/leakage of chemicals and fuels
- Noise and vibration
- Traffic accidents
- Deterioration of existing road condition

During the operation phase, vehicles to be used in the procurement of materials may cause a traffic load and noise can be generated accordingly. Emissions based on the traffic load may be generated. The priority in the recruitment will be given to the local community and therefore there will not be a significant impact on the traffic load formed during service hours. Some health and safety issues may occur during personnel movement (either for access to the site or for operation and maintenance activities) if necessary precautions are not taken.

Please refer to Traffic Management Plan for information on the mitigation measures for the possible impacts of the Project on traffic.

#### **4.5 Water Quality and Availability**

Water quality of sources (surface water, groundwater or piped water supply) will be discussed in this section.

During construction and operation periods, Saganak will take following measures:

- 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.

#### **4.6 Fire Safety**

Mitigation measures are developed in this section to prevent, minimize and control risks posed by fire due to Project activities regarding personnel, environment and plant during construction and operation phases of the Kandira WPP Project. Please refer to Emergency Preparedness and Response plan for further information.

Saganak will take measures for fire prevention and foreseen fire risks in order to ensure safety of the personnel and community. Mitigation measures for fire prevention and procedures to be implemented in case of a fire situation are described in detail below:

- 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.

#### 4.7 Hazardous Materials Management and Safety

Measures shall be taken in order to avoid or minimize the potential for community exposure to hazardous materials and substances that may be released by the Project. Measures regarding transportation and disposal of hazardous materials are described in this section.

Approach to hazardous materials management involves a range of stakeholders, including Saganak, its contractors and subcontractors, local authorities, regulatory agencies, suppliers of these materials and the general public. Saganak will take measures in order to ensure safety of the public. Mitigation measures to be implemented regarding the hazardous material management are described below:

- 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.

#### **4.8 Infrastructure and Equipment Design Safety**

Saganak will take measures to avoid occurrence of incidents/accidents and injuries for the members of the public resulted from the operation of the Project related equipment. Mitigation measures for infrastructure and equipment safety are presented below:

- 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

#### **4.9 Community Exposure to Disease**

Saganak will take measures to protect the health of both its employees and the community from communicable diseases such as COVID-19 and diseases relating to poor sanitation and living conditions, sexually transmitted diseases and vector-borne infections.

Mitigation measures for disease prevention and procedures to be implemented will be described in detail below:

- 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 stipulations of Ministry Circular on COVID-19 Measures to be taken at Construction and Operation Sites.

#### **4.10 Emergency Preparedness and Response**

Saganak will assist and collaborate with the community, local government agencies, and other relevant parties, in their preparations to respond effectively to emergency situations,

especially when their participation and collaboration are necessary to respond to such emergency situations and will also document its emergency preparedness and response activities, resources, and responsibilities, and will disclose appropriate information to communities, relevant government agencies, or other relevant parties.

Mitigation measures for emergency response are given below:

- 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 of 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

#### 4.11 Security

Saganak shall take measures to assess risks by its security arrangements to those within and outside the Project area. These measures will include but will not be limited to the items presented below.

- 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:

- 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.

#### 4.12 Structural Safety of Project Infrastructure

Hazards posed to the public while accessing project facilities may include:

- Physical trauma associated with failure of building structures.
- Burns and smoke inhalation from fires.
- Injuries suffered as a consequence of falls or contact with heavy equipment.
- Exposure to hazardous materials.

Reduction of potential hazards will be accomplished during the design phase when the structural design, layout and site modifications can be adapted more easily. The following issues will be considered and incorporated as appropriate in to the planning, siting, and design phases of the Project:

- 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. TRAINING**

### **Security Personnel**

- All private security personnel will take trainings on communication with residents, crowd management, conflict management and problem-solving, cautious performance in security operations, balanced force, and human rights training.

### **All Employees**

- Trainings that will be conducted for all employees and employees of subcontractors will include community health, safety, and security issues.

### **Community**

- Project's grievance mechanism
- Road safety awareness training

All trainings, except community trainings, are performed by HSE-Q Expert as much as possible. The community trainings will be arranged and conducted by the Community Liaison Officer. For security personnel trainings, Saganak might decide to use third parties.

## 6. MONITORING AND REPORTING

In the scope of this CHSMP, regular monitoring activities will be carried out in order to assess the level of implementation of the mitigation measures identified for the Project for both construction and operation phases.

Based on the monitoring results, necessary corrective and preventive actions will be identified and required changes will be reflected to the Plan. Training program will also be updated accordingly.

In addition to internal monitoring, the experts from related institutions could monitor and audit these activities. The timing and frequency of these audits would be determined by the relevant institutions. Reports will be produced using the findings of the monitoring programs for each issue regarding community health and safety management.

Evidence and results of the monitoring activities have to be described in detail in monitoring reports. These reports have to be provided to Project Manager on a monthly basis. Table 2 details the monitoring activities identified for community health and safety management.

These data together with the results of the inspection and audit activities will be summarized in a Report on a six monthly basis that will be made available to stakeholders which is under the responsibility of Saganak. This report constitutes the basis for the monitoring report to be available for the Lenders.

**Table 2** Monitoring Parameters

Project Phase	Monitoring Parameter/ Performance Indicator	Monitoring Station/ Location	Monitoring Method	Monitoring Frequency	Responsibility
Construction phase	General housekeeping and community health and safety management practices	Construction site	Visual observation	Weekly	Contractors
	Conditions of the storage area (top cover, drainage, impermeability of ground, etc.)				
	Number of grievances received from local communities on community health, safety, and security issues	Administration office	Grievance records	Monthly	Project Owner Contractor
	Environmental training topics covering the Community Health and Safety issues	Administration office	Training records	Monthly	Project Owner Contractor
	Spill prevention, containment and countermeasure forms	Construction site	Documentation	Quarterly	Contractors
	Community conflicts	Vicinity of Project area	Grievance records Findings of stakeholder meetings	Monthly	Project Owner Contractors
	Project vehicle movements	Administration office	GPS tracking system reports	Weekly	Contractors
	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

Project Phase	Monitoring Parameter/ Performance Indicator	Monitoring Station/ Location	Monitoring Method	Monitoring Frequency	Responsibility
Operation Phase	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 site	Project area	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, 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

In addition to internal monitoring, the experts from related governmental authorities could monitor and audit these activities. The timing and frequency of these audits would be determined by the relevant institutions.

As a result of monitoring studies on community health and safety issues, monitoring reports will be prepared, corrective and preventive actions will be determined based on the results of these reports and necessary changes will be reflected in this plan. The training program will also be updated accordingly.

These data together with the results of the inspection and audits activities will be summarized by Saganak in the Performance Report on a six-monthly basis that will be made available to stakeholders.

## **7. REVIEW AND UPDATE**

The correct implementation of this Plan is verified through internal and external inspections and audits to be carried out according to the requirements included in the Plan.

Internal auditing will address:

- The correct implementation of this Plan;
- The correct development and implementation of Contractor's related plans and procedures;
- The correct and timely implementation of an auditing and review system by the Contractor;
- Each of the point indicated in the tables in Section 4 and Section 6 of this plan.

During the inspections, the audit team will address in particular:

- Interviews with the communities and/or their representatives to gather comments and opinions about ongoing activities of the Project;
- Inspections for community conflicts;
- Inspections for actions of security personnel;
- Inspections for accidental spills/leaks to any water body and agricultural land;
- Inspections for any illegal dumps/discharges;
- Inspections for communicable diseases that might be related to the Project activities;
- Interviews with personnel to ensure that the personnel are qualified and trained.

Evidences and results of the inspection and audit activities will be kept with the audit reports and "Non-Conformity and Preventive/Corrective actions" records. This plan will be reviewed and updated as needed by HSE-Q Expert in close cooperation of Community Liaison Officer.