

**SAGANAK ENERJİ**

**SAGANAK ENERJİ YATIRIM  
URETİM VE TICARET A.S.**

**KANDIRA WIND POWER PLANT**

**WASTEWATER  
MANAGEMENT PLAN**

**DECEMBER 2020**

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## REVISION HISTORY

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## **ABBREVIATIONS**

<b>AIIB</b>	Asian Infrastructure Investment Bank
<b>EHS</b>	Environmental, Health, and Safety
<b>ESF</b>	Environmental and Social Framework
<b>ESS</b>	Environmental and Social Standards
<b>EU</b>	European Union
<b>HSE-Q</b>	Health, Safety, and Environment - Quality
<b>IFC</b>	International Finance Corporation
<b>OHS</b>	Occupational Health and Safety
<b>Plan or WWMP Project</b>	Wastewater Management Plan Kandira Wind Power Plant
<b>Saganak or Project Owner</b>	Saganak Enerji Yatırım Üretim ve Ticaret A.Ş.
<b>TurkStat</b>	Turkish Statistical Institute
<b>WPP</b>	Wind Power Plant

## **1. PURPOSE AND SCOPE**

Saganak Enerji Yatırım Üretim ve Ticaret A.Ş. (hereinafter referred to as “Saganak” or “the Project Owner”) acknowledges the importance of wastewater management for the construction and operation phases of the Kandira Wind Power Plant (WPP) Project (“the Project”) and the Wastewater Management Plan (“the Plan” or “WWMP”) provides instructions and guidance to eliminate and/or control wastewater-related risks and impacts that may arise from project-related activities.

### **1.1 Purpose**

The general purpose of the Plan is to describe various measures to avoid adverse impacts on environment and health and safety of the employees and community during the construction and operation of the Project. The plan aims to achieve these by incorporation of local legislation, requirements of International Finance Corporation (IFC), Asian Infrastructure Investment Bank (AIIB) and international best practice procedures.

Throughout the Project life, different types of wastewaters will be generated from different sources and activities. The purpose of this plan is to guide and obtain the acceptable collection, storage and discharge of wastewaters generated from the Project activities in a way that minimizes the impacts on human health and environment.

### **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 governmental 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 wastewater management
- Training of personnel regarding WWMP issues
- Monitoring and reporting
- Review and Update

## **2. LEGISLATIVE REQUIREMENTS AND STANDARDS**

### **2.1 Turkish Legal Framework**

In the scope of the Kandira WPP, Turkish Legislation that the Project will comply with is provided below:

- Environmental Law No. 2872
- Water Pollution Control Regulation
- Regulation on the Control of Pollution Caused by Hazardous Substances in and around Water Environment
- Regulation on the Protection of Ground Waters against Pollution and Deterioration
- Surface Water Quality Regulation
- Regulation Concerning Water Intended for Human Consumption
- Occupational Health and Safety Law No. 6331
- Regulation on Risk Assessment of Health and Safety
- Regulation on Emergency Situations in the Workplaces
- Regulation on Health and Safety Measures to be taken in Workplace Buildings and Annexes
- 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

### **2.2 International Standards and Guidelines**

Applicable IFC and AIB standards and guideline requirements for wastewater management are provided in the following references:

- IFC PSs, particularly PS3 Resource Efficiency and Pollution Prevention
- IFC General Environmental, Health, and Safety (EHS) Guidelines
- IFC EHS Guidelines: Community Health and Safety
- IFC EHS Guidelines: Construction and Decommissioning
- IFC EHS Guidelines for Wind Energy
- AIB Environmental and Social Framework
- AIB Environmental and Social Standards (particularly ESS1)

Aforementioned standards and guidelines set a framework to adopt of best guidance for wastewater management practices, 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 any wastewater-related damage and minimizing adverse impacts of wastewater generation.

### **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.
- Controls and confirms the objectives related with this Plan.

#### **Project Manager**

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

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

- Ensures that relevant activities are carried out in accordance with this management plan and related procedures.
- Reports to the Project Manager issues impacting on the implementation of this Plan.
- Ensures that the contractors are fulfilling their wastewater related contractual obligations and reports any nonconformity to Project Manager.

#### **Administrative Affairs Manager**

- Ensures that all employees are aware of, and appropriately trained on the implementation of this Plan.

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

- Ensures implementation of precautions related to wastewater management objectives.
- Checks whether this Plan fits with the project standards and other agreements or not.
- Operator of this Plan and controls the contractors' application.
- Coordinates related activities of this Plan.
- Gives Plan-related training to employees.
- Performs internal audits and daily inspections and records identified nonconformities.
- After the identification of the deficiencies/nonconformities by contractors in the implementation of this plan, transmits the situation in writing form to the contractors and gives the necessary technical support to take relevant measures.
- Follows the field applications.
- Coordinates monitoring studies and compiles reports.
- Maintains internal records of monitoring studies.
- Collates and maintains records of grievances, and directs it to the Community Liaison Officer if the grievance is external.
- Identifies the necessary actions for environmental grievances.

#### **Community Liaison Officer**

- Logs grievances from members of the public with respect issues covered in the scope of this Plan.
- Coordinates communications with the community representatives as presented in this Plan.

### **Contractors**

- Ensures compliance with the Project-specific wastewater management approach in accordance with the contractual requirements.
- 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. WASTEWATER MANAGEMENT**

### **4.1 Wastewater Management Approach**

The main wastewater generation sources will be:

- Portable toilets on the site;
- Domestic wastewater from administrative building;
- Cleaning vehicles and construction equipment; and
- Watering for dust suppression activities.

Apart from that, no industrial wastewater generation is expected in the Project Site.

The WWMP provides a plan and schedule to properly manage and operate the collection, storage and disposal of wastewater generated on site without causing any EHS issues. By implementing the guidelines provided in this WWMP, it is aimed to mitigate the risks towards wastewater related issues in construction and operation phases of The Project. In order to appropriately manage the wastewater generated on site, the following good management practices will be used:

- 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.

### **4.2 Sewer Overflow Response Plan**

The sewer overflow response plan is generated to appropriately and efficiently respond to, contain, correct, and clean up sewer overflow. This response plan is intended to minimize the

effects of sewer overflow on the environment while protecting the public's health and safety. Objectives of this response plan are summarized as:

- Protect public health and safety, and the environment;
- Minimize the impacts of sewer overflow;
- Satisfy regulatory conditions;
- Protect private and public property;
- Protect personnel; and
- Protect Project-owned assets.

All employees will receive regularly scheduled trainings which cover responsibilities pertaining to sewer overflow responses and any updates to the response plan, and associated documents. Hands-on training demonstrations will be performed to ensure all staff is adequately prepared to respond to a sewer overflow event.

Figure 1 illustrates an overview of steps for responding to a sewer overflow.

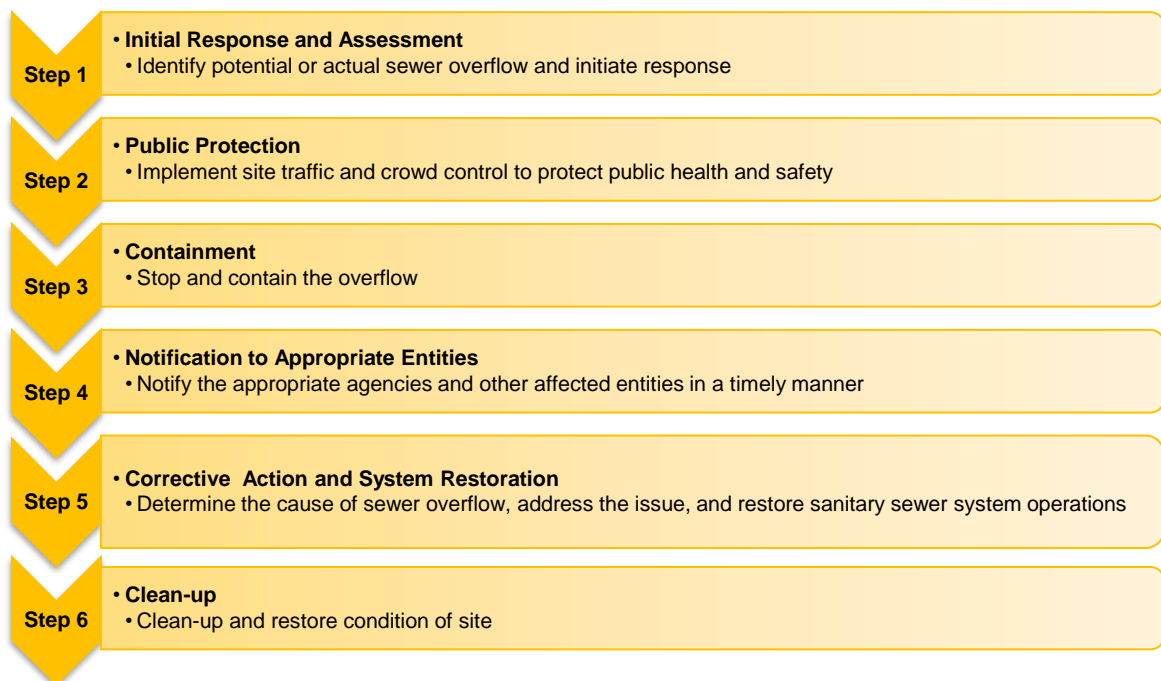


Figure 1. Overview of steps for responding to sewer overflow.

## **5. TRAINING**

Saganak will provide the necessary funds and scheduling time to ensure effective wastewater management training is provided. This commitment will include paid work time for training and training in the language that the workers understand. Both management and employees will be involved in developing the program. To most effectively carry out their responsibilities, all personnel must understand (1) their role in the program, (2) the hazards and potential hazards that need to be prevented or controlled, and (3) the ways to protect themselves and others. Goals will be achieved by:

- Educating everyone on the natural and system consequences of their actions;
- Educating all managers, supervisors, employees, contractors and visitors on their wastewater management system responsibilities;
- Educating all employees and contractors about the specific hazards and control measures in their workplace;
- Training all employees and contractors on hazard identification, analysis, reporting and control procedures; and
- Training all employees, contractors and visitors on safe work procedures and practices.

Training program will focus on wastewater management concerns that determine the best way to deal with a particular hazard. When a hazard is identified, it shall be removed entirely. If that is not feasible, workers shall be trained to protect themselves and the community, if necessary, against the remaining hazard.

The training program at least includes the following subjects:

- WWMP measures and monitoring activities
- Sewer overflow response plan

All Saganak employees and employees' of contractors are obliged to attend trainings on wastewater management and understand the Project's approach on wastewater management. These trainings will be conducted by HSE-Q Expert and the attendance sheets will be filled and submitted to the Administrative Affairs Manager for employees' personal files. HSE-Q Expert shall ensure that all employees are trained on at least the above-given subjects.

In case of an incident, accident or grievance; HSE- Q Expert has responsibility to increase the frequency and to review and update the content of wastewater management trainings.

## 6. MONITORING AND REPORTING

In order to ensure the continuity and effectiveness of the implementation of WWMP strategies defined, monitoring plays a key role. The main objective of the monitoring and reporting is to provide a basis for the evaluation of the impacts of the Project. Information collected with the monitoring can also be used to improve WWMP. 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 1.

**Table 1.** Monitoring activities in accordance with WWMP

Requirement	Timetable	Target and Evaluation Criteria for Successful Implementation
Domestic wastewater will be collected in septic tanks and transferred to municipal wastewater treatment plant with vacuum trucks during construction and operation phases of the Project.	During construction and operation	Vacuum truck receipts Monthly average wastewater generation
Wastewater level in septic tanks will be checked regularly to prevent sewer overflow	During construction and operation	No septic tank overflows

The EHS performance report that will be prepared by the HSE-Q Expert in a six-monthly basis will include a chapter dedicated for wastewater management. In this report, HSE-Q Expert will provide the results of internal audits, wastewater related grievances and their resolutions, and monthly average wastewater generation of the Project.

## **7. REVIEW AND UPDATE**

Saganak's HSE-Q Expert determines the review and update needs of this Plan. In general, the Plan should be reviewed according to the results obtained from site inspections and conveyed grievances, and reviewed and updated accordingly, if necessary. The Plan shall be reviewed and updated after changes in related legislative and international standards. The contractors' HSE-Q staff is responsible to put effort in the review and update process of the Plan.