SAĞANAK ENERJİ

SAGANAK ENERJI YATIRIM URETIM VE TICARET A.S.

KANDIRA WIND POWER PLANT

AIR QUALITY MANAGEMENT PLAN

DECEMBER 2020

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REVISION HISTORY

Ver	Date of Issue	Issue Reason	Description of Change	Prepared by	Approved by
0	19.10.2020	First submission	-	YNS	CC
1	30.12.2020	Incorporation of TKYB comments	Chapter 1 Section 2.2	OO	CC

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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
ESAP	Environmental and Social Action Plan
ESF	Environmental and Social Framework
ESHS	Environmental Social, Health and Safety
ESS	Environmental and Social Standards
HSE-Q	Health, Safety, and Environment - Quality
IFC	International Finance Corporation
OHS	Occupational Health and Safety
Plan or AQMP	Air Quality Management Plan
PM	Particulate Matter
Project	Kandira Wind Power Plant
PSs	Performance Standards
Saganak or Project Owner	Saganak Enerji Yatirim ve Ticaret A.S.
SEP	Stakeholder Engagement Plan
WHO	World Health Organisation
WPP	Wind Power Plant

1. PURPOSE AND SCOPE

The Air Quality Management Plan ("the Plan" or "AQMP") has been developed in accordance with Saganak Enerji Yatirim ve Ticaret A.S (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") and in accordance with Turkish regulatory framework, with International Finance Corporation (IFC) Performance Standards (PSs), and 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 AQMP is to describe various measures to avoid adverse impacts on air environment 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 practice procedures.

1.2 Scope

This Plan provides necessary means and measures to achieve the 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 of the Project.

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

- Legislative requirements and standards
- Roles and responsibilities
- Provisions/measures regarding air quality
- Training of personnel on air quality management
- Monitoring and reporting
- Review and update

2. LEGISLATIVE REQUIREMENTS AND STANDARDS

2.1 Turkish Legal Framework

Key Turkish Legislation that the Project will comply with are given below:

- Regulation on Assessment and Management of Air Quality
- Regulation on Industrial Air Pollution Control

Air quality standards are defined in the Regulation on Assessment and Management of Air Quality published on 06.06.2008 in Official Gazette No 26898 and Industrial Air Pollution Control Regulation published on 03.07.2009 in Official Gazette No 27277. Ambient air quality limit values for various pollutants defined in Turkish regulations are presented in Table 1.

Table 1. Turkish Ambient Air Quality Values

Parameter	Duration	Limit Value* (µg/m^3)
SO_2	Hourly (cannot be exceeded more than 24 times a year)	350
	24 Hour	125
	Long term Limit	60
	Annual and winter season (Oct 1 – Mar 31)	20
NO_2	Hourly (cannot be exceeded more than 18 times a year)	200
	Annual	40
Particulate Matter (PM 10)	24 hour (cannot be exceeded more than 35 times a year)	50
	Annual	40
CO	8 hour daily maximum	10.000
O_3	8 hour daily maximum	120
VOC**	Hourly	280
	24-hour	70

**Regulation on Assessment and Management of Air Quality*
***Industrial Air Pollution Control Regulation*

2.2 International Standards and Guidelines

Applicable IFC and AIIB standards and guideline requirements for air quality management are as follows:

- IFC Performance Standards on Social and Environmental Sustainability
- IFC General Environmental, Health, and Safety (EHS) Guidelines
- IFC EHS Guidelines: Community Health and Safety
- IFC EHS Guidelines: Construction and Decommissioning
- 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 health and safety 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 infrastructural damages and minimizing injuries suffered by project personnel and the public.

IFC EHS Guideline for Air Emissions and Air Quality refers to the limit values recommended by the World Health Organization (WHO) Ambient Air Quality Guidelines, in the

absence of national legislated standards. Therefore, the compliance with the Turkish Legislation will also ensure the Project's compliance with IFC standards. The limit values recommended by the WHO are presented in Table 2. In cases when there would be a gap in the national legislation due to possible amendments, the Project will comply with the limit values given in Table 2. AIIB ESF does not define guideline values for ambient air quality.

Table 2. WHO Ambient Air Quality Guidelines

Parameter	Duration	Limit Value* (µg/m^3)
SO_2	10 Minute	500
	24 Hour	20
NO_2	Hourly	200
	Annual	40
Particulate Matter (PM 10)	24 Hour	50
	Annual	20
Particulate Matter (PM 2.5)	24 Hour	25
	Annual	10
O_3	8 Hour Daily Maximum	100

**IFC, Environmental, Health and Safety Guidelines, General EHS Guidelines: Environmental, Air Emissions and Ambient Air Quality*

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 air emissions related contractual obligations and reports any nonconformity to Project Manager.

HSE-Q Expert

- 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 management plan.
- Gives Plan-related training to employees.
- Performs routine inspections.
- 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 complaints.
- 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.
- Contributes to the implementation of precautions related to environment, health, safety objectives.

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 air quality management approach in accordance with the contractual obligations.
- 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. AIR QUALITY MANAGEMENT

The air quality emissions generated as a result of the Project activities will be mainly concern of the construction phase. The main emission sources will be;

- Earthworks for the construction of site access roads and internal roads,
- Wind erosion of stockpile surfaces,
- Construction of turbine foundations,
- Construction of underground cable network,
- Construction of energy transmission line,
- Construction of other ancillary facilities such as the substation, and
- Emissions due to transport of materials and personnel.
- Emissions from moving vehicles, construction machinery and equipment including exhaust emissions such as PM10, NOx, CO, SO_2 and TOC.

To avoid potential impacts of dust and exhaust emissions on sensitive receptors in the vicinity of the license area, settlements near the site access road, beekeeping, stockbreeding and agricultural activities near the turbines, the following preventive and corrective measures will be implemented:

- 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. TRAINING

Saganak will provide the necessary funds and scheduling time to ensure effective air quality 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 management system responsibilities
- Training all employees and contractors about the specific emission generating activities and their control measures

Training program will create awareness on emission generating activities among employees and provide insights on measures to abate emissions, results of risk assessments and how to protect themselves and the receptors from emission impacts. The training program at least includes the following:

- Educating construction machinery operators on their activities that generate emission and related abatement measures as presented in Chapter 4.
- Educating dump truck drivers on their activities that generate emission and related abatement measures as presented in Chapter 4.
- Educating all employees during the induction training on measures defined in this Plan.

6. MONITORING AND REPORTING

In the scope of this AQMP, 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.

This Plan does not define a periodic air quality measurement campaign during the construction and operation phases of the Project. The air quality measurements will be performed by an accredited laboratory only in case of a grievance. In such case, the guidance of the grievance mechanism will be followed and swift action will be taken to conduct a campaign that satisfies both national requirements and IFC requirements at the complainant's house/business/farm, etc. If the campaign results are higher than the legislative and IFC limit values, Saganak will first identify the activity that creates this situation. Then, if the emission source is related with the Saganak's activity, necessary measures shall be defined and implemented by Saganak. Following the actions, Saganak will conduct the second campaign to verify that actions are sufficient to meet the legislative and international standards. The complainant will be informed according to the grievance mechanism at all stages of the process.

The EHS performance report that will be prepared by the HSE-Q Expert in a six-monthly basis will include a chapter dedicated for air quality-related actions. In this report, HSE-Q Expert will provide the results of air quality measurement campaign including the summary of the whole process (e.g. grievance, corrective actions, verification measurement, etc.).

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 air quality measurement campaigns 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.