

# ROTOR

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## APPENDIX - A

# ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN FOR THE BAHCE WINDFARM PROJECT (135 MW)



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This report is prepared by DOKAY Engineering and Consultancy Ltd. whose ISO 9001:2000 certified by BVQI (certificate no. 166324).

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## ABBREVIATIONS

<b>DEVELOPER</b>	ROTOR Elektrik Uretim A.S.
<b>DOKAY</b>	DOKAY Engineering and Consultancy Ltd.
<b>ESMMP</b>	Environmental and Social Management and Monitoring Plan
<b>GWh</b>	Gigawatt-hour
<b>MoEF</b>	Ministry of Environment and Forestry
<b>MW</b>	Megawatt
<b>NGO</b>	Non-governmental Organization
<b>PDoEF</b>	Provincial Directorate of Environment and Forestry
<b>PROJECT</b>	Osmaniye Bahce Wind Farm Project
<b>SMP</b>	Social Management Project
<b>WMP</b>	Waste Management Plan

## 1. RESPONSIBLE PARTIES

Rotor Elektrik Uretim Ltd. (DEVELOPER), a subsidiary of Zorlu Energy Group, is planning to construct and operate a 135 MW wind farm (PROJECT) in Bahce District of Osmaniye Province, Southern Turkey. The PROJECT is applying for Gold Standard's certification as a voluntary carbon emission reduction project.

As a component of the Environmental and Social Impact Assessment for the PROJECT, this Environmental and Social Management and Monitoring Plan (ESMMP) includes potential environmental and social impacts to occur during construction and operational phases of the PROJECT and the mitigation measures to be taken for minimization of these impacts or prevention of them as well as principals of the public consultation meetings with the local people, who may be affected from the PROJECT, and the representatives of local non-governmental and governmental organizations.

Responsibilities of each party of the PROJECT are presented below:

- *DOKAY*: takes the responsibility to prepare the ESIA Report including the ESMMP documents of the PROJECT according to the format given in the Terms of Reference for the ESIA Report.
- *DEVELOPER*: as a beneficiary of the PROJECT takes the responsibility to both Ministry of Environment and Forestry (MoEF) and IFC for acquiring necessary permissions related to the construction of the PROJECT, implementation of the measures defined in the ESIA and the ESMMP during construction and operation periods.
- *CONTRACTOR*: takes the required precautions denoted in the ESMMP to minimize environmental impacts that may occur during implementation of the PROJECT and records public complaints via a well defined complaint logging procedure and takes the required action to manage the issues. CONTRACTOR will be responsible to the DEVELOPER.
- *MoEF*: enforces the items 18 and 19 related with "Monitoring and Control of Investment" of the Turkish EIA Regulation issued on the Official Gazette dated July 17, 2008 in case DEVELOPER does not fulfill the requirements of the Project Introduction File (PIF) approved by the Provincial Directorate of Environment and Forestry (PDoEF) in Osmaniye.
- *IFC*: As a potential co-financier requires compliance with its Performance Standards which is described in detail in the ESIA Report.

## 2. PROJECT DESCRIPTION

### 2.1 Project Area

DEVELOPER is planning to realize the PROJECT near the District Centre of Bahce in the Province of Osmaniye, located in the Eastern Mediterranean Region (see Figure 1.1).

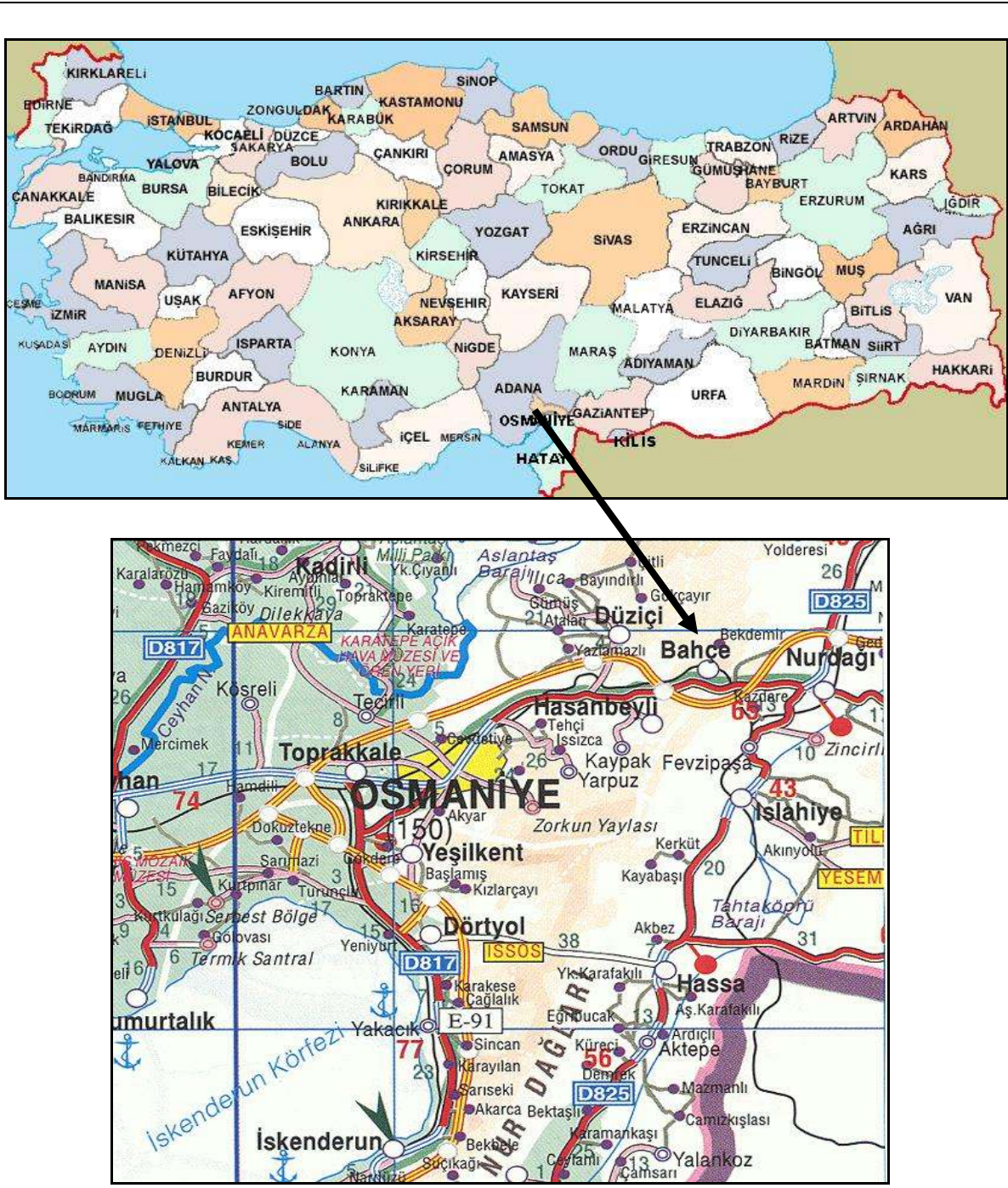


Figure 2-1 Project Location

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## **2.2 Technical Characteristics of the Project**

The Project consists of 54 wind turbines with a rated power of 2.5 MW each, providing a total installed capacity of 135 MW and an expected annual electricity generation of 512 GWh. The wind turbines are of 85 m hub height and 100 m rotor diameter. The plant will be connected to the national grid through the 154kVA Bahce Transformer Centre via a 7-km power transmission line. A number of 25 lattice poles will be set up along the transmission route. Electricity generation figure for a turbine was calculated by means of certain wind modeling tools. The overall gross and net generation will be 524 GWh/year and 512 GWh/year, respectively.

### 3. LEGAL FRAMEWORK

Turkish legislation and international standards have been considered through preparation of the ESMMP, analyzing activities during construction and operation of PROJECT.

#### 3.1 Turkish Legislation

The below mentioned laws and regulations include the legal requirements to reduce environmental impacts that may pose during construction and operation activities in the scope of the PROJECT:

- Environmental Law numbered 2872;
- Turkish EIA Regulation (Official Gazette dated 17.07.2008 and numbered 26939);
- Environmental Audit Regulation (Official Gazette dated 05.01.2002 and numbered 25631.);
- Regulation on Assessment and Management of Air Quality (Official Gazette dated 06.06.2008 and numbered 26898.);
- Regulation on Control of Industry Sourced Air Pollution (Official Gazette dated 22.07.2006 and numbered 26236.);
- Water Quality Control Regulation (Official Gazette dated 31.12.2004 and numbered 25687.);
- Water Quality Control Regulation Technical Procedures Report (Official Gazette dated 07.01.1991 and numbered 20748.);
- Regulation on Fosseptic Constructed in Places Unsuitable for Sewerage Channel Construction (Official Gazette dated 13.03.1971 and numbered 13783.);
- Regulation on Assessment and Management of Environmental Noise (Official Gazette dated 07.03.2008 and numbered 26809.);
- Excavation Soil, Construction and Ruins Waste Control Regulation (Official Gazette dated 18.03.2004 and numbered 25406.);
- Solid Waste Control Regulation (Official Gazette dated 14.03.1991 and numbered 20814.);
- Package Materials and Package Materials' Wastes Control Regulation (Official Gazette dated 24.06.2007 and numbered 26562);
- Hazardous Waste Control Regulation (Official Gazette dated 14.03.2005 and numbered 25755.);
- Soil Pollution Control Regulation (Official Gazette dated 31.05.2005 and numbered 25831.);
- Regulations related to the law in the scope of changes in the Forest Law numbered 5192 and the Forest Law numbered 6831;
- Regulation Related to Protection and Utilization of Farmlands (Official Gazette dated 25.03.2005 and numbered 25766.);
- Soil Protection and Land Utilization Law numbered 5403;

- Implementation Regulation of Soil Protection and Land Utilization Law (Official Gazette dated 15.12.2005 and numbered 26024.);
- 2863 numbered (different from the law numbered 5226) Cultural and Natural Assets Conservation Law and related regulations;
- 4857 numbered Labor Law and regulations related to it;
- Occupational Health and Safety Regulation (Official Gazette dated 09.12.2003 and numbered 25311.);
- Health and Safety Regulation on Temporary or Definite Period Occupation (Official Gazette dated 15.05.2004 and numbered 25463.);
- Regulation on Health and Safety in Construction Works (Official Gazette dated 23.12.2003 and numbered 25325.).

### 3.2 International Criteria

Since the PROJECT may be financed with the credit to be supplied by the international lenders such as IFC, Performance Standards (PS's) of IFC<sup>1</sup> were considered during the preparation of this ESMMP as a basis for lender requirements.

As described in detail in Chapter 1 of the ESIA Report, the following IFC PS's are applicable for the PROJECT:

- PS1: Social and Environmental Assessment and Management Systems;
- PS2: Labor and Working Conditions;
- PS3: Pollution Prevention and Abatement; and
- PS4: Community, Health Safety and Security.
- PS5: Land Acquisition and Involuntary Resettlement; and
- PS6: Biodiversity Conservation and Sustainable Natural Resource Management.

The IFC documents of April 30, 2007 titled as "Environmental, Health, and Safety Guidelines for Wind Energy" and "Environmental, Health and Safety Guidelines for Electric Power Transmission and Distribution" have been utilized as the main technical reference during the preparation of the present ESIA Report.

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<sup>1</sup> In particular, PS 1 "Social and Environmental Assessment and Management Systems" published by the IFC in 2007 required an ESMMP for all projects applying for IFC finance.

## **4. MANAGEMENT PLAN**

### **4.1 Construction Phase**

This ESMMP as part of the ESIA Report including the impact assessment and mitigation measures as well as monitoring activities proposed for the construction phase will be presented to the construction contractors in order to be aware of environmental requirements of the PROJECT. This is important in terms of ensuring that the mitigation measures will be taken into account for the construction. The main responsibility of the CONTRACTOR to is as presented below:

- Training the construction staff to raise the environmental consciousness and assigning a person responsible for HSE in order to contribute PROJECT's environmental performance;
- Fulfilling the requirements of Turkish Environmental Legislation mentioned in Chapter 3 of the ESMMP, and taking necessary mitigating measures;
- Acquiring licenses required in accordance with the national legislation to conduct construction activities; and

DEVELOPER will assign an engineer, in charge with implementing the ESMMP, as the authority of "HSE" and follow the compliance by audits which can be conducted on a monthly basis.

### **4.2 Operational Phase**

DEVELOPER will be responsible for fulfilling the requirements in the ESIA and the ESMMP for the wind farm in operation. Below are the requirements that need to be fulfilled by the DEVELOPER:

- Assigning an engineer as the HSE manager of the PROJECT to implement the commitments in the ESIA and hence, ESMMP documents and follow the compliance with internal audits;
- Training operation and maintenance staff to raise the environmental consciousness to provide their contribution to the PROJECT's environmental performance;
- Fulfilling the requirements of Turkish Environmental Legislation, and taking necessary mitigating measures;
- In addition to the present legal framework, fulfilling the new national or international legislation that may come into force or be issued during operational phase.

### **4.3 Mitigation Measures**

The important environmental impacts that may pose in water, air and soil as receiving media during construction and operational phase of the PROJECT and the proposed mitigation measures are presented in Table 4.1.

**Table 4-1 Environmental Impacts of the PROJECT and Mitigation Measures.**

Phase	Issue	Mitigating Measure	Cost of Mitigation	Institutional Responsibility*
Construction and Operation	Land Acquisition	Land Aquisition - submit a summary , acceptable to all Lenders, for any past or ongoing land acquisition related to the project (including wind farm, transmission line or other associated facilities) being implemented by the Government of Turkey and/or the Company or other third party, consistent with PS 5; This summary of Land Acquisition must clearly define that the acquisition process has been on a willing seller-buyer basis, that prices paid for land/leases are on a market basis and that affected persons have been consulted in the process.	Based on market values and including associated transaction costs	Company/Borrower
Construction	Excavated material	Some portion of the excavated materials will be stored in the construction site to be used in construction activities. Remaining part will be transported and stored in storage sites determined by the DEVELOPER after getting necessary permits. They will be carried by trucks having necessary license	Included in the civil works	CONTRACTOR
Construction	Vegetative top soil	Vegetative top soil will be stripped prior to excavation works and will be stored in the construction site away from the other excavations to be used in landscaping.	Included in the civil works	CONTRACTOR
Construction	Noise and vibration (Excavation, and drilling works)	Local people will be informed prior to such activities that may cause a temporary disturbance; Regular maintenance of heavy machinery. Construction works should be carried out during the day time period (07:00-19:00) stated in Regulation on Assessment and Management of Environmental Noise.	No cost implementation	CONTRACTOR
Construction	Dust	Work sites shall be watered under warm, dry and windy weather conditions; material shall be loaded and unloaded without slueing. 30 km/hour speed limit shall be set on non-paved roads. Top of the trucks will be covered when carrying the excavated materials.	Included in the civil works	CONTRACTOR
Construction	Water quality	Storage of excavation soil in steep slopes will be avoided in order to prevent it from mixing with surface water bodies to result in turbidity or similar undesired outcomes. Besides, silt fences will be constructed to avoid migration of silt.	Included in the civil works	CONTRACTOR
Construction	Construction wastes	They will be transported by trucks having necessary license to the storage sites determined by the DEVELOPER after getting necessary permits.	Included in the civil works	CONTRACTOR
Construction	Domestic solid waste	Formed where construction sites are established. Wastes will be collected by the stuff of the DEVELOPER after getting necessary permits and will be handled on solid wastes disposals.	Included in the civil works	CONTRACTOR

Phase	Issue	Mitigating Measure	Cost of Mitigation	Institutional Responsibility*
Construction	Hazardous Waste (such as asbestos, paint remains, florescent lamp, water/temperature isolation material, waste oil and batteries)	Hazardous wastes will be handled in compliance with Regulation on Control of Hazardous Wastes, Regulation on Waste Oil, Regulation on Control of Used Batteries and Accumulators (i.e., disposal of these wastes to a proper landfill or collected by a company certified by the MoEF for collection and disposal).	Included in the civil works	CONTRACTOR
Construction	Domestic wastewater	Formed where construction sites are established. Portable toilets may be supplied for areas where workers are populated. Wastewater will be collected in septic tanks and the tanks will be emptied by sewer trucks (if needed since the camp site is already connected to the existing sewer network of Bahce).	Included in the civil works	CONTRACTOR
Construction	Public health and safety	Drivers of the vehicles carrying materials to construction site should obey speed limit of 30 km/hour. There will be notice boards on the roads to warn inhabitants of the trucks. Gangways will be immediately built in excavation areas to prevent people from falling down and barriers will also be in use. Excavated areas should be covered for public health or surrounded by warning signs if coverage is not possible. Pipe ends should be closed not to let animals to enter pipes.	Included in the civil works	CONTRACTOR
Construction	Ecology	A bird survey in one of the migration seasons (a 15-days survey in between March and May 2009 or August and October 2009).	Not included in the civil work (cost of two experts for 15 days site and one week reporting).	CONTRACTOR/OPERATOR
Construction	Occupational health and safety	Water will be sucked by a drainage system or pumps to prevent it accumulate in pits and muddy water sucked is discharged after allowing soil to settle down. Barriers should be used to obstruct soil collapse in deep excavation areas. Compliance with the relevant Occupational Health and Safety Regulation of Turkey (e.g., use of personal protective equipment and compliance with excavation techniques detailed in Article 24 of the Regulation as well as informing relevant local authority within three days of the start of construction works in terms of number of workers, measures being taken, etc.).	Included in the civil works	CONTRACTOR
Operation	Visual impacts	Ancillary structures and roads on the site are minimized e.g. by avoiding fencing. Intraproject power lines will be buried and inoperative turbines will be removed. Steep slopes will be avoided, erosion measures will be implemented and cleared land will be revegetated with native species only.**	Included in the operational costs	DEVELOPER
Operation	Noise	Gearbox of each turbine will be insulated.**	Included in the operational costs	DEVELOPER
Operation	Species mortality or injury and disturbance	Implementation of appropriate stormwater management measures to avoid creating attractions such as ponds which can attract birds for feeding or nesting near the wind farm.**	Included in the operational costs	DEVELOPER

Phase	Issue	Mitigating Measure	Cost of Mitigation	Institutional Responsibility*
Operation	Surface, groundwater and soil quality	Wind turbines will be equipped with oil absorption and collection systems.	Included in the operational costs	DEVELOPER
Operation	Habitat alteration	In general, there is no significant contribution of wind power projects to habitat alteration.	N/A	N/A
Operation	Hazardous Waste (such as asbestos, paint remains, florescent lamp, water/temperature isolation material, waste oil and batteries)	Hazardous wastes will be handled in compliance with Regulation on Control of Hazardous Wastes, Regulation on Waste Oil, Regulation on Control of Used Batteries and Accumulators (i.e., disposal of these wastes to a proper landfill or collected by a company certified by the MoEF for collection and disposal).	Included in the operational costs	DEVELOPER
Operation	Solid wastes	Solid wastes will be generated after maintenance and repair of the break-downs in operation period. They will be transported by trucks having necessary license to the storage sites determined by the DEVELOPER.	Included in the operational costs	DEVELOPER
Operation	Occupational health and safety	Compliance with the relevant Occupational Health and Safety Regulation of Turkey (including use of personal protective equipment and preparation of an emergency action plan, to be prepared by CONTRACTOR and approved by the DEVELOPER prior to the start of the activities, for accidents during maintenance of sewerage and water supply systems).	Included in the operational costs	DEVELOPER

\* CONTRACTOR's responsibilities will be stated in the tender document.

\*\* IFC, 2007

## 5. MONITORING PLAN

It is suggested that environmental monitoring studies should be conducted separately because different activities during construction and operation period of the PROJECT will result in different possible environmental impacts. Data acquired during monitoring studies will be compared with national legislation items which are mentioned in Chapter 3.

Monitoring plan of the PROJECT is presented in Tables 5-1 and 5-2 as construction and operation phases, respectively.

### 5.1 Construction Phase

Monitoring every environmental parameter continuously is not practical and necessary. Environmental monitoring functions according to the characteristics of existing environmental conditions and identifies unacceptable changes during construction period. In this context, monitoring plan is designed to commit that “project activities have no permanent negative effect on environmental resources “.

For construction period, water and air quality, waste management applications and noise levels will be monitored and the results will be compared to legal limiting values. CONTRACTOR will prepare a report about monitoring studies according to the following program and offers it to the DEVELOPER:

- Weekly Progress Reports (including environmental problems occurred during that week and precautions taken)
- Monthly Environmental Monitoring Reports in which environmental performance of the Project is evaluated according to the ESIA commitments.

### 5.2 Operational Phase

In the operational phase of the PROJECT, fewer environmental impacts are expected than construction period. Thus, only quarterly environmental audits and reporting to be focused on noise ( $L_{eq}$  measurements in Gokmustafali Village) and ecology (i.e., bird surveys) will be carried out by an environmental consultant.

In addition, it is also recommended to carry out social survey prior to the operational phases in order to determine the needs of the local society and to develop social responsibility projects. Findings of the rapid social survey, conducted in the ESIA works and presented in Section 3.8 can be a starting point. Furthermore, in the operational phase of the Project, there should be a routine social monitoring to follow up the development of the social responsibility projects and to record and resolve any complaint about the operations of the Osmaniye Bahce Wind Farm Project.

**Table 5-1** Monitoring Plan for Construction Phase

<b>Phase</b>	<b>What parameter is to be monitored?</b>	<b>Where is the parameter to be monitored?</b>	<b>How is the parameter to be monitored/ type of monitoring equipment?</b>	<b>When is the parameter to be monitored- frequency of measurement or continuous?</b>	<b>Monitoring Cost</b>	<b>Responsibility</b>
Construction	Excavated material disposal method	Excavation and storage sites	Site observation and document review whether or not disposal area and the method are approved by the DEVELOPER.	Daily by the constructional staff	No cost implementation	CONTRACTOR
Construction	Vegetative top soil conditions (height of the storage-1.5 m at max. and cover over piles)	Excavation and storage sites	Site observation	Daily by the constructional staff	No cost implementation	CONTRACTOR
Construction	Noise and vibration (Excavation, and drilling works)	Nearest house in Gokmustafali (ex. backyard of the nearest house)	Noise measurement with a calibrated sound level meter	Monthly and especially during the activities that increase noise levels (measurements should be performed more frequently depending on the complaint of the public)	Included in the civil works	CONTRACTOR
Construction	Dust	Nearest house in Gokmustafali (ex. backyard of the nearest house)	Site observation and measurements with a PM <sub>10</sub> device	Monthly measurements after the initiation of construction facilities and during the facilities that increase dust formation (measurements should be performed more frequently depending on the complaint of the public)	Included in the civil works	CONTRACTOR
Construction	Water quality	Surface water bodies	Measurement of turbidity, pH, chemical oxygen demand, oil and grease and suspended solids	Monthly in excavation period	Included in the civil works	CONTRACTOR
Construction	Construction wastes disposal method	Excavation and storage sites	Site observation	Daily by the constructional staff	Included in the civil works	CONTRACTOR
Construction	Domestic solid waste disposal method	Construction and storage sites	Site observation	Monitoring of the domestic solid wastes will be defined in the WMP to be prepared by the CONTRACTOR for the DEVELOPER.	Included in the civil works	CONTRACTOR
Construction	Domestic wastewater disposal method	Septic tank	Measurement of wastewater level in septic tanks (if needed since the camp site is already connected to the existing sewer network of Bahce).	Daily by the constructional staff	No cost implementation	CONTRACTOR
Construction	Hazardous waste disposal method	Construction and storage sites	Site observation	Monitoring of the hazardous wastes will be defined in the WMP prepared by the CONTRACTOR for the DEVELOPER.	Included in the civil works	CONTRACTOR
Construction	Public health and safety measures	Excavation and construction site, storage sites	Site observation	Daily by the constructional staff	Included in the civil works	CONTRACTOR

Phase	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored/ type of monitoring equipment?	When is the parameter to be monitored- frequency of measurement or continuous?	Monitoring Cost	Responsibility
Construction	Occupational health and safety measures (please refer to Section 3 of the Act on Occupational Health and Safety (Official Gazette dated 12.09.1974 and #15004)	Construction site	Internal Health, safety, environment (HSE) audits to check the requirements of the Act on Occupational Health and Safety (Official Gazette dated 12.09.1974, #15004).	Daily by the constructional staff	Included in the civil works	CONTRACTOR
Construction	Ecology	Construction site	Bird survey (including bats)	One of the migration seasons (a 15-days survey in between March and May 2009 or August and October 2009).	Not included in the civil work (cost of two experts for 15 days site and one week reporting).	CONTRACTOR / DEVELOPER

**Table 5-2** Monitoring Plan for Operational Phase.

Phase	What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored/ type of monitoring equipment?	When is the parameter to be monitored- frequency of measurement or continuous?	Monitoring Cost	Responsibility
Operation	Noise	Nearest house in Gokmustafali	Noise measurement with a calibrated sound level meter	Monthly	Included in the operational costs	DEVELOPER
Operation	Solid wastes disposal method	Operation and maintenance sites	Site observation, environmental audits	Daily recordings and monthly assessment of the solid wastes generated. Annual audits of the system in context of WMP.	Included in the operational costs	DEVELOPER
Operation	Birds and bats	Operation Site	Bird survey by an ornithologist as described in the ornithological report – Appendix B to the ESIA	For a period of 15 days in a migration season in the first year of the operational phase (in addition to the one to be made in construction phase in order to monitor whether or not there is impact on birds/bats)	Included in the operational costs	DEVELOPER
Operation	Species mortality or injury and disturbance	Operation site	Dead bird (e.g. bat) searches involving entire carcasses, partial remains and feathers	Daily by the operational staff	No cost implementation	DEVELOPER
Operation	Surface, groundwater and soil quality	Surface water bodies, groundwater resources and soil	Measurement of lubricating oil (if a contamination occurred as a results of considerable oil spill to a nearby surface water or unpaved soil ground)	Monthly	Included in the operational costs	DEVELOPER
Operation	Occupational health and safety measures	Operation site	Internal HSE audits to check whether the Act on Occupational Health and Safety is complied.	Daily by the operational staff	Included in the operational costs	DEVELOPER

## 6. INSTITUTIONAL ARRANGEMENTS

This chapter gives information about how and by whom the environmental monitoring activities will be conducted in order to achieve an environmentally sound development of the PROJECT.

### 6.1 Construction Phase

DEVELOPER, the owner of the PROJECT, is the main responsible party to minimize or eliminate possible environmental impacts of the PROJECT. In this respect, for construction period, the DEVELOPER will ensure that the ESMMP is being complied with by the CONTRACTOR. Therefore, to guarantee the environmental performance of the PROJECT, CONTRACTOR will be aware of his responsibilities in the construction works.

DEVELOPER will inform the local public and NGO's, which were invited to the Stakeholder Meeting held in Bahce on June 19, 2008, about the management of public relations in the construction period in the meeting of the presentation of this ESMMP (refer to Chapter 7). This process will be carried out by the DEVELOPER. In the construction period, a public relations mechanism will be constructed for the complaints from the locals, NGO's and governmental establishments in the city.

This mechanism will handle the following subjects:

- Informing the public about the progress of the PROJECT,
- Taking the complaints and recording them,
- Handling the complaints in a quick and effective manner and resolving them.

In the construction period, CONTRACTOR, who will conduct the environmental monitoring studies according to the issues stated in ESMMP under the control of DEVELOPER, will present the results to the DEVELOPER with monthly environmental monitoring reports.

DEVELOPER will evaluate the monitoring reports which are presented by the CONTRACTOR in terms of related environmental regulation. Moreover, copies of the environmental monitoring reports will be kept by DEVELOPER and in the field office of CONTRACTOR to present it to authorities in the controls that can be made by Osmaniye PDoEF, and the IFC audits.

When non-compliance is found by the authorities, CONTRACTOR will fix the situation and declare it to DEVELOPER.

Within the context of this ESMMP, the task distribution concerning anticipated activities in the construction phase is presented in Table 6.1.

**Table 6-1** Task Distribution related to the ESMMP requirements for the construction phase  
(R: responsible, S: supervisor, A: assistant)

Task Item	CONTRACTOR	DEVELOPER
Environmental Monitoring (water, air, soil, noise etc.)	R <sup>1</sup>	S
Training of Key Personnel	R	S
Training of Staff	R	S
Emergency Action Plan	R	S
Corrective Actions	R	S
Internal Audit	R	S
Reporting	R	S
Relations with the Media	A	R <sup>2</sup>
Handling complaints	R	S

<sup>1</sup> Measures should be conducted by the qualified institutions and establishments according to the national legislation.

<sup>2</sup> Relations with the media is the responsibility of DEVELOPER as a requirement of general implementation rules of public investments. This forbids the CONTRACTOR from arranging a direct meeting with the media.

### 6.1.1 Training

The most important point to guarantee the environmental monitoring of the PROJECT is a training program to raise the awareness in environmental issues of CONTRACTOR's personnel. Environmental training program will be arranged for the following points to be covered:

- Understanding of the PROJECT's environmental requirements and its implementation in the site by the staff (i.e. what kind of environmental impacts are expected and what kind of mitigating measures are proposed; where and how to take these precautions);
- Understanding of the procedures to be followed in improper situations;
- Reporting principals and understanding rules;
- PROJECT's environmental dimension and informing the related official institutions about it;
- Understanding how to treat the public and media visiting the site; and
- Understanding how to act in case of unexpected environmental accidents.

CONTRACTOR is in charge of keeping the records related to the environmental training of the staff. Internal audits should test the effectiveness and the adequacy of the training. CONTRACTOR is required to ensure that the personnel of the subcontractor take the environmental instructions and consider this in the protocol with the subcontractor.

### 6.1.2 Public Relations

#### 6.1.2.1 Relations with the Media

It is the DEVELOPER's responsibility to conduct relations with media as a requirement of general implementations rules of public investments. For this reason, the CONTRACTOR

will not arrange a direct meeting with media without the permission of the DEVELOPER. A procedure, concerning the relations with the media, should be prepared and applied when such authorization is given to the DEVELOPER.

### **6.1.2.2 Handling with the Complaints**

The CONTRACTOR will prepare a procedure to direct complaints to the DEVELOPER. By this procedure, it will be ensured that complaints are conveyed directly to the relevant personnel [Public Relations Unit (PRU) of the DEVELOPER]. The DEVELOPER is responsible to deliver the phone numbers, mail and e-mail addresses needed to receive and record complaints from interest groups (local people and NGO's).

Any complaints received will be recorded and directed by the PRU to the related technical personnel in the construction site to take necessary precautions and corrective actions. The complainant will be informed about the progress after necessary precautions are taken and the subject issue is resolved. All complaints and relative actions taken will be recorded by the PRU. Contact names and details for the complaints are given below:

- Mr. Sinan Ak, Deputy General Manager, [sinan.ak@zorlu.com](mailto:sinan.ak@zorlu.com)  
Tel: (212) 456-2300
- Mr. Yagmur Ozdemir, Project Finance Manager, [yagmur.ozdemir@zorlu.com](mailto:yagmur.ozdemir@zorlu.com)  
Tel: (212) 456-2300

## **6.2 Operational Phase**

A management team is required to be formed by the DEVELOPER in the operational phase with an institutional structure both to follow the environmental performance of the PROJECT regularly and the facility to operate orderly. A member of this team will be assigned by the DEVELOPER to follow the environmental issues about the operational phase.

In this respect, the primary concern of the DEVELOPER is to assure and establish definitive, HSE standards throughout its organization. Efforts will be made by the DEVELOPER in order to enforce the HSE standards, directives, plan, safety instructions and hazard analysis plan through trainings, meetings, inspections and management supervisions.

A public relations mechanism, to evaluate complaints and suggestions from people about the PROJECT during operational phase, will be established by the DEVELOPER and a public relations process will be followed.

Moreover, a "Trouble Record File" is required to be formed to keep regular records of the faults in the system during operation. A person from operational staff will be assigned to keep records.

## 7. STAKEHOLDER CONSULTATION MEETING

The meeting was held at the Industrial Profession High School (“Endustri Meslek Lisesi”) in Bahce on June 19, 2008 (see Figure 7-1). The DEVELOPER circulated invitations via direct invitation letters to direct stakeholders from national, regional and local levels with a project summary attached, via three regional newspapers (“Bahce Gundemi” and “Bahcenin Sesi” on June 16, 2008 and “Haber Gazete” on June 19, 2008) and via poster announcements in the surrounding villages.



**Figure 7-1.** Stakeholder Meeting.

A number of 100 people attended the meeting, including representatives from the MoEF, Turkish Electricity Transmission and Distribution Companies (TEIAS Adana), Osmaniye provincial parliament, PDoEF of Osmaniye and Osmaniye Provincial Directorate of Education. The local-level attendants were local authorities including municipalities, Mukhtars (village headmen), Sub-governor of Bahce District, local police, teachers from Bahce, and representatives of the Bahce Small-Scaled Industrial Zone.

The meeting was opened with the introduction of the DEVELOPER, PROJECT and the application for Gold Standard certification with assistance from EcoSecurities who is the consultant for the certification works. PROJECT’s contribution to carbon emission reduction and to sustainable development especially in the surrounding villages was emphasized as well. The importance of the PROJECT in terms of utilization of renewable

energy resources and mitigation of climate change was highlighted in the presentations delivered by the representatives of the DEVELOPER. At the end of the meeting, the comments (related to the possible impacts of such construction activities, opportunity of employment) raised by the attendees were welcome and responded by the DEVELOPER. It is possible to say that the meeting had a positive ambience and that the participators supported the PROJECT.

In addition to this meeting, a public relations mechanism related to the complaints from people during construction phase of the PROJECT is presented in Chapter 6.1.2. Similarly, a public relations process should be followed during operational phase by the DEVELOPER. In this respect, recommendations on a social management and public consultation plan are provided in Annex-A of this ESMMP.

The ESIA as well as a summary of the annual monitoring will be published on the Companies internet in English and Turkish. The information will be available on the following web page: <http://www.zoren.com.tr/EN/COMPANIES/companies10.asp>.

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**REFERENCES**

- International Finance Corporation. 2007. Environmental, Health and Safety Guidelines WIND ENERGY.
- Rotor Elektrik Uretim A.S. 2008. 135 MW Osmaniye Ruzgar Santrali Proje Tanitim Dosyasi.
- Rotor Elektrik Uretim A.S. 2008. Voluntary Emission Reduction Project – Project Idea Note.

## Annex A: Outline of a Social Management and Public Consultation Plan

The Osmaniye Bahce Wind Farm Project is required to comply with the IFC Performance Standards on Social and Environmental Sustainability. These Performance Standards stipulate more comprehensive requirements in terms of community concerns which are not sufficiently addressed in the relevant Turkish legislation (e.g., more detailed socio-economic baseline information including community feedback, more extensive community consultation, wider scope for compensation, if needed etc.).

In order to develop social responsibility projects, a more detailed social survey will be carried out and subsequently, a Social Management Plan (SMP) will be prepared. The existing ESMMP provided in the appendix of this ESIA Report covers information on public consultation process carried out up to date in the context of the proposed PROJECT and the complaint procedure as well as employment of a personnel for the follow up of social issues.

The proposed social study should comprise the assessment of the available baseline data to be obtained mainly through literature and official archives of governmental institutions (e.g. Turkish Statistical Institute, State Planning Organization, Provincial Directorates, Governorship etc.). Then, field surveys will be conducted to describe and identify the existing social baseline conditions in the Project Area as well as to gather feedback from the affected communities and local NGO's regarding the most proper social projects for the area.

On the basis of the results and findings of the social survey proposed above, an SMP will be prepared. The SMP will mainly comprise the social commitments of the PROJECT as well as approaches towards development of social responsibility Project(s). "Community Engagement" is an inherent component of IFC Social Policies. Hence, it needs to be ensured that there is a continuous mutual communication between the Project and the communities throughout the PROJECT. Within this framework;

- a "Feedback and Complaints Procedure" will be set up to receive the feedbacks and resolve any complaints from the communities throughout the construction and operation phases;
- a free-phone line will be designated to stakeholder-use for conveying any feedbacks and complaints; and
- "Community Meetings" which were started during the early phases (during the preparation of the ESIA report and carbon certification process) of the PROJECT prior to the construction activities will be continued to be held on an ongoing basis in order to ensure that the communities are fully briefed about the progress of the PROJECT as well as HSE issues and associated mitigation measures.
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