ENVIRONMENTAL MANAGEMENT PLAN
FOR
ERZURUM SOLAR POWER PLANT

DOKAY-ÇED Çevre Mühendisliği Ltd. Şti.
Ata Mah. 1042. Cad. No: 140/A Dikmen
06460 Çankaya-ANKARA
Phone: +90 (312) 475 7131
Fax: +90 (312) 475 7130

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Annex-E  Electricity Generation Pre-Licence

Annex-F  Documentation of Public Information Meeting
### ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>%</td>
<td>Percentage</td>
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<tr>
<td>AC</td>
<td>Alternating Current</td>
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<td>dBA</td>
<td>Decibel A-weighting</td>
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<tr>
<td>DC</td>
<td>Direct Current</td>
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<td>EAC</td>
<td>Emergency Action Coordinator</td>
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<td>Emergency Preparedness/Action Plan</td>
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<td>Environment Health and Safety</td>
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<td>Environmental Impact Assessment</td>
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<td>EMP</td>
<td>Environmental Management Plan</td>
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<td>EMRA</td>
<td>Energy Market Regulatory Authority</td>
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<tr>
<td>EP</td>
<td>Equator Principles</td>
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<td>EPFI</td>
<td>Equator Principles Financial Institutions</td>
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<tr>
<td>ESMS</td>
<td>Environmental and Social Management System</td>
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<tr>
<td>Ha</td>
<td>Hectare</td>
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<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
</tr>
<tr>
<td>kWe</td>
<td>Kilowatt electric</td>
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<tr>
<td>kWh</td>
<td>kilowatt-hour</td>
</tr>
<tr>
<td>kWp</td>
<td>Kilowatt peak</td>
</tr>
<tr>
<td>L</td>
<td>liter</td>
</tr>
<tr>
<td>Leq</td>
<td>equivalent continuous sound level</td>
</tr>
<tr>
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<td>Meter square</td>
</tr>
<tr>
<td>m³</td>
<td>Meter cube</td>
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<tr>
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<td>Ministry of Environment and Urbanization</td>
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<tr>
<td>MW</td>
<td>Megawatt</td>
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<tr>
<td>MWe</td>
<td>Megawatt electric</td>
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<tr>
<td>RAMEN</td>
<td>Regulation on Assessment and Management of Environmental Noise</td>
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<td>Regulation on Control of Industrial Air Pollution</td>
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<td>Second</td>
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<td>Halk Enerji</td>
<td>Halk Enerji Yatırımları Üretim ve İnşaat A.Ş.</td>
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<td>SPP</td>
<td>Solar Power Plant</td>
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<tr>
<td>TÜİK</td>
<td>Türkiye İstatistik Kurumu (Turkish Statistical Institute)</td>
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1 PURPOSE AND SCOPE

The Environmental Management Plan (EMP) for Erzurum Solar Power Plant (SPP) Project consists of specific actions which would enable the Project to meet all of its objectives and targets for environmental management and monitoring. The EMP will also be utilized as a tool to comply with national and international legislation and standards during the implementation of the Project. The EMP provides mitigation measures defined for each possible environmental impact as well as monitoring activities. Throughout the EMP, the responsibilities for each specific action are allocated to Project owner, subcontractors and related Project personnel.

The management plans which presented within this EMP are aimed specifically to provide the followings:

- Information on environmental responsibilities of Halk Enerji Yatırımları Üretim ve İnşaat A.Ş. (Halk Enerji) and their subcontractors;
- A list of procedures for environmental management of the Project that Halk Enerji is committed to. The procedures are outlined to prevent or minimize potential adverse impacts on the environment due to Project activities;
- An outline of the environmental policy and framework, including national and international legislation regarding environmental protection, under which the Project will operate;
- The monitoring and reporting activities through which the effectiveness of the management plans will be assessed.

The EMP is planned to provide a list of specific management/mitigation measures, targets and responsibilities for construction and operation phases of the Project. Procedures provided within this EMP are open for update, whenever there is a need to improve the performance of the Project and further mitigate any potential impacts.

The following chapters outline the regulatory background for environmental management, organizations that will be responsible for the implementation of this EMP, specifications of the Project as well as its location (the area of influence) and schedule for construction and operation, mitigation plans for the construction and operation periods for the main environmental issues, monitoring plan, emergency action plan, requirements for institutional arrangements, consultation with stakeholders and finally the public relations plan.
2 ENVIRONMENTAL POLICY AND LEGAL FRAMEWORK

2.1 National Legislations

Turkish environmental legislation has been established according to national standards and regulations. Some of these regulations have been revised recently to be aligned with EU Directives because of Turkey’s candidate membership of EU.

Ministry of Environment and Urbanization (MoEU) is responsible in adaptation of environmental protection and conservation policies, implementation of sustainable development and provision and management of natural resources.

Turkish Environmental Law, numbered 2872, came into force in 1983 (amended with the Law dated April 26, 2006 and number 5491) and the Law addresses environmental issues in a broader sense. According to the basic principles governing the implementation of the Environmental Law and as stated in the Constitution the citizens are responsible for the protection of the environment as the government.

Activities envisaged and relevant management plans to be implemented under the project will be in compliance with Turkish environmental regulations. A detailed list of the relevant regulations is as follows:

- Environmental Auditing Regulation (Official Gazette No: 27061 dated 21 November 2008)
- Regulation on the Control of Waste Batteries and Accumulators (Official Gazette No: 29214 dated 23 December 2014)
- Regulation Concerning Environmental Land-use Plans (Official Gazette No. 27051 dated 11 November 2008).
- Regulation on Environmental Permission and License (Official Gazette No. 29115 dated 10 September 2014).
- Regulation on Assessment and Management of Environmental Noise (Official Gazette No. 29536 dated 18 November 2015).
- Regulation on Control of Waste Vegetable Oil (Official Gazette No. 29378 dated 6 June 2015).


- Regulation on Assessment and Management of Air Quality (Official Gazette No. 29504 on 16 October 2015).
- Regulation on Waste Management (Official Gazette No. 29314 dated 14 April 2015).
- Regulation on Control of End of Life Tires (Official Gazette No. 29292 dated 11 March 2015).
- Regulation on the Control of Industrial Air Pollution (Official Gazette No. 27277 dated 3 July 2009).
- Water Pollution Control Regulation (Official Gazette No. 25687 dated 31 December 2004).
- Regulation on Surface Water Quality Management (Official Gazette No. 28483 dated 30 November 2012).
- Regulation on the Quality of Surface Waters Used and Planned to be Used for Drinking Water (Official Gazette No. 28338 dated 29 June 2012).
- Regulation on the Control of Medical Wastes (Official Gazette No. 25883 dated 22 July 2005).
- Regulation on Soil Pollution Control and Point Source Contaminated Sites (Official Gazette No. 28704 dated 11 July 2013).
- Regulation on Water Intended for Human Consumption (Official Gazette No. 28580 dated 7 March 2013).
- Regulation on Ambient Noise Emission by Equipment Used Outdoor (Reprinted Official Gazette No. 2639230 dated 30 December 2006).
- Regulation on Starting Up and and Operating a Workplace (Official Gazette No. 29187 dated 26 November 2014).
- Regulation on Occupational Health and Safety Services (Official Gazette No. 29209 of 18 December 2014).
- Regulation on Protection of Workers from Risks related to Noise (Official Gazette No. 28721 dated 28 July 2013).
- Regulation on the Protection of Groundwater against Pollution and Deterioration (Official Gazette No. 29363 dated 22 May 2015).
- Regulation on Vocational Education of Employee to Work in Dangerous and Very Dangerous Jobs (Official Gazette No. 28706 dated 13 July 2013).
- Regulation on Occupational Health and Safety Services conducted by Employer or His Representatives in Workplaces (Official Gazette No. 29401 dated 29 June 2015)
Halk Enerji is committed to comply with the requirements of current national legislations and codes of practice, and fulfils all other legal requirements. Therefore, during each stage of the planned Project and the implementation of related management plans, all activities will be carried out in line with standards and limits set by the above mentioned laws and regulations.
2.2 International Requirements

In addition to the national legislation, the Environmental Management Plan (EMP) for Erzurum SPP Project has been prepared to form a basis for specifying the environmental provisions to ensure that the construction and operation of the Project will be carried out in an environmentally sound manner in accordance with the international standards. In this regard, requirements of the World Bank Safeguard Policies, as well as the requirements of the International Finance Corporation (IFC) Performance Standards (2012) and Equator Principles (2013), which will be followed during implementation of the EMP, are provided below.

The objectives of the World Bank (WB) Safeguard Policies briefly are:

- To protect people and environment from adverse impacts
- To enhance social equity and promote environmental sustainability
- To reduce and manage risks for the Client and for the WB
- To respond to a world-wide constituency

The WB Safeguard Policies (10+1) are:

**Environmental Policies**
- OP 4.01 Environmental Assessment
- OP 4.04 Natural Habitats
- OP 4.09 Pest Management
- OP 4.36 Forests
- OP 4.37 Safety of Dams

**Social Policies**
- OP 4.11 Physical Cultural Resources
- OP 4.12 Involuntary Resettlement
- OP 4.10 Indigenous Peoples

**Legal Policies**
- OP 7.50 International Waterways
- OP 7.60 Disputed Areas

**BP 17.50 Bank Disclosure Policy**

Operational Policies (OP) are concise statement of policy objectives and operational principles including the roles and obligations of the Borrower and the Bank. Whereas, Bank Procedures (BP) are mandatory procedures to be followed by the Borrower and the Bank.

The objectives of the WB Environmental and Social Safeguard Policies are as follows:

**OP 4.01: Environmental Assessment**
- To help ensure the environmental and social soundness and sustainability of investment projects.

- To support integration of environmental and social aspects of projects into the decision making process.

**OP 4.04: Natural Habitats**

- To promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions.

**OP 4.09: Pest Management**

- To minimize and manage the environmental and health risks associated with pesticide use and promote and support safe, effective, and environmentally sound pest management.

**OP 4.12: Involuntary Resettlement**

- To avoid or minimize involuntary resettlement and, where this is not feasible, to assist displaced persons in improving or at least restoring their livelihoods and standards of living in real terms relative to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

**OP 4.10: Indigenous Peoples**

- To design and implement projects in a way that fosters full respect for Indigenous Peoples’ dignity, human rights, and cultural uniqueness and so that they: (a) receive culturally compatible social and economic benefits; and (b) do not suffer adverse effects during the development process.

**OP 4.36: Forests**

- To realize the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development, and protect the vital local and global environmental services and values of forests.

**OP 4.11: Physical Cultural Resources**

- To assist in preserving physical cultural resources and avoiding their destruction or damage. Physical Cultural Resources includes resources of archaeological, paleontological, historical, architectural, and religious (including graveyards and burial sites), aesthetic, or other cultural significance.

**OP 4.37: Safety of Dams**

- To assure quality and safety in the design and construction of new dams and the rehabilitation of existing dams, and in carrying out activities that may be affected by an existing dam.

International Finance Corporation (IFC) applies the Performance Standards to manage social and environmental risks and impacts and to enhance development opportunities in its private sector financing in the member countries eligible for financing. The Performance Standards
may also be applied by other financial institutions electing to apply them to projects in emerging markets.

The following eight Performance Standards establish the requirements that the client has to meet throughout the life of an investment supported by IFC or other relevant financial institution using these Standards:

- **Performance Standard 1**  Assessment and Management of Environmental and Social Risks and Impacts
- **Performance Standard 2**  Labour and Working Conditions
- **Performance Standard 3**  Resource Efficiency and Pollution Prevention
- **Performance Standard 4**  Community Health, Safety and Security
- **Performance Standard 5**  Land Acquisition and Involuntary Resettlement
- **Performance Standard 6**  Biodiversity Conservation and Sustainable Management of Living Natural Resources
- **Performance Standard 7**  Indigenous Peoples
- **Performance Standard 8**  Cultural Heritage

Performance Standard 1 establishes the importance of: (i) integrated assessment to identify the social and environmental impacts, risks, and opportunities of projects; (ii) effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them; and (iii) the client's management of environmental and social performance throughout the life of the project.

The objectives of Performance Standard 1 are as follows:

- To identify and evaluate environmental and social risks and impacts of the project,
- To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimize, and where residual impacts remain, compensate/offset risks and impacts to workers, Affected Communities, and the environment,
- To promote improved environmental and social performance of clients through the effective use of management systems,
- To ensure that grievances from Affected Communities and external communications from other stakeholders are responded to and managed appropriately,
- To promote and provide means for adequate engagement with Affected Communities throughout the project cycle on issues that could potentially affect them and to ensure that relevant environmental and social information is disclosed and disseminated.

Performance Standards 2 through 8 establish objectives and requirements to avoid, minimize, and where residual impacts remain, to compensate/offset for risks and impacts to workers, Affected Communities, and the environment. While all relevant environmental and social risks and potential impacts should be considered as part of the assessment, Performance Standards 2 through 8 describes potential environmental and social risks and impacts that require particular attention. Where environmental or social risks and impacts are identified, the client is required to manage them through its Environmental and Social Management System (ESMS) consistent with Performance Standard 1.
The Equator Principles is a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects and is primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making. The Equator Principles Financial Institutions (EPFIs) have adopted 10 Principles to ensure that the projects financed are developed in a manner that is socially responsible and reflect sound environmental management practices.

The environmental and social categorisation process of the International Finance Corporation (IFC) is used. Using categorisation, the EPFI's environmental and social due diligence is commensurate with the nature, scale and stage of the Project, and with the level of environmental and social risks and impacts. For all Category A and Category B Projects, the EPFI will require the client to conduct an Assessment process to address, to the EPFI’s satisfaction, the relevant environmental and social risks and impacts of the proposed Project. The Assessment Documentation should propose measures to minimise, mitigate, and offset adverse impacts in a manner relevant and appropriate to the nature and scale of the proposed Project.

The principles adopted by the EPFIs (commercial banks/financial institutions) are as follows:

- Principle 1 Review and Categorization
- Principle 2 Environmental and Social Assessment
- Principle 3 Applicable Environmental and Social Standards
- Principle 4 Environmental and Social Management System and Equator Principles Action Plan
- Principle 5 Stakeholder Engagement
- Principle 6 Grievance Mechanism
- Principle 7 Independent Review
- Principle 8 Covenants
- Principle 9 Independent Monitoring and Reporting
- Principle 10 Reporting and Transparency

### 2.3 International Agreements

Turkish national policy on protection of cultural heritage and conservation of biological resources has also been constituted on the base of relevant international agreements that Turkey is a party to, which have been ratified or acceded by laws or relevant legislation.

In addition to these, there are various laws and regulations on protection and conservation of natural habitats, wildlife and cultural heritage. The international agreements and conventions on cultural heritage and biological conservation that Turkey had ratified are:

- Bern Convention on Protection of Europe’s Wild Life and Living Environment (acceded by the Decision of the Council of Ministers dated 9 January 1984 and published in the Official Gazette dated 20 February 1984 and no. 18318);
- Ramsar Convention on Wetlands of International Importance Especially as Wildfowl Habitat (acceded by the Decision of the Council of Ministers dated 15 March 1994 and published in the Official Gazette dated 17 May 1994 and no. 21937);
- Convention on the Protection of the World Cultural and Natural Heritage (acceded by Law no. 2658 published in the Official Gazette dated 4 February 1983 and no. 17959);

- Convention to Combat Desertification (acceded by the Decision of the Council of Ministers dated 3 May 1990 and published in the Official Gazette dated 24 June 1990 and no. 20558);

- Convention on International Trade in Endangered Species of Wild Flora and Fauna (acceded by Law no. 4041 and published in the Official Gazette dated 20 June 1996 and no. 22672);

- UN (Rio) Convention on Biological Diversity (ratified by Law no. 4177 published in the Official Gazette dated 27 December 1996 and no. 22860);

3 ORGANIZATIONS AND AGENCIES RESPONSIBLE FOR THE IMPLEMENTATION OF THE ENVIRONMENTAL MANAGEMENT PLAN

The Halk Enerji who is the owner of the Project is the key organization for the implementation of the EMP. Additionally, during different phases of the Project, other parties (construction sub-contractor(s), Provincial Directorate of Environment and Urbanization, etc.) will be responsible for some of the issues specified in the subjected EMP, however the coordination of those parties will still be under the responsibility of Halk Enerji. The mitigation and monitoring tables presented in this EMP summarize the principle roles and responsibilities appointed to specific organizations and agencies for management of a particular issue.

It is recommended that the tender dossiers for the construction should include environmental obligations the constructor(s) has to fulfil. These consist of:

- EMP specifications,
- Environmental and health and safety related obligations, which additionally may arise as a part of any necessary permit (from e.g. Ministry of Environment and Urbanization, Ministry of Health, etc.) and
- Other environmental considerations, which may arise in the meantime.
4 PROJECT DESCRIPTION

4.1 Scope of the Project and Conducted Environmental Studies

The energy sector is vital for the development strategies of Countries. Due to the growing economy of Turkey and young population, the energy demand of Turkey is increasing continually. Energy generation thorough the use of fossil fuels requires external dependence while it is possible to utilize local resources that are environmentally-friendly to generate substantial amounts of electricity. It is of utmost importance to utilize the existing renewable energy resources. By means of local energy generation plants especially renewable resourced ones, Turkey is increasing its energy supply to contribute its energy demand. In contrast to non-renewable fossil fuel sources, natural resources like solar, wind and geothermal energy are not only renewable but also clean sources of energy.

The Solar Power is a new sector in Turkey. The solar power systems do not produce any emissions, no discharge of wastewater which can impact the environment negatively and do not need any raw material input. With no input of materials and no operational waste, SPPs are an environmentally-friendly option. Moreover, it is possible through the SPPs and other renewable energy options to reduce external dependence for energy.

Turkey is in an advantageous position since the sunshine duration is exceedingly long. As can be seen from the map in Figure 4-1 which shows the Solar Energy Potential of Turkey prepared by General Directorate of Renewable Energy of Turkey, a solar energy establishment in Erzurum Province where the Erzurum SPP will be installed is highly feasible.

Figure 4-1 Solar Energy Potential Map of Turkey
Source: www.eie.gov.tr
Halk SPP Project is planned to be in Erzurum Province, Aziziye District, Illica Quarter, Taşınboynu Hill Locality in a total area of 97.234 m² (9.72 ha) and is planned having 4.9 MW installed capacity.

The site location map of Project Site is given in Figure 4-2.

![Site Location Map of Project Site](image)

**Figure 4-2 Site Location Map of Project Site**

The topographical map of Project Site is given as Annex-A.

The satellite image of Project Site is given as Annex-A.
Project area of Erzurum Solar Power Plant is owned by Halk Enerji Yatırımları Uretim ve İnsaat A.S. The ownership information document is given as Annex-C.

It is planned that Erzurum SPP Project will produce 8,085,000 kWh annually during operation phase.

The plant preparation time is foreseen as; 5 months for preparation period before construction and 3 months for construction period. The requested licence period of SPP is 49 years.

The nearest settlement to Project Site is Ilıca Quarter. The air distance between Project Site and Ilıca Quarter is 2.5 km. Topographical map that shows the nearest settlements to Project Site is given as Annex A.

Erzurum Solar Power Project has the “EIA Not Required” decision given by Provincial Directorate of Erzurum Environment and Urbanization with the verdict dated 30.01.2015 and numbered E-201538.

In accordance with the Electricity Market Law numbered 6446 and the pertinent regulation, “Pre-Licence” numbered ÖN/5307-5/03169 and dated 20 November 2014 was obtained from Energy Market Regulatory Authority. The purpose of obtaining “Pre-Licence” is to acquire permits and documents necessary to start investments.

### 4.2 Location of the Project Site

Erzurum SPP Project is planned to be in Erzurum Province, Aziziye District, İllica Quarter, Taşınboynu Hill North Locality on Block 10014 Parcel 7, Block 10014 Parcel 5 and Block 10015 Parcel 8 in a total area of 97,234 m² (9.72 ha) and is planned having 4.9 MW installed capacity. The geographical coordinates of the Project Site are tabulated at the table below.

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<th>European Datum 1950 UTM Zone 37 (6 Degree)</th>
<th>WGS 84 Zone 37 Coordinates System</th>
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<tbody>
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<td>675962.83</td>
<td>4422200.19</td>
</tr>
<tr>
<td>675961.64</td>
<td>4422315.33</td>
</tr>
</tbody>
</table>
### 4.3 Project Schedule

It is planned that construction activities will start by May 2016 and expected to last for 3 months. The operation period will be 49 years as per Electricity Generation License.

### 4.4 Project Units and Characteristics

The planned SPP with an installed capacity of 4.9 MW has 20,250 panels and 10 to 15 central invertors. The expected annual electricity production of Erzurum SPP is 8,085,000 kWh during the operation period. “Pre-Licence” obtained from the Energy Market Regulatory Authority is given as Annex E.

The capacity information of Erzurum SPP is presented in Table 4-2.

<table>
<thead>
<tr>
<th>Equipment List</th>
<th>Unit</th>
<th>Number of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel</td>
<td></td>
<td>20,250</td>
</tr>
<tr>
<td>Inverter</td>
<td></td>
<td>10-15</td>
</tr>
<tr>
<td>Inverter</td>
<td></td>
<td>20,250</td>
</tr>
<tr>
<td>Transformer Cubicle</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Total Installed Capacity</td>
<td>MW</td>
<td>4.9</td>
</tr>
<tr>
<td>Annual Electricity Production</td>
<td>kWh</td>
<td>8,085,000</td>
</tr>
<tr>
<td>Total Area of Panels</td>
<td>m²</td>
<td>88,000</td>
</tr>
</tbody>
</table>

The solar panel electricity systems, also known as solar photovoltaics (PV), capture the sun's energy using photovoltaic cells. These cells don't need direct sunlight to work – they can still generate some electricity on a cloudy day. PV cells are made from layers of semi-conducting material, usually silicon. When light shines on the cell it creates an electric field across the layers. The stronger the sunshine, the more electricity is produced. Groups of cells are mounted together in panels or modules.
The power of a PV cell is measured in kilowatts peak (kWp). That's the rate at which it generates energy at peak performance in full direct sunlight during the summer.

An inventor is used to convert direct current (DC) to alternating current (AC) which is appropriate to be feed to the grid.

In order to fix the PV panels to ground with constant angle and protect them from rain, snow and other weather conditions, aluminium supports are generally used.

4.5 Geological Characteristics of the Project Area

4.5.1 Geology of the Project Area

Project Site consists of aged Pliocene terrestrial clasts. It was determined that the project area is not geologically risky after the conducted field works. Prior to implementation of the Project, a Geotechnical Survey Report will be prepared with the outcomes of geotechnical investigations performed on project area within the context of related regulations and will be submitted to related Authority for approval. Geological Map that shows the project area in details and in 1/25,000 scale can be found in Figure 4-3 and Annex-A.

Figure 4-3 Geological Maps
4.5.2 Structural Geology and Seismicity

According to the “Seismicity Map of Turkey” published by Ministry of Public Works (1996), investigation area remains within the boundaries of “Second Degree Seismic Zone”. Erzurum Province Seismicity Map is given in Figure 4-4.

![Figure 4-4 Erzurum Province Seismicity Map](image)

For all the structures to be built within the context of Project, provisions of “Regulation on the Structures to be Built in Disaster Areas” will be followed. Additionally, works will be carried out in accordance with all other relevant national and international legislation.

4.6 Land Use

Project site is located in Erzurum Province, Aziziye County, Ilica Quarter, Northern side of Taşınboynu Hill. The proposed project Erzurum SPP will be constructed within an area of 97,234 m².

Agricultural Land

Opinion of the Erzurum Provincial Directorate of Food, Agriculture and Livestock on the parcels that will be used in the scope of the Project is asked and response letter is provided in Annex-B. Non-agricultural utilization permit was taken from Erzurum Provincial Directorate of Food, Agriculture and Livestock with letter numbered 4904 and dated 12.05.2015 for former 732 numbered, current 10014 numbered Block Parcel 5 within the context of Soil Protection and Land Use Law numbered 5403, before the construction activities take place.
Forest Land

There is no forest land in and around the Project site.

Surface Water

Taşlıboyun Stream passes through the Project site. In the official letter from the Directorate of SHW 8th Region dated 05.12.2014 and numbered 764201, it is stated that: “The issue has been investigated. The plant shall be operated after all necessary measures are taken to avoid the risks of floods. Besides, on the conditions that: solid and liquid waste shall not be discharged to the groundwater and rivers, flow of dry streams shall not be interfered, the coordinates of the Project shall be followed, measures shall be taken to prevent the materials flow, stream beds of dry and base flow streams shall not be narrowed, bed stability shall not be deformed, free flow shall not be blocked, excavation materials shall not be discharged to the streams, relevant articles of Regulation on the Protection of Groundwater against Contamination and Deterioration and Water Pollution Control Regulation shall be complied; the project is convenient.” Related letter is provided in Annex-B.

In the scope of the project, solid and liquid waste will not be discharged to the groundwater and rivers, flow of dry streams will not be interfered, the coordinates of the Project will be followed, measures will be taken to prevent the materials flow, stream beds of dry and base flow streams will not be narrowed, bed stability will not be deformed, free flow will not be blocked, excavation materials will not be discharged to the streams, relevant articles of Regulation on the Protection of Groundwater against Contamination and Deterioration and Water Pollution Control Regulation will be precisely complied.

4.7 Protected Areas

The Project Site does not belong to categories of Natural Parks, Natural Monuments, and Archaeological Site in terms of National Legislations. Within the scopes of International Agreements like Convention Concerning the Protection of the World Cultural and Natural Heritage and Ramsar Convention on Wetlands, no protected site exists within the boundaries of Project Site.

Erzurum Directorate of Cultural Heritage Conservation District Board:

In the official letter dated 01.12.2014 and numbered 1790, it is stated that: “It is found that the concerning area does not include any natural site or registered cultural assets concerning our legislation by the evaluation done in the archive of our Directorate. However, since the inventory work related to immovable cultural assets is not completed, in the case of discovering any findings during the excavation work to be possibly done in the immovable sites, work will be stopped in accordance with the article 4 of law numbered 2863 and the closest museum directorship or administrative authority should be informed.” Letter is provided in Annex-B.

In case of any evidences about cultural findings/assets during construction phase of Project, construction work will be stopped immediately and the closest museum directorship or administrative authority will be informed.
Natural Heritage Conservation Branch:

In the official letter dated 07.11.2014 and numbered 252, it is stated that: “There is not any cultural site or protection required natural assets registration record in the concerning area. However, in the case of discovering any natural assets (fossils, underground cave etc.), our Branch should be informed.” Related letter is provided in Annex-B.

Within the scope of the project, in case of discovering any natural assets (fossils, underground cave etc.), construction work will be stopped immediately and Natural Heritage Conservation Branch will be informed.

4.8 Water Resources

There will be no discharges into any receiving environment within the context of the Project. Thus, the water resources will be protected and there will be no interference with the existing water systems. Besides, no water resources will be used during construction and operation period.

4.9 Flora and Fauna Species

A detailed literature survey and direct observation were conducted during the assessments of Project Introductory File.

As a result of the study, endemic floral species were not found in the region where Project will be established. Besides, the floral species within the scope of International Union for Conservation of Nature (IUCN) at the vicinity were investigated. At the Project Site, there is no floral species defined in the IUCN Red List of Threatened Species. None of the species at the Project Site is protected under the provisions of the Bern Convention.

Project Site is located in the frame B8 according to Grid and Framing System, taking part in Flora of Turkey, done by P.H. Davis in Turkey.

The Project Site is located approximately 1766 meters above sea level. Due to the extremely low temperatures in winter, this season is unsuitable for plant growth. There are xerophytes due to the drought in summer. Savannah is also available in the region of East Anatolian Oak forests.

The threat statuses of fauna species were evaluated within the scope Project Introductory File in line with IUCN Red List, Bern Convention and endemism condition.

Project Field shows the typical geographic character of Eastern Anatolia Region. Many of the plant species grown in the region are Euro-Siberian. It is in the class of LR/Lc according to IUCN category in addition to wide distribution of it. There is no species that should be protected in accordance with the Annex 1 list of “The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)” in the working area. In addition, there is no plant species that takes part in the “Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES Convention)”.
4.10 Socio-Economic Structure

4.10.1 Population of Project-Affected Settlements

The nearest settlement to the Project site located in Erzurum Province, Aziziyе District, Ilica Quarter, Taşınboynu Hill Locality is Ilica Quarter. Ilica Quarter is 2.5 km away from the Project Site. Distances between Project Site and nearest settlements are given in Table 4-3 and Figure 4-5.

Figure 4-5 Topographical Map Showing the Distance of the Project Site to the Settlements

Table 4-3 Distance of the Project Site to the Settlements

<table>
<thead>
<tr>
<th>Locality</th>
<th>Air Distance to the Project Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tebrizcik</td>
<td>4.450 m</td>
</tr>
<tr>
<td>Demirgeçit</td>
<td>2.845 m</td>
</tr>
<tr>
<td>Kayapa</td>
<td>4.355 m</td>
</tr>
<tr>
<td>Ilica</td>
<td>2.540 m</td>
</tr>
<tr>
<td>Ağaoaren</td>
<td>3.700 m</td>
</tr>
<tr>
<td>Söğütlü</td>
<td>6.100 m</td>
</tr>
</tbody>
</table>

As per the address-based census of the year 2014 by Turkish Statistical Institute, the population of Ilica Quarter in 2014 is 10.472.

Table 4-4 Population Information of Ilica Quarter

| Population Information of Ilica Quarter |
Ilica District is an emigrant district due to unemployment and lack of income. Population decreases year by year. Due to Project, any increase in population is not expected. The priority will be given to hire local workforce depending upon the technical capability.

### 4.10.2 Economic Characteristics

Economic character of Erzurum is based on agriculture, livestock, and commerce. Region’s history as being on the route of trade roads reveals the commercial importance while providing the development in economy. Additionally, Atatürk University provides commercial viability in the city. Personal accessories, jewelry, and similar items made from jet which is a semi-precious stone extracted in Oltu District are the important sources of income for the artisans in the region. Palandöken Mountain Winter Sports Centers make contributions to the tourism and economy of the region.

Economy of the Ilica Quarter that is the nearest settlement to the Project Site, is based on agriculture and livestock. There is an active elementary school in the settlement. Local people of the quarter are working in the city center of Erzurum. Some of them continue to agricultural and livestock activities. It is expected that the staff of the Project hired from the local workforce depending upon the technical capability makes contributions to the local economy.
5 MITIGATION PLAN

5.1 Construction Period

5.1.1 Landscaping and Top Soil Utilization
Within the scope of the Project, no excavation is needed due to the plain structure of Project Site. There are no surface features, trees or vegetation that may be affected by the PV Panels assembly.

The PV panels will be positioned on a thin layer of concrete on the soil. First, the top soil will be scraped in order to eliminate the risk of gliding due to that top soil, and then concrete will be poured on the ground. After that, the panels will be positioned by means of aluminium supports. The top soil will be utilized for landscaping purposes at the Project Site.

5.1.2 Air Quality
Dust emission will occur as a result of excavation work in the construction phase and transportation to the project site. The amount of dust emission that will occur during the excavation work is calculated as 0.057 kg/h during the preparation of Project Introductory File as dust that is envisaged to occur during the construction phase calculated in the uncontrolled situation.

There will also be pollutants generated by exhaust gas emissions of the construction vehicles like carbon monoxide, hydrocarbons, nitrogen oxides and sulphur oxides. Pollutant concentrations anticipated to be generated due to use of construction vehicles were calculated to be lower than the emission limit values set by the Regulation on Control of Industrial Air Pollution. Therefore, such emissions are not expected to have any adverse impacts on ambient air quality.

There will be no blasting operation to be performed at the Project Site.

Emission Control Plan defines prevention methods will be implemented to control dust resulting from construction related activities as;

- The exhaust emission of vehicles will be checked periodically for amount of emission and its concentrations as per Regulation on the Control of Exhaust Emissions and Diesel Quality

- High quality, clean and legal fuel will be utilized to minimize gas emissions from construction machinery and vehicles.

- Modern equipment and vehicles will be selected and used for construction such that they will comply with the relevant emission standards.

- The machinery and vehicles will be inspected with regard to their exhaust systems and emission levels and adjusted to comply with relevant local and international requirements, and to protect the health of the workers.

- Besides, the maximum velocity of the vehicles travelling on non-asphalt roads will be limited to 30 km/h in order to minimize the possible dust formation on the roads.
5.1.3 Noise

During the construction phase of Erzurum SPP, the noise will be generated by the construction vehicles and equipment. Machinery that will be used for the purpose of transport, removal, and installation of panels in the construction and the noise levels of these machines are shown in Table 5-1.

**Table 5-1 Noise Levels of Vehicles and Equipment Used in Construction Period**

<table>
<thead>
<tr>
<th>Araç/Ekipman</th>
<th>Gürültü Seviyesi (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dozer</td>
<td>110.38</td>
</tr>
<tr>
<td>Grader</td>
<td>106.37</td>
</tr>
<tr>
<td>Truck</td>
<td>104.83</td>
</tr>
<tr>
<td>Sprinkler</td>
<td>103.22</td>
</tr>
<tr>
<td>Crane</td>
<td>111.20</td>
</tr>
<tr>
<td>Lorry</td>
<td>109.50</td>
</tr>
</tbody>
</table>

Noise modelling studies were carried out for the worst case scenario assuming that all construction machinery will be operated all day long at the same location simultaneously. The resulting noise levels expected at different locations have been calculated as given in Table 5-2.

**Table 5-2 Noise Level During Construction by Distance**

<table>
<thead>
<tr>
<th>Distance to Source (m)</th>
<th>Lp (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>72.5</td>
</tr>
<tr>
<td>75</td>
<td>69.0</td>
</tr>
<tr>
<td>150</td>
<td>62.6</td>
</tr>
<tr>
<td>200</td>
<td>59.9</td>
</tr>
<tr>
<td>250</td>
<td>57.8</td>
</tr>
<tr>
<td>500</td>
<td>51.1</td>
</tr>
<tr>
<td>800</td>
<td>47.0</td>
</tr>
<tr>
<td>1000</td>
<td>44.6</td>
</tr>
</tbody>
</table>

İllica Quarter is the nearest settlement to Project site and air distance between these two are 2.5 km, as seen from Table 5-2. If the 2.5 km distance between Project Site and nearest settlement is considered, it can be said that the noise level will be less than both the limit values set forth by the Regulation on the Assessment and Management of Environmental Noise (Official Gazette Date: June 4, 2010, No: 27601) which is 70 dBA and IFC General EHS Guidelines which is 55 dBA.

**Noise Control Plan** will be implemented including following mitigation and control measures;

- All construction activities will be planned and performed to minimise noise generation.
- Appropriate protective equipment against noise (e.g. ear mufflers, earplugs) will be provided for the workers.
- Construction work will only be carried out during the day time and will not be allowed in the evening or at night.
Equipment will be selected with consideration to noise emissions. In this respect, new construction equipment and vehicles will comply with the provisions of international standards and the Turkish regulations.

All workers will be trained and instructed to reduce the noise emissions at the site.

Wherever possible the deliveries of materials would be programmed to arrive during daytime hours.

Vehicles will be routed such that disturbance to local residents would be minimized.

Delivery vehicles would be prohibited from waiting within the site with their engines running.

### 5.1.4 Water Quality and Water Use

During the construction and operation phases of the Project, drinking water needs of the Project personnel will be met by bottled water.

During the construction and operation phases of the Project, groundwater will not be used by any means. If deemed necessary, water will be used for dust suppression activities during the construction phase of the Project. There will no process water use during the operation of the Project.

There will be 10 people working on site during the construction phase leading to 1.5 m³/day of water consumption (assuming a unit consumption rate of 0.15 m³/cap-day). All this water is assumed to be converted to domestic wastewater.

The domestic wastewater generated at the construction site will be stored in an impermeable septic tank in line with the provisions of the Regulation on Pit Openings Where Sewer System Construction is not Applicable (Official Gazette date: March 19, 1971, No: 13783) and emptied regularly by Erzurum Municipality. There will be no discharge into any receiving environment.

### 5.1.5 Waste Management

The solid wastes expected to be generated during the construction phase of the Project can be listed as:

- Construction waste
- Domestic solid waste
- Medical wastes
- Waste oils
- Waste tires

Waste to be generated within the construction site will be managed in accordance with the Regulation on Waste Management (Official Gazette; Date: April 2, 2015, No: 29314), and other related legislation where applicable.

**Solid Waste Management Plan** composes of relevant mitigation measures;
- Wastes will be systematically collected and all types of waste will be separated for proper handling and disposal. Recyclable wastes (such as glass, paper, plastic, etc.) will be collected separately to be sent to license recycling facilities. Separate waste containers (drums, bins, skips or bags) will be provided for different types of waste.
- Transportation of waste will be carried out in closed vehicles specially designed for this purpose so as not to cause any kind of pollution.
- No waste will be disposed of or buried on site. Illegal dumping, either at the construction camp, along public roads or in the surrounding areas, or into the surface waters will not be allowed.
- It will be ensured that construction camp sites and surroundings are kept clean at all times.
- Domestic type solid wastes will be collected and disposed properly by Municipality to the designated disposal site after agreement with the municipality. If not possible, Project owner or the authorized construction firm will bring the domestic solid waste to nearest Municipality's containers for disposal. The transportation requires care in order not to litter waste around and proper containers should be used during transportation.
- Reusable wastes like accumulators, machinery parts, scrap metal, and waste tires will be sent to licensed companies for recycle.
- Medical wastes generated at the construction site will be collected at impermeable specially designed medical waste bags and transported to licensed companies via "Medical Waste Transport Vehicles" for their final disposal.
- Waste oils to be generated during maintenance of construction vehicles and machinery will be managed appropriately and no waste oil will be discharged into any receiving environment. During oil change and maintenance of construction machinery and transport vehicles, all provisions of the Regulation on Control of Hazardous Waste will be complied with.
- Construction workers will be instructed for proper storage and handling procedures of construction waste and other solid wastes.
- There will not be any hazardous waste generated within the scope of proposed Project.

5.1.6 Habitat and Wildlife Management

Natural habitats and wildlife species within the Project Site and its surroundings will be managed in accordance with national and international laws and regulations.

It should be noted that the management of natural habitats and wildlife species is closely related to the management of other resources within the Project Area. Management of secondary impacts on the biological environment, like noise, dust, wastewater, solid waste,
etc. will also be affecting natural habitats and wildlife species. Therefore, other management plans also apply to the management of the impacts on the biological environment.

**Wildlife Management Plan** is stated for terrestrial flora and terrestrial fauna respectively;

**Terrestrial Flora**

The major impact on terrestrial flora species appears as the degradation of landscape, loss of topsoil, land and vegetation at construction sites. Indeed, the terrestrial flora at the Project Site was lost its natural character. The land that was used for pasturing does not have any valuable vegetation for husbandry. The area have not been used for pasturing for long time since nearby the Village, there are areas with same properties.

Even though, in order to minimize the impacts of the Project, prior to the start of construction activities, it is necessary to carefully remove the topsoil and store it in a manner that it would preserve its properties to be used for landscaping in the future.

The secondary impact on terrestrial flora can be mitigated through implementation of the above-mentioned mitigation measures in regard to control of generation of noise, dust, wastewater, solid waste, and etc.

**Terrestrial Fauna**

The major impacts of the Project on terrestrial fauna elements during the construction phase can be listed as:

- Loss and fragmentation of habitats;
- Disturbance of sites of higher faunal sensitivity;
- Destruction of shelters and nests of certain animals;
- Illegal hunting activities;
- Mortality of animals during construction.

In order to avoid any unnecessary disturbance of wildlife during the construction phase, the following will be prohibited for fauna species, which constitute the mitigation measures specified in Article 6 of the Bern Convention:

- All forms of deliberate capture and keeping and deliberate killing;
- Deliberate damage to or destruction of breeding or resting sites;
- Deliberate disturbance of wild fauna, particularly during the period of breeding, rearing and hibernation, insofar as disturbance would be significant in relation to the objectives of the Bern Convention;
- Deliberate destruction or taking of eggs from the wild or keeping these eggs even if empty;
- Possession of and internal trade in these animals, alive or dead, including stuffed animals and any readily recognizable part or derivative thereof, where this would contribute to the effectiveness of the provisions of this article.
The following legislative measures/restrictions will also be followed in accordance with Article 7 of the Bern Convention:

- Closed seasons and/or procedures regulating the exploitation; temporary or local prohibition of exploitation, as appropriate, in order to restore satisfactory population levels;
- Sale, keeping for sale, transport for sale or offering for sale of live and dead wild animals.

In order to avoid any unnecessary disturbance to wildlife during the construction phase:

- Movement of machinery and workers will be limited to the designated construction sites and camp facilities.
- The construction sites will be secured by temporary fencing to prevent entrance of animals into the construction sites and thus mortality due to construction activities.
- Unnecessary traffic outside the designated routes within the Project Area will be minimized in order to prevent mortality of animals.
- In order to prevent secondary impacts of the Project on terrestrial fauna elements, generation of noise, dust, wastewater and solid waste will be managed in accordance with the plans mentioned above.

5.1.7 Socio-Economy

The implementation of the Project is not expected to cause any problem regarding the public health and the environment. The traffic flow will arise from the transportation of solar panel. In order to mitigate its impacts and possible traffic accidents, will be prevented or minimized through measures like the personnel will be trained, placing traffic signs will be placed and the maximum speed of vehicles will be limited. Moreover conducting periodical maintenance and controls of such vehicles will be performed.

5.1.8 Cultural and Historical Assets

There are no recorded archaeological, historical and cultural assets within the vicinity of the Project Area, in line with the provisions of the Law on Protection of Cultural and Natural Assets.

A Chance Find Procedure will be established to provide guidelines for the appropriate and prompt response to the discovery of either disturbed or intact archaeological materials during the construction phase which is as follows;

If any archaeological finding during site activities is encountered, the construction will be stopped immediately. Construction manager will be informed about. The manager will be responsible to make the best effort to protect the discovery area. The site manager will make sure that the photograph of the discovery area is taken and if necessary the discovery area will be surrounded by fence or barriers. The site manager will contact the Erzurum Directorate of Cultural Heritage Conservation District Board for further guidance. Initial contact will be made via a phone call to describe the incident. An officially written application
enclosed with the photograph will be made to the Directorate afterwards. No further works will take place until go ahead is provided by the Erzurum Directorate of Cultural Heritage Conservation District Board.

5.1.9 Health and Safety
In accordance with the related Turkish Legislation and international standards, the Health and Safety Management Plan will be conducted. The other environmental management procedures will be included in the Plan.

Health and Safety Management Plan
Occupational health and safety measures will be implemented according to the Occupational Health and Safety Law and the requirements of international standards and will be communicated to all employees before commencement, during the construction and operation phases.

- An on-site medical facility will be designed for the construction phase to cater for primary health care needs of personnel.
- Workers will be selected from the workforce and will be given additional training in occupational health and first aid. These workers will be under the supervision of the person responsible for occupational health and safety.
- Personal protective equipment for workers will be provided, when necessary, to minimize health and safety risks.
- Appropriate health and safety signs such as “Danger”, “Entrance Prohibited”, etc. will be placed in proper places.

The following fire management measures will be taken in order to minimize the risk of fire and to ensure that incidents are effectively managed,

- All necessary precautions will be taken to ensure that fires are not started as a result of construction activities on site. Uncontrolled fires will not be permitted on or off site.
- Smoking will not be permitted in those areas where there is a fire hazard.
- All necessary precautions will be taken to prevent fires or spills at the construction sites. It will be ensured that there is adequate and appropriate fire-fighting equipment at the construction sites.
- All equipment will be maintained in good operating order.
- It will be ensured that all sub-contractors and construction workers are aware of the procedures to be followed in the event of a fire.
- Emergency teams (fire, first aid, communication and rescue) will be appointed who will be responsible for ensuring immediate and appropriate actions in the event of a fire.
5.1.10 Environmental Coordination

The coordination is the rule of thumb for implementation of those plans mentioned above for impact mitigation.

The Project owner will coordinate with related agencies by the assigned coordinators and monitor environmental and social issues. National environmental regulations and international standards will be complied with at all times. If required, professional consultation will be acquired for this purpose.

Within the scope of environmental coordination efforts for the construction phase of the Project, environmental training will be given to construction workers.

All employees will be required to comply with environmental protection procedures and they will attend the training sessions, for which attendance sheets or certificates will be kept.

The goal of the basic environmental training program will be to train all construction workers on:

- Reinstatement and landscaping
- Emissions and dust control
- Noise control
- Wastewater and waste management
- Wildlife management
- Health and safety
- Fire protection
- Traffic management
- General information on the environment in which they will be working

Penalties for those who violate the rules will be established.

Methods for conducting the training program will include formal training sessions, posters, and signs in construction and camp areas.

Construction camp facilities will satisfy the following provisions:

- Suitable wastewater and solid waste collection and disposal means will be provided to serve construction sites.
- Construction sites will consist of appropriate facilities for all workers accommodated within the camps.
- Medical and first aid facilities will be provided at the construction campsite.
- The camps will have an adequate supply of potable water in compliance with relevant Turkish Legislation.
- Ventilation of buildings within the camp areas will be provided in accordance with relevant Turkish legislation.
Site layouts will be prepared for construction sites for informative purposes.

Effective erosion control measures during construction of the construction sites will be implemented.

An on-site traffic and access management plan will be prepared during the construction phase including the following issues:

- Detailed plans to be prepared for putting signs around the construction areas to facilitate traffic movement (to provide directions to various components of the construction works, and to provide safety advice and warnings).
- Parking for all classes of vehicles traversing the site.
- Plans to be followed while moving special loads, such as hazardous material, or heavy loads.
- Monitoring means and methods of enforcing the requirements of the traffic management plan.
- Plans for controlling site access, including both construction areas and construction camp facilities.
- Personnel authorized to enter the construction areas will be briefed on traffic regulations applicable to the construction areas.

“Environmental Site Manager” will be designated on duty during the construction phase of the Project, who will be full-time available for environmental coordination including implementation of mitigation measures and monitoring activities. The main responsibilities of the environmental site manager will be listed below:

- Supervising the proper fulfilment of all environmental measures as set out in this EMP or which may further be added as the case maybe
- Delivering environmental education and awareness programs to construction staff prior to and during on-site works.
- Providing technical assistance on environmental matters to construction staff and government auditing officers.
- Inspecting all activities during construction to ensure compliance with terms and conditions of approvals and permits.
- Carrying out monitoring activities as required.
- Preparing reports at regular frequencies which summarize activities and actions taken, and submitting these reports to the appropriate organizations.
- Ensuring that necessary spill emergency action is taken.
- Supervising implementation of general good environmental practice.
- Liaison with regulatory government agencies as required.
5.2 Operation Period

5.2.1 Landscaping and Top Soil Utilization

After construction period, the suitable areas of the Project Site where PV panel will not present will landscaped by using scraped top soil. In this sense, the vegetation will regenerate at these areas at where fauna species can use as suitable habitat. Hence during the operation period, the reinstatement of suitable parts of the Project Site will be achieved.

5.2.2 Air Quality

There will be no dust, exhaust or process emissions due to proposed Project which affect air quality during operation period.

5.2.3 Water Quality

During the operation period, it is planned the recruitment of a total of 2 people. Domestic wastewater that will occur as a result of meeting the daily need of employees is calculated as 1.5 m³/day. Similar to the construction phase of the Project, domestic wastewater generated will be stored in an impermeable septic tank in line with the provisions of the Regulation on Pit Openings Where Sewer System Construction is not Applicable (Official Gazette date: March 19, 1971, No: 13783) and emptied regularly by Erzurum Municipality. There will be no discharge into any receiving environment.

Domestic wastewater that will occur during the operation phase is planned to be stored in septic pit that will be built in the construction phase near the administrative building. The septic pit built in the construction phase will be used during the operation period. Emptying of the impermeable septic pit will be done by the sewage trucks of Erzurum Metropolitan Municipality with fee in accordance with the provisions of Article 32 of “Water Pollution Control Regulation ( Amendment: Official Gazette No: 26786 dated 13.02.2008). Wastewater taken by sewage trucks will be discharged into the sewer system after all the permits are taken from the General Directorate of Eskişehir General Directorate of Water and Sewage Administration (E.S.K.I). Documentation related with emptying will be done, documents like permit, receipt, protocol etc. will be kept and submitted when requested by official institutions.

Wastewater Management Plan

- Domestic wastewater generated will be stored in an impermeable septic tank in line with the provisions of the relevant Turkish legislation.

- Septic tank will be regularly emptied by Erzurum Municipality and disposed of accordingly.
5.2.4 Waste Management

The personal who works during operation period will generate domestic solid waste. There will be no other waste types generated during operation period as process waste. The domestic waste will be stored in a suitable container and disposed off to nearest Municipality’s Containers by the Project personal.

5.2.5 Habitat and Wildlife Management

The reclamation and landscaping of the construction sites except areas where PV panels fixed, will promote suitable habitats for regeneration of vegetation. In order to avoid any unnecessary disturbance to wildlife during the operation, mitigation measures specified in Articles 6 and 7 of the Bern Convention (see Section 5.1.6) will also be implemented during the operation period of the Project.

5.2.6 Health and Safety

During the operation phase, one security personal and one technician will be employed. Health and safety measures will be followed as presented for the construction phase in accordance with the “Health and Safety Management Plan”. The following measures will be especially taken during the operation phase of Erzurum SPP Project:

- Health and safety organization, tasks, responsibilities and authorities will be determined.
- Employees will be trained regarding the health and safety procedures they would be required to follow including handling of machinery and equipment, fire protection, etc.
- Personal protective equipment be provided, when necessary to minimize health and safety risks.
- Appropriate health and safety signs such as “Danger”, “Entrance Prohibited”, etc. will be placed in proper places.

5.2.7 Environmental Coordination

The management and coordination of environmental and social issues will be under the responsibility of Project Owner. The assigned coordinator will monitor the environmental and social issues and achieve coordination with other stakeholders. Consultants will be employed, whenever necessary. National environmental legislation, as well as international standards and best practices will be complied with during all phases of the Project, and if needed assistance will be acquired in this matter.
|----|---------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Implementation of Emissions and Dust Control Plan | Compliance with relevant Turkish legislation and international requirements               | - Regulation on Control of Industrial Air Pollution  
- Regulation on Assessment and Management of Air Quality  
- Regulation on the Control of Exhaust Emissions and Diesel Quality  
- Best practice: IFC General EHS Guidelines | Checking the exhaust emissions of vehicles used during construction periodically                      | Target: Protection of the social and biological environment from adverse impacts of emissions and dust  
Passing regular monitoring or inspections of relevant authorities successfully  
Receiving no complaints                                                                                                                                 |
| 2  | Implementation of Noise Control Plan          | Compliance with the applicable Turkish legislation and international requirements         | - Regulation on the Environmental Noise Emission caused by Equipment used Outdoors  
- Regulation on the Assessment and Management of Environmental Noise  
- Best practice (IFC General EHS Guidelines)                                                                                     | Noise level measurements to be performed by Project owner/Contractor                                        | Target: Protection of the environment and workers’ health  
Receiving no complaints from nearest settlements  
Positive results of monitoring reports regarding implementation of Noise Control Plan                                                                                                                                 |
| 3  | Implementation of Wastewater Management Plan | Compliance with the applicable Turkish legislation and international requirements         | - Water Pollution Control Regulation  
- Regulation on Pit Opening Where Sewer System Construction is not Applicable  
- Best Practice (IFC General EHS Guidelines)                                                                                     | Storage of domestic wastewater in impermeable septic tanks at camp facilities, collection of wastewater regularly to be disposed in accordance with the Turkish legislation during construction supplied by Contractor/ Project Owner | Target: Managing the domestic wastewater so as not to cause any environmental impacts on the quality of available water resources  
No discharge to the receiving environment without any treatment  
Positive results of monitoring reports regarding implementation of Wastewater Management Plan                                                                                                                                 |
| 4  | Implementation of Solid Waste Management Plan | Compliance with the applicable Turkish legislation and international requirements         | - Regulation on Waste Management  
- Hazardous Waste Control Regulation  
- Regulation on the Control of Waste Oils  
- Regulation on the Control of Medical Wastes                                                                                     | Separate collection and temporary storage of different types of wastes (i.e. medical wastes, domestic wastes, etc.), will be provided by Contractor and Subcontractors (after temporary storage, waste | Target: Protection of the environment from adverse impacts of solid wastes generated on site  
Positive results of monitoring reports regarding implementation of Solid Waste Management Plan                                                                                                                                 |
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<tbody>
<tr>
<td>5</td>
<td>Implementation of Reinstatement and Landscaping Plan</td>
<td>Preventing and mitigating landscape degradation and protection of soil</td>
<td>-Regulation on the Control of Excavation Materials, Construction and Demolition Wastes -Best practice</td>
<td>Required procedures will be handled by Contractor/Project owner</td>
<td>Target: Reduction of landscape impacts No complaints regarding landscape Positive results of monitoring reports regarding implementation of Reinstatement and Landscaping Plan</td>
</tr>
<tr>
<td>6</td>
<td>Implementation of Health and Safety Management Plan</td>
<td>Compliance with the applicable Turkish health and safety legislation and international requirements</td>
<td>-Occupational Health and Safety Law -Best practice (IFC General EHS Guidelines)</td>
<td>Protective equipment will be provided and necessary health and safety trainings will be conducted by Contractor/Project owner</td>
<td>Target: Prevention of injuries and providing safe work environment Positive results of monitoring reports regarding implementation of Health and Safety Management Plan</td>
</tr>
<tr>
<td>7</td>
<td>Implementation of Wildlife Management Plan</td>
<td>Stability of the flora and fauna populations Preservation of biodiversity within the Project Area and its surroundings Better coordination of construction works (i.e. temporary fencing etc.) and monitoring (i.e. animal mortality etc.)</td>
<td>-The Environmental Law of Turkey -Law on Protection of Cultural and Natural Heritage -Law on Forests -Regulation on Protection and Development of Wildlife Areas -International Agreements -Best practice (IFC General EHS Guidelines)</td>
<td>Funding resources to be provided by Contractor/Project owner for construction works such as fencing etc.</td>
<td>Target: Less damaged areas, no violations of construction boundaries Conservation of flora and fauna populations inhabiting the area Positive results of monitoring reports regarding implementation of Wildlife Management Plan</td>
</tr>
<tr>
<td>8</td>
<td>Identification of Cultural and Historical Assets</td>
<td>Compliance with the applicable Turkish legislation and international standards (e.g. IFC PS8)</td>
<td>-Law on Protection of Cultural and Natural Heritage -Best practice</td>
<td>Implementation of chance find procedure when necessary by Contractor/Project owner</td>
<td>Target: Protection of cultural and historical assets (Halk Enerji will inform Erzurum Directorate of Culture Heritage Conservation District Board regarding cultural heritage according to chance find</td>
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</table>
| 9  | Implementation of Monitoring Plan | Compliance with the applicable Turkish legislation and international standards in terms of items to be monitored as identified within the monitoring plan | -EIA Regulation                                        | Project Owner /Contractor                     | Target: Successful implementation of the monitoring plan  
Preparation of monitoring reports                                      |
| 10 | Environmental Coordination  | Ensure proper implementation of management plans (mitigation measures) and monitoring plans  
Detailing (when necessary) and implementation of plans for:  
(i) Environmental training of construction workers;  
(ii) Construction camp facilities; (iii) On-site traffic and access management | -Regulation on Environmental Permits and Licences  
- Occupational Health and Safety Law  
-Best practice                              | Designation for an environmental site manager by Project owner /Contractor | Target: Successful implementation of management and monitoring plans |
Table 5-4 Environmental Management Plan for the Operation Period of Erzurum SPP

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Landscaping and Top Soil Utilization</td>
<td>Preventing and mitigating landscape degradation and protection of soil</td>
<td>Best practice</td>
<td>Reinstatement of the site after construction period under the responsibility of Project owner</td>
<td>Target: Successful implementation of Landscaping and Reinstatement Plan</td>
</tr>
<tr>
<td>2</td>
<td>Implementation of Wastewater Management Plan</td>
<td>Compliance with the applicable Turkish legislation and international requirements</td>
<td>-Water Pollution Control Regulation</td>
<td>Storage of domestic wastewater in impermeable septic tanks, collection of wastewater regularly to be</td>
<td>Target: Managing the domestic wastewater so as not to cause any environmental impacts on the quality of available water resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Regulation on Pit Opening Where Sewer System Construction is not Applicable</td>
<td>disposed in accordance with the Turkish legislation during operation</td>
<td>No discharge to the receiving environment without any treatment</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>-Best Practice (IFC General EHS Guidelines)</td>
<td></td>
<td>Positive results of monitoring reports regarding implementation of Wastewater Management Plan</td>
</tr>
<tr>
<td>3</td>
<td>Implementation of Solid Waste Management Plan</td>
<td>Compliance with the applicable Turkish legislation and international requirements</td>
<td>-Regulation on Waste Management</td>
<td>Separate collection and temporary storage of different types of wastes (ie. domestic wastes, packaging</td>
<td>Target: Protection of the environment from adverse impacts of solid wastes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Best Practice</td>
<td>wastes etc.), will be provided by Project owner (the recyclable wastes will be sent to recyclable firms</td>
<td>Positive results of monitoring reports regarding implementation of Solid Waste Management Plan</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>separately from domestic wastes under the responsibility of Project owner</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Preservation of biodiversity within the Project Area and its surroundings</td>
<td>-Law on Protection of Cultural and Natural Heritage</td>
<td></td>
<td>Conservation of flora and fauna populations inhabiting the area</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Regulation on Protection and Development of Wildlife Areas</td>
<td></td>
<td>Positive results of monitoring reports regarding implementation of Wildlife Management Plan/Mitigation Measures</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-International Agreements</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Best practice (IFC General EHS Guidelines)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 5 | Implementation of Health and Safety Management Plan | Compliance with the applicable Turkish health and safety legislation and international requirements | - Occupational Health and Safety Law  
- Best practice (IFC General EHS Guidelines) | Protective equipment will be provided and necessary health and safety trainings will be conducted by Project owner | Target: Prevention of injuries and providing safe work environment  
Positive results of monitoring reports regarding implementation of Health and Safety Management Plan |
|---|---|---|---|---|---|
| 6 | Implementation of Monitoring Plan | Compliance with the applicable Turkish legislation and international standards in terms of items to be monitored as identified within the monitoring plan | - EIA Regulation  
- Best practice | Project Owner | Target: Successful implementation of monitoring plan  
Preparation of monitoring reports |
| 7 | Environmental Coordination | Ensure proper implementation of management plans (mitigation measures) and monitoring plans and coordination with relevant stakeholders | - Regulation on Environmental Permits and Licences  
- Occupational Health and Safety Law  
- Best practice | Designation for an environmental coordinator by Project Owner | Target: Successful implementation of management and monitoring plans |
6 MONITORING PLAN

6.1 Objective

The aim of monitoring is ensure continuity of the implementation of effective management strategies. Monitoring Plan which is an important tool in environmental management will be utilized to evaluate the impacts of Erzurum SPP on environment and the settlements at the vicinity.

Monitoring activities will provide detailed information on:

- Changes in environmental conditions with the Project activities;
- Actual level of impact that had been estimated prior to the start of the Project;
- Level of compliance with mitigation and management plans;
- Assessment on success of mitigation and management activities to reduce adverse impacts to acceptable levels.

Furthermore monitoring activities enable updates and improvements on the management plans by estimation the actual situation at that time.

By using the facts collected through monitoring, the EMP can be improved whenever necessary (eg adapting mitigation measures to changing situations) throughout project construction and operation to ensure that the anticipated impacts are mitigated.

Thus, monitoring will ensure the successful implementation of the mitigation/management plans and optimize environmental protection through good practice at all stages of the Project.

The monitoring activities to be performed during the construction and operation phases of Erzurum SPP Project are tabulated in Table 6-1 and Table 6-2, respectively, together with the details on how the monitoring activities are planned to take place.

6.2 Coordination of Environmental Monitoring

The aim of the proposed management/mitigation plan is the remediation or mitigation of the adverse impacts defined for Erzurum SPP Project. All relevant items in the mitigation scenario become commitments of the Project owner and the monitoring of those are going to be performed according to the monitoring plan and related legislation. The success of the mitigation/management plan can be assessed by the quality of implementation.

During both construction and operation periods, an environmental site manager will be designated, who will be responsible for environmental monitoring issues. In the event the outcomes of the monitoring indicate nonconformity with the implementation of the outlined plans, or if any environmentally inadequate condition is to be faced, the environmental site manager should guide corrective actions as necessary. Compliance with national environmental legislation and international standards will be strictly complied with in all periods of the Project and if necessary, for monitoring activities independent consultants can also be employed.
Monitoring records will be kept and regularly prepared by the environmental site manager. Mostly, reports will be arranged bi-annually or annually to define the monitoring activities and their results considering any necessity for improvement and the means of realising this. These reports will be accessible to relevant governmental agencies, when required, and to the public as appropriate.
<table>
<thead>
<tr>
<th>No</th>
<th>What parameter is to be monitored?</th>
<th>Where the parameter is to be monitored?</th>
<th>How the parameter is to be monitored/ type of monitoring equipment?</th>
<th>When the parameter is to be monitored- frequency of measurement or continuous?</th>
<th>Why the parameter is monitored?</th>
<th>Source of Funding</th>
<th>Start Date</th>
<th>Finish Date</th>
<th>Institutional Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Proper storage and utilization of topsoil</td>
<td>The soil at the Project Site where PV panels will not fixed.</td>
<td>Visual observation</td>
<td>Weekly</td>
<td>To control the effectiveness of the relevant mitigation measures and ensure landscaping and restoration</td>
<td>No additional cost</td>
<td>Start of topsoil scraping</td>
<td>Completion of construction works</td>
<td>Erzurum SPP Contractor Halk Enerji Environmental Site Manager</td>
</tr>
<tr>
<td>2</td>
<td>Ambient Air Quality (PM10, Settled Dust)</td>
<td>Nearby settlements</td>
<td>Sampling and analysis</td>
<td>Seasonal (PM10) Seasonal (Settled Dust) Upon complaint</td>
<td>To ensure compliance with local and international requirements regarding air quality and occupational health and safety</td>
<td>Project Budget</td>
<td>Start of construction works</td>
<td>Completion of construction works</td>
<td>Halk Enerji</td>
</tr>
<tr>
<td>3</td>
<td>Noise</td>
<td>Nearby settlements</td>
<td>Noise measurements</td>
<td>Seasonal Upon complaint</td>
<td>To ensure compliance with local and international requirements and noise control plan</td>
<td>Project Budget</td>
<td>Start of construction works</td>
<td>Completion of construction works</td>
<td>Halk Enerji</td>
</tr>
<tr>
<td>4</td>
<td>Wastewater</td>
<td>Project Site</td>
<td>Visual inspection</td>
<td>Periodical controls of wastewater septic tanks if they are emptied on a regular basis &amp; there is no discharge into the environment</td>
<td>To comply with Wastewater Management Plan</td>
<td>Project Budget</td>
<td>Start of construction works</td>
<td>Completion of construction works</td>
<td>Erzurum SPP Contractor Halk Enerji Environmental Site Manager</td>
</tr>
<tr>
<td>5</td>
<td>Water quality parameters defined in related</td>
<td>Construction Site</td>
<td>Sampling and analysis</td>
<td>When an accident such as spill and leakage</td>
<td>To determine the potential contaminant and to comply with</td>
<td>Project Budget</td>
<td>Start of construction</td>
<td>Completion of construction</td>
<td>Erzurum SPP Contractor</td>
</tr>
<tr>
<td>Project</td>
<td>Site</td>
<td>Activity</td>
<td>Frequency</td>
<td>Objective</td>
<td>Stage</td>
<td>Completion</td>
<td>Claimant</td>
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<tr>
<td>6</td>
<td>Health and Safety</td>
<td>All work places</td>
<td>Observation and inspection</td>
<td>Daily, monthly</td>
<td>To ensure compliance with Health and Safety Management Plan</td>
<td>Project Budget</td>
<td>Start of construction works</td>
<td>Completion of construction works</td>
<td>Erzurum SPP Contractor Halk Enerji</td>
</tr>
<tr>
<td>7</td>
<td>Chance finds of Cultural and Historical Assets</td>
<td>Project Site</td>
<td>Visual inspection</td>
<td>-</td>
<td>To comply with all related Turkish regulations and international requirements</td>
<td>No additional cost</td>
<td>Start of construction works</td>
<td>Completion of construction works</td>
<td>Erzurum SPP Contractor Halk Enerji</td>
</tr>
<tr>
<td>8</td>
<td>Soil Quality</td>
<td>Project Site</td>
<td>Sampling and analysis</td>
<td>Seasonal</td>
<td>Control of the impact of the Project on soil quality</td>
<td>Project Budget</td>
<td>Before the construction works start</td>
<td>Completion of construction works</td>
<td>Halk Enerji</td>
</tr>
<tr>
<td>9</td>
<td>Solid Wastes</td>
<td>Project Site</td>
<td>Visual inspection</td>
<td>Weekly Seasonal</td>
<td>To comply with related Turkish regulations and international requirements in the scope of Solid Waste Management Plan</td>
<td>Project Budget</td>
<td>Start of construction works</td>
<td>Completion of construction works</td>
<td>Erzurum SPP Contractor Halk Enerji</td>
</tr>
<tr>
<td>10</td>
<td>Terrestrial flora and fauna</td>
<td>Project Site</td>
<td>Visual observation</td>
<td>Biannual (twice a year)</td>
<td>To minimize loss of damage to natural habitats and species</td>
<td>Project Budget</td>
<td>Start of construction works</td>
<td>Completion of construction works</td>
<td>Halk Enerji</td>
</tr>
<tr>
<td>No</td>
<td>What parameter is to be monitored?</td>
<td>Where the parameter is to be monitored?</td>
<td>How the parameter is to be monitored/ type of monitoring equipment?</td>
<td>When the parameter is to be monitored- frequency of measurement or continuous?</td>
<td>Why the parameter is monitored?</td>
<td>Source of Funding</td>
<td>Period</td>
<td>Institutional Responsibility</td>
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<tr>
<td>1</td>
<td>Wastewater</td>
<td>Erzurum SPP</td>
<td>Visual inspection</td>
<td>Periodical controls of wastewater septic tanks if they are emptied on a regular basis &amp; there is no discharge into the environment</td>
<td>To comply with Wastewater Management Plan</td>
<td>Project Budget</td>
<td>During operation period</td>
<td>Halk Enerji Environmental Site Manager</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Water quality parameters defined in related Turkish regulation and international requirement</td>
<td>Erzurum SPP</td>
<td>Sampling and analysis</td>
<td>When an accident such as spill and leakage is reported</td>
<td>To determine the potential contaminant and to comply with Turkish legislation and international standards</td>
<td>Project Budget</td>
<td>During operation period</td>
<td>Halk Enerji Environmental Site Manager</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Health and Safety</td>
<td>Erzurum SPP</td>
<td>Observation and inspection, reporting</td>
<td>Monthly</td>
<td>To ensure compliance with Health and Safety Management Plan</td>
<td>No additional cost</td>
<td>During operation period</td>
<td>Halk Enerji Environmental Site Manager</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Soil Quality</td>
<td>Erzurum SPP</td>
<td>Sampling and analysis</td>
<td>Annual</td>
<td>Control of the impact of the Project on soil quality</td>
<td>Project Budget</td>
<td>During operation period</td>
<td>Halk Enerji Environmental Site Manager</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Solid Wastes</td>
<td>Erzurum SPP</td>
<td>Visual inspection</td>
<td>Weekly Seasonal</td>
<td>To comply with related Turkish regulations and international requirements in the scope of Solid Waste Management Plan</td>
<td>Project Budget</td>
<td>Completion of construction works</td>
<td>Halk Enerji Environmental Site Manager</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Terrestrial flora and fauna</td>
<td>Erzurum SPP</td>
<td>Visual observation</td>
<td>Annual</td>
<td>Control of the impact of the Project on soil quality</td>
<td>Project Budget</td>
<td>Completion of construction works</td>
<td>Halk Enerji Environmental Site Manager</td>
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7 FRAMEWORK FOR EMERGENCY ACTION/PREPAREDNESS PLAN

A framework for emergency action/preparedness plan (EAP) has been prepared for the emergency situations that could occur in both the construction and operation phases of Erzurum SPP Project. In this context, an Emergency Action Coordinator (EAC) will be identified for the EAP, who is going to deal with emergency situations.

7.1 Purpose and Scope

The main objective of the EAP is to establish strategies and procedures for managing all aspects of emergency situations associated with the scope of Project. The targets and procedures of emergency management are as follows;

- Prevention and preparation measures are the actions to be taken before emergency cases.
- Response measures those are the actions to be taken during emergency situation.
- Damage assessment and recovery measures are the actions to be taken after emergency cases.

This EAP prepared for Erzurum SPP is to define actions to be taken in an emergency case such as; natural disasters, fire and accidents. The following are some of the main issues to be included within the detailed EAP(s) to be prepared:

- The tools and equipment (i.e. diggers and shovels, face masks, protective eye gear, gloves, various pumps, radios…) required for instant response in case of an emergency (fires, lightning, explosion, etc.) will be kept at the Project Site.
- The EAP will take account the locations of safety tools and equipment and the escape routes and procedures. The telephone numbers for emergency contacts will be included in the plan as well.
- The EAP will be continuously checked for improvement if needed.
- The periodic maintenance of tools and equipment will be performed. Key staff will be trained in the subject.
- In the event of an emergency, the nearest security force unit will be notified immediately.
- In order to implement the EAP, an EAC will be assigned. The EAC is formerly informed on his responsibilities.

7.2 Duties and Responsibilities

Halk Enerji and the Contractor(s)

All the activities to be performed during the construction and operation phases of Erzurum SPP Project are under the responsibility of Halk Enerji and the appointed contractors. For the implementation of these responsibilities should be achieved by Construction Manager during
construction period and Project Manager during operation period. Within the context of the EAP; the responsibilities of these managers who will be the EAC as well are summarized below:

- Attending the annual review meetings related to EAP and approval of the recent version of the EAP;
- Approval of the activities those are not included in EAP during an emergency situation;
- Analysing the reports prepared after any emergency situation.

In general, the implementation of the activities developed and specified in the EAP, and improving the EAP are the main responsibilities of the EAC. Moreover informing the relevant authority, gendarme and others regarding the emergency situation is the duty of EAC in line with EAP.

7.3 Potential Emergency Situations

Potential emergency situations to take place within Project Site are given below to be further analysed within the scope of a detailed EAP.

7.3.1 Fire

Fire at Project Site can be caused by a lightning strike, machinery breakdown, failure in electrical installations, and resonant circuits of the equipment. The risks of a fire will be minimized effectively by the following, which can be further expanded throughout construction and operation phases of the project:

- Use of non-combustible or difficult to ignite materials.
- Early fire detection systems.
- Frequent maintenance activities.
- Automatic switch-off of system or complete disconnection from the power supply system in case of a fire.
- Training of the employees with respect to the risk of fire and effective response.
- Installation of a lightning protection system.

Duties and responsibilities of the EAC in case of a fire are the following:

- EAC should know the fire risk in each work area and have to know how to extinguish different types of fires as well.
- If any fire is determined, or emergency situation is a fire, EAC takes the necessary actions for extinguishing without panic.
- Depending on the type and extent of fire, all operations and energy supply may be halted. Depending on the risk of a present fire to spread, local fire department is notified.
- When the fire engine arrives, EAC help extinguishing activities, if needed.
- During the firefighting, EAC prevents the entrance of irrelevant people to the area.

### 7.3.2 Accidents

Potential accidents during construction and operation may cause injuries and even death. In such situations, the first aid will be provided by the EAC and assistance will be sought from the closest health facilities. In any injury encountered in the facilities, first aid will be the responsibility of the EAC and/or the medical doctor available at the site. In the meantime, to prevent any further damage, EAC will ensure environmental safety, investigate any fire possibility, and clean any spilled materials.

As a result of some accidents, fuel, oil, or other hazardous liquids may reach surface water resources. When fuel or other hazardous materials are seen floating in the surface waters, first EAC will respond, and, if necessary, the closest fire department will be contacted. Fuel, oil, and other floating materials will be separated from water via skimming.

These skimmed materials will be collected in sealed tanks and disposed in line with the Waste Oil Control Regulation.

The duties and responsibilities of the EAC in case of accidents are listed below:

- EAC should know the type of injury risk in each work area.
- In case of an accident, EAC will check for the persons that might be injured. The EAC will provide first aid as proper. If the injury is beyond his ability for first aid than a more capable, or authorized person will be waited.
- An ambulance may be required depending on the type and extent of injury. After the arrival of the ambulance the responsibility passes to the medical personnel that arrived with the ambulance, EAC will help first aid activities if needed. Further, during the first aid activities, EAC prevents the entrance of irrelevant people to the incident area.
- Right after the necessary actions is completed and/or injured person is sent to the hospital, the incident record is prepared.

### 7.3.3 Earthquake

All workers will be trained according to the necessary action to be taken during an earthquake. If an earthquake greater than a scale of 5 or more on Richter scale is determined, and workers on duty feel earth tremor or are exposed to specified earthquake consequences (feeling of the earthquake by everybody, moving/falling of objects in the shelves, moving/falling down of furniture, fracturing of some plasters and walls, quaking of trees and shrubs), the steps given below will be followed:

- Personnel working in indoor areas leave from the closest secure exit and go to the specified meeting point if possible and if not, waits at a secure outdoor area until the earthquake ends.
▪ After the earthquake, the operations will be paused for a general visual check of the Project equipment.

▪ After completion of the necessary controls, the detections will be communicated to the relevant authorities. Moreover, if any equipment is damaged, and the damage is considered to be significant, the relevant authorities will be informed immediately.

▪ If any equipment is damaged, and the damage is not considered to be significant, necessary technical observations/testing will be performed immediately. Then, the assessment will be communicated to the project management and other relevant local and national authorities.

▪ If the SPP is determined as secure, operations will begin incrementally.

7.3.4 Flood

Although the Project Site is not under a risk of flood and flood have not been seen ever, some precautions should be determined due to changing weather condition as per climate change. Since floods are not sudden natural hazards and that they present various indications before they occur, actions regarding this natural hazard follow a predetermined and well established program:

▪ In case of a heavy rain incident, the entire site drainage system is checked for possible blockages and if present, the blockage is removed.

▪ If the amount of precipitation continues to increase, energy supply of the electrical equipment which may present a risk will be cut off.

▪ If the need for evacuation of the facility arises, hazardous materials will be secured and transported outside the facility during the evacuation.

▪ After the flood event and heavy rain ceases, operations will be halted for a general visual check of the project units and assessments are recorded.

7.3.5 Threats such as Terrorist Attacks, Sabotage etc.

Security team duties in case of a threat such as sabotage or a terrorist attack will be specified and communicated to the team via an appropriate education. Following actions will be taken in such scenario:

▪ Project manager, gendarme and police will be immediately notified of the situation.

▪ Entrances and exits to the facility will be taken under control and personnel will not be allowed to the scene of the incident.

▪ If possible, saboteur or the terrorist will be stalled until the security forces arrive to take control of the situation.
7.3.6 Emergency Aftermath and Further Actions

When an emergency situation ends and the EAC approves the safety of the Project site, relevant units and authorities will informed of the incidence. EAC will prepare a report about the emergency. Activities conducted during the emergency will be assessed and any necessary adjustments and/or improvements will be made in the EAP. If the emergency incidence is an unforeseen case, the precaution measures to prevent this type of emergency incidences and the action plan for such emergencies will be developed and integrated into the EAP.

7.3.7 Contact List for Emergency Situations

A contact list for emergency situations will be established with relevant contact information. This list will include relevant project management units and persons, and local and central authorities (i.e. village headmen, municipality, district governorship, police department, fire department, General Directorate of Disaster Affairs, Electricity Production Corporation, Electricity Transmission Authority Corporation, etc.).
8 INSTITUTIONAL ARRANGEMENTS

The framework of the institutional arrangements necessary to effectively implement the EMP and monitor its overall success is defined under this section. Institutional arrangements are also stated in order to clarify the tasks associated with several activities that are defined in the EMP.

The key issues to be considered within the scope of this EMP are as follows;

Legal framework for environmental protection: Legal framework to manage and protect the relevant measures that may be affected by the Project is defined within EMP. The natural resources that may be affected from the Project and the environmental quality (requirements of the relevant Turkish legislation) are underlined as well.

Responsibilities for environmental management: These responsibilities have been clearly defined for the environmental components being impacted from the project and sufficient resources have been allocated.

Responsibilities to understand the impact mitigation measures: These responsibilities have been clearly defined for the environmental impact mitigation measures and sufficient resources have been allocated.

Legal basis for the implementation of mitigation measures: The mitigation measures for least negative impact to environment were defined within the scope of Project Introductory File prepared in line with the National Environmental Legislation and approved by Provincial Directorate of Environment and Urbanization of Erzurum Province. Other than the environmental protection legal framework, Energy Market Regulation Authority Production License and also other legal project documents form a basis for the implementation of the impact mitigation measures.

8.1 Institutional Coordination

The parties responsible for the implementation of the impact mitigation measures/management plans and carrying out the monitoring activities to manage the possible environmental impacts are provided in Table 5-3, Table 5-4, Table 6-1 and Table 6-2. Measures to be taken and activities to be undertaken during the construction period will be performed by the Project owner, main contractors and all the sub-contractors. The environmental responsibilities and EMP requirements will be included in the contracts to be signed with the main contractors and the subcontractors. Consultants may be hired to implement certain relevant actions such as monitoring measurements. Local state authorities and the Ministry of Environment and Urbanization (MoEU) has the authority to execute monitoring and inspection activities to follow-up the conformity of the Project activities with the environmental requirements as per the relevant legislation.

The collection of the Project monitoring data is under the responsibility of Halk Enerji, or the consultants of Halk Enerji. These data will be recorded, analysed and stored by the project environmental manager, related expert personnel or the consultants to be employed. The
results obtained will lead to the evaluation of the effectiveness of the measures taken to mitigate the adverse impacts. Accordingly, the impact mitigation measures and monitoring plans will be revised if deemed necessary.

8.2 Decision Making Process

Changes in mitigation measures/management plans, revisions of the impact mitigation or monitoring plans and similar EMP related decisions, and the notification of the relevant institutions (the Provincial Directorate of the MoEU or if required MoEU) will be executed by Halk Enerji. In this respect, the Provincial Directorate of the MoEU can provide its own feedback regarding the suggested changes/revisions to Halk Enerji and where necessary, Halk Enerji can cooperate with the Provincial Directorate of the MoEU on these matters. After this, notification and instruction of the parties responsible from the future activities will be performed by the Halk Enerji. The responsible parties will implement the mitigation measures/management plans in line with the program defined within the EMP.
9 CONSULTATION WITH LOCAL NON-GOVERNMENTAL ORGANIZATIONS (NGOS) AND PROJECT-AFFECTED COMMUNITIES

9.1 Project-Affected Settlements

When determining the key stakeholders, the closest settlement to the Project Site is taken into account. The nearest settlement to the Project Site is Ilica Quarter located at about 2.5 km. Detailed information about the project affected settlements are presented in Section 4.10.1.

No major disturbance on nearby communities is expected due to the distances of these settlements to the Project Site. Moreover as stated in former section the potential impact of Erzurum SPP Project on the environment during construction is very low and even negligible. In addition to that during operation, no environmental impact such as emissions, water usage or waste water discharge will be presented to impact environment.

With successful implementation of the environmental management plans, the Project will be completely environmental friendly.

In order to participate the public in the project and take their opinions and answer their questions about the Project, a Public Information Meeting was conducted on 25 December 2015 at the meeting room of Ilica Thermal Facility, at the closest settlement to the Project Site which is Ilica Quarter. Total 24 local people were participated in the meeting as well as mukhtar. The meeting was announced via a written invitation on 10 December 2015 and it was put on the mukhtar’s office and the coffee house to be announced to the public until the meeting time.

Meeting was started with the presentation about the solar energy in Turkey, solar panels to be used and project properties by the responsible person from the Halk Enerji. Then, a presentation about the environmental and social impacts of the Erzurum SPP Project is done by the consulting firm. After the presentations, the questions of participants regarding the electricity supply opportunities to the village, employment and the reason of selecting Project Site were answered. Moreover, the possible hazards of SPP to human health were asked and it is stated that there will be no side effects. The minutes of meeting and evaluation are given in Annex-F.

The consultation activities with the local community, NGOs and other institutions will be continued by Halk Enerji. Whenever needed of asked, questions will be answered and comments will be listen by organizing formal and informal meetings.
9.2 Consultation with Local Governmental and Non-Governmental Agencies

During the implementation and operation of the Project, the Project owner has been and will be in relation with governmental authorities which are as follows;

- Erzurum Provincial Directorate of Environment and Urbanization
- Erzurum Municipality
- Turkish Electricity Transmission Company (TEİAŞ)
- Energy Market Regulatory Authority (EMRA)
- Provincial Directorate of Disaster and Emergency
- Provincial Special Administration
10 PUBLIC RELATIONS PLAN

10.1 Introduction and Scope

In order to create positive and independent relations with the local settlements and the stakeholders, the Public Relations Plan (PRP) is defined. In line with PRP, the acceptance by public is essentially aimed.

The public relations will start before the construction phase, and will continue through the construction and operation phases of the Project. The public relations will be managed by Halk Enerji, the start of this relations was Public Information Meeting which was concluded with the satisfaction of local people. As well as Project owner, construction contractor will be responsible as well. The contractor will execute the public relations procedure as per the fundamentals stated at the PRP prepared within the scope of this EMP. Realization of public relations activities is important in terms of executing the Project in a socially peaceful environment. A sufficient financial resource should be allocated from the Project budget for the public relations activities.

10.2 Objectives

For establishing successful and positive relations between the Project and its stakeholders including the communities to be affected from the Project, the PRP has been prepared.

The essential objectives of the PRP can be defined as:

- Creating an open dialogue with the communities being affected from the Project and all the related stakeholders.
- Informing the disadvantaged groups, understanding the opinions of these groups and ensuring that they actively participate to opinion exchange activities.
- Increasing the social benefits of the Project and preventing or mitigating the negative social impacts.
- Updating public directly or via different tools (such as meetings, brochures, etc.) and providing communication channels to enable all the related parties to obtain information regarding the Project and the possible environmental and social impacts.
- Informing all the stakeholders in a timely and clearly understandable manner.
- Monitoring the concerns and information requirements of the communities being affected from the Project.
- Providing an open communication between the Project owner and the project-affected people and other stakeholders.
- Providing timely and correct information about the project and its progress to all the stakeholders including project-affected persons, related institutions, local and
government authorities, local and national media and to the international non-governmental organizations.

- Ensuring that all the related stakeholders and the project-affected persons to attend to the meetings organized.

- Giving priority to the project-affected persons while hiring workforce from the local community.

- Encouraging and orienting the subcontractors to employ local workers and benefit from local services.

- Developing public development projects.

- Accepting and keeping record of all the complaints, concerns and feedbacks received regarding the Project.

- Ensuring the resolution of any reaction, disagreement or disputes related to the Project impacts via an open communication method.

- Ensuring that the communication to be made by the main and sub-contractors with the local community, official institutions and other stakeholders for purposes of feedback to information, complaint, and requests, etc. with the knowledge of Project owner.

- If positive or negative new comes out regarding the Project, monitoring the progress of the news from its start until the end and observing whether there is any attempt to distort the content of the mentioned news.

- Caring life and property safety during construction works to ensure the continuity of the good relations with the local community, informing the public and the relevant institutions on time in case of such a risk.

- Training of all the workers to work and exist in at the region during the construction concerning the issues to be paid care on public relations at the work commencement and the attitude principles.

- Updating the PRP in line with the changing needs of the public and preserving certain and close contact with different phases of the Project.

- In case of any planned interruption or unplanned damage at the infrastructure of the nearby residential locations during construction, notifying the public and the relevant institutions for reaching a solution within the shortest time possible.

10.3 Identification of the Stakeholders

A stakeholder list is required to be conducted and should be reviewed by the relevant Project staff (or community relation team). The notable stakeholders, apart from the ones directly involved in the Project (such as the Project owner, or Project engineer), is listed but not limited to;
- Local Public (Project-affected people)
- Local governmental authorities
- Regional governmental authorities
- Erzurum Municipality
- Non-governmental organizations (local, national, international)
- The print and visual media (mainly local but also regional)
- Academic institutions (Atatürk University)
- Regional business organizations

10.4 Public Relations Activities

The public relations expert/official who is specially assigned to, will be the main point of contact for the project-affected people and all the stakeholders. The public relations expert/official will be responsible for the implementation of the PRP. The activities within the scope of the PRP are as follows:

- Informal meetings with project-affected people such as face-to-face talks and meeting at coffee house.
- Organizing meetings and/or forums to be held with the local community and government authorities to establish a mutual understanding.
- Organizing monthly or quarterly meetings in line with the needs of the affected people with the aim of informing project-affected people concerning the Project.
- Organizing focus group meetings for the sensitive groups in order to obtain information on the thoughts and feelings of PAPs, arranging meetings with PAPs and the stakeholders.
- Regularly preparing presentations regarding the progress of the Project for the governmental institutions and organizing meetings if demanded.
- Cooperating with the local press and closely monitoring the news related to the Project. Organizing press meetings for the local and national press if deemed necessary.
- Organizing official Project status meeting to give information regarding the important project developments to the academic bodies, communities and complaint holder local residents. If deemed appropriate, these meetings will be arranged to respond to the concerns and include every kind of concern into the decision making process.

The recording the complaints and requests, determining the necessary actions and ensuring/monitoring its performance will be the duty of Public Relations Officers. All the complaints, requests, concerns, feedback and conducted public relations activities related to the project will be monitored and recorded by the Public Relations Officer of the Project.
10.5 Remediation of Possible Discontent

The Project owner should act on complaints of project-affected people as soon as possible to eliminate improper situation and disconformities. In such a way, the discomforts and complaints will be avoided before reaching a big scale and before the emergence of any incidents. All of the disputes to arise as a result of disinformation due to improper and misdirected communication between local community and stakeholders should be foreseen to take immediate corrective measures.
11 REFERENCES

- TÜİK, Address Based Population Registration System, 2014
- Environmental Report of Erzurum 2014, MoEU
- Erzurum Provincial Directorate of MoEU Official Web Site
LIST OF ANNEXES

Annex-A Maps and Plans
  1. Topographical Map of the Project Site
  2. Satellite View of the Project Site
  3. Topographical Map Showing the Distance of the Project Site to the Settlements
  4. Map of Open/ Closed Areas to Hunting
  5. Geological Map of Project Site

Annex-B Correspondence with Official Institutions
  2. The Letter of the T.C. Ministry of Forestry and Water Affairs General Directorate of State Hydraulic Works numbered 764201 and dated 05.12.2014

Annex-C Official Documents Showing the Proprietary Information

Annex-D EIA Not Required Decision

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Maps and Plans
1. Topographical Map of the Project Site
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5. Geological Map of Project Site
Annex-B
Correspondence with Official Institutions
1. The Letter of the T.C. Erzurum Provincial Directorate of Food, Agriculture and Livestock numbered 4904 and dated 12.05.2015

T.C. ERZURUM VALİLİĞİ
İl Gıda, Tarım ve Hayvancılık Müdürlüğü
Sayı : 72371365.230.04.02/44/19

Konu : Tarım Dışı Kullanım İzni.

ENERJİ PIYASASI DÜZENLEME KURUMU BAŞKANLIĞINA
(Kamulaştırma DairesiBaşkanlığı)

İlgi : a) Tarım Reformu Genel Müdürlüğü’nün 30/05/2013 tarihli ve 2205 sayılı yasası.
   b) 29/04/2015 tarihli ve 49675930-752.99/24487 sayılı yasayazısı.

İlgi (b) yasayızı ile; İlimiz, Aziziye İlçesi, İlica Mahallesi, Dağlar Mevkiinde bulunan, 146A07A Pahta 730 (22/a maddesi gereğince yeni parsel numarası 10014 ada 7 numaralı parsel), 732 (22/a maddesi gereğince yeni parsel numarası 10014 ada 5 numaralı parsel) ve 733 (22/a maddesi gereğince yeni parsel numarası 10015 ada 8 numaralı parsel) numaralı parcelerde kaydır taraflarında kaydır tasnımazlar üzerinde Güneş Enerji Santralı kurulması amacıyla kurum görüntü tualep edilmekteyiz.


Bilgilerinize arz ederim.

Özcan YILDIRIM
Vâr a.
Il Müd. V.

EKLER:
1- Yazı Fotokopisi (2 Adet)
2. The Letter of the T.C. Ministry of Forestry and Water Affairs General Directorate of State Hydraulic Works numbered 764201 and dated 05.12.2014

Mehmet Faruk KILIÇ
Bölge Müdürü V.


İlgi yazısıgereç Müdürülüğümüz arşivinde yapılan incelemeyele söz konusu alanın Mevzuatımızı ilgilendirir herhangi bir şartı veya da tescilli kültür varlığı olduğuna dair kayıt bulunmamıştır.

Ancak, ilcemizde tasarım hazırlık kültür varlıklarına ilişkin çevrante çalışmasını henüz tamamlanmamış olduğundan tasarım alanlarda yapılacak olası hafriyat çalışmaları sırasında herhangi bir bu lastiği rastlanması durumunda 2863 sayılı yasamın 4. maddesine gereğin çalışmalara dururların en yakın müze müdürlüğine veya mülki idare amire haber verilmesi gerekmektedir bu bilgilenmenin ilgililerine tebliğ hususunda;

Bilgilerini ve gereğini arz ederim.

Lokman KEMALOĞLU
Bölge Karulu Müdürü

Adresse: Yeşil İlkolünet Köşesi Kat5-ERZURUM
Tel: 0(442) 213 26 31 Faks:213 15 89

Ayrıntı bilgi için ıhitabe: HGENÇ Arkeolog
E-posta: erzurumkarulu@kultur.gov.tr

The Letter of T.C. Erzurum Provincial Directorate of Environment and Urbanization numbered 252 and dated 17.11.2014

MÜDÜRÜK MAKAMINA
(Çevre ve Şehircilik İli Müdürlüğünü)

İlgi : 24/10/2014 tarih ve 98521965/220.02/7/242 sayılı yazınız.


Söz konusu alanda herhangi bir doğal sit ve korunması gerekli tabiat varlığı tescil kaydı bulunmamaktadır. Ancak alanda herhangi bir tabiat varlığına (fossil kalıntıları, yer alta mağaraları vb.) rastlanılması durumunda Müdürlüğümüzle haber verilmesi gerekmektedir.

Bilgiliiniz arz ederim

Ali İLAÇOĞLU
İl Müdürlük Yardımcısı V.
Annex-C
Official Documents Showing the Proprietary Information
TAŞINMA SATIŞ VAADI VE KİRA SÖZLEŞMESİ

1. TARAFLAR


2. SÖZLEŞMENİN KONUSU

Alıcı, güneş enerjisinden elektrik enerjisi üretilmesine yönelik tesislerin kurulması ve işletilmesi konusunda faaliyet gösteren bir şirkettir. Bu bağlamda Alıcı güneş enerjisinden elektrik enerjisi üretilmesine yönelik tesisleri kumak için gerekli ön araştırmaları yapmakta ve kuruluşu İİİ’nin kanuni merasimini takip etmektedir. Alıcı, Satici NEVZAT UTKAN İLCAL’ın mallığı olduğu ve Nazmi İLCALI, Behice İLCALI adlarının hisseleri olarak tescilli ERZURUM ili, Aziz Abide ilçesi, İlica Mahallesi ve Dağlar mevkili sınırları içinde olan 730, 732 ve 733 parrallerde yer alan 100.000 m² yüzölçümü thebt niteliğindedeki gayrimenkulun ("Gayrimenkul") üzerinde belirlenen mahiyette bir santral kumak istemekte olup bu çerçevede gerekli izin ve belgeleri ilmak etmesi halinde mezkur tasnife Alıcı’ya satışın Satici tarafından vazıda ve taahhüdülü ile Alıcı’nın bu vaad ve taahhüdü kabulünden ibarettr.

3. GAYRİMENKUL’ÜN SATIŞ BİLGİSİ VE ÖDÈME PLANI

3.1. Gayrimenkul’in toplam satış bedelli EPDK onayı dolayesi kara kira ödedi, taarı üzerinde yer alan eklik/ot bedeli dahil 250.000 (liyozuylabilin) TL’dir. Satıcı bu bedel içinde Alıcı’dan hiçbir ad ve nam altında ödeme talep etmeyeceğini işbu maddede ile kabul ve beyan eder.

3.2. Taraflar satış bedelinesi Alıcı tarafından Satici’ya aşağıda belirtilen şekilde ödedemesini kararlaştırılmıştır:

- Alıcı, Satıcı’ya kira ödenmesi yerine de geççek esikinde 3.000 (üçbin)TL ödevectedir.
- Alıcı, Satıcı’ya senet karşılığı ayrıca 15.000 (onbeşbin) TL kapora verecektir.
- güneş enerjisi santrali kurulmasına yönelik ızin ve müsaadelerin çıkarılması ve kesinlemesi halinde satış bedelinesi karan kısmının 232.000 (ikiyüzüçüylabilin) TL ödevectedir.

3.3 Satıcı gayrimenkul üzerinde güneş enerjisi santrali kurulmasına yönelik Alıcı tarafından yapılacak çalışmalarına müsaade edecektir ve Alıcı’nın EPDK’ın ve ilgili kamu kurumlarından ilgili ızinleri alınması engelleyici bir tasarrufla bulunmayaacaktır.

4. TAPU DEVIRI

4.1. Sözleşme konusu gayrimenkul üzerinde güneş enerjisi santrali kurulmasına yönelik ızinin çıkıp kesinlemesi sonrasında satış bedelinesi karan kısmının Alıcı tarafından Satıcı’yı ödevemi olmayaca; gayrimenkulün mülkiyetinin resmi şekilde devri, ilgili Tapu Sivil Müdürlüğünezinde gerçekleştirilecektir.

4.2. Satıcı Sözleşme konusu gayrimenkulü Alıcı’ya her türlü yasal kastılamadan (haciz, ipotev ve arı ve boz şekile teslim edecektir.

4.3. Sözleşme konusu gayrimenkul üzerinde güneş enerjisi santrali kurulması ve/veya bu yönde yatırım yapımının mümkün olmasına halinde sözleşme hikâsusuz olacak taraflar Alıcı’nın ödemi olduğu kapora olan 15.000 (onbeşbin) TL düşünde karşılığı olarak bir hak ve alacak taraq etmeyecektir. Şu kadar ki, Alıcı tarafından pişinen ve kira olarak ödenen 3.000 (üçbin) TL Satıcı tarafından iade edilmeyecektir.

4.4. Sözleşme konusu gayrimenkul üzerinde güneş enerjisi santrali kurulması ve/veya bu yönde yatırım yapımının kesinlememesi veya Alıcı’nın herhangi bir nedenle vazgeçmesi durumunda Satıcı Alıcı dan alımdığı 15.000 (onbeşbin) TL kapora yar banka kanatıyla senet tarihinde iade edecektir.

Annex-C
2/15
5. SÖZLEŞMENİN DEVİR EDİLMESİ

Alici, işbu Sözleşme'den doğan borç ve haklarını kendi grup şirketlerinden birine veya bir müşterisine devir veya temlik edebilir.

6. SÖZLEŞMENİN FESIH VE CEZAI ŞART

Satıcı, Alıcı'nın Sözleşmenin kaynaklanan ödeme yükümlülüklerini tam ve usulüne uygun olarak yerine getirmemesi halinde, Alici da taşımağın devrinin gerçekleştirilmesi veya Satıcı tarafından santral ızın çalısmalarına müsaade edilmemesi halinde sözleşmeyi feshedebilecektir. Satıcı tarafından taşımağın devrinin gerçekleştirilmesi veya engelleyici tasarrufa bulunması halinde toplam satış bedelinin % 50'si cezai şart olarak Alıcı'ya ödenecek olup ayrıca Satıcı'ya ödenmiş olan 3000 (Üçbin) TL kira bedeli ve 15.000 (Onbeşbin) TL kapora ödeme tarihinden itibaren ikiye katlanarak % 7 gecektesi faiz ile birlikte Alıcı'ya geri ödenecektir.

7. HARÇ VE MASRAFLAR

İşbu Sözleşme'nin tapu veya şerh edilmesine ilişkin harçlar Alici tarafından ödenecektir. İşbu Sözleşme tahtında ve Gayrimenkulün tapu ve dehv sırasında doğacak (damga vergisi ve Noter masrafları dahil) tüm vergi ve masraflar Alici tarafından ödenecektir. Taraflar yasal olarak karşı taraf devri mümkün olmayan tapu harçlarını kendi yasaş yükümlülükleri çerçevesinde ödeyeceklerdir.

8. SÖZLEŞMENİN TAPUYA ŞERH EDİLMESİ

İşbu Sözleşme tapu konulduğu taraflarca birlikte veya taraflardan birince şerh edilebilir.

9. TEBLİGAT ADRESLERİ

Tarafların tebliğat adresleri Sözleşme'nin birinci maddesinde belirtilen adreslerdir. Taraflarca bu adreslere yapılacak tebliğatlar geçerli sayılacaktır. Taraflar adres değişikliğini yazılı olarak diğer tarafı bildirmedği takdirde, bu adreslere yapılacak tebliğatları diğer tarafça kabul edilmiş sayılar.

10. İHTİAFLARIN ÇÖZÜMÜ

İşbu Sözleşme'den doğacak ihtilâfların çözümünde Ankara Mahkemesi ve İhraç Uu.leri yetkilidir. İşbu Sözleşme 24/10/2012 tarihinde tanzim edilmiştir.

Halk Enerji Yatırımları Üretim İnşaat Taahhüt Ticaret ve Sanayi A.Ş. adına
Mustafa ATİLLA

Kendin adına asaleten
Ve hissedarlar adına ve kaleten
Nevzat Utkan İÇAL
Türkiye Cumhuriyeti

Envirormental Management Plan for Erzurum SPP

Annex C/15

ERZURUM 3. NOTERI
Eryip Sabri EROĞAN

ILSILI
BEHICE LIGALI

TANK
MESUT KĄSĠN

TANK
SERDAR ÇAĞMAK

ERZURUM 3. NOTERI
Eryip Sabri EROĞAN

Vekili
İmzaya yağlı Başatıp

Yazar

Türkiye Cumhuriyeti

T.C. ERZURUM 3. NOTERI

ERZURUM 3. NOTERI

AYAVAŞI MAH.
POLT. MEYDANI
CAD. N. N. PAŞA Mah.
Tel: 0432/34422
Fax: 0432/3455831

Environmental Management Plan for Erzurum SPP

Annex C

39/42
Annex C
39/13

T.C. HUDLARINA DAS防范の方針

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9
Environmental Management Plan for Erzurum SPP
Environmental Management Plan for Erzurum SPP

Annex C

Environmental Management Plan for Erzurum SPP

Türkiye Cumhuriyeti

DÜZENLEME ŞERHİNDE Vekaletnamesi

Tarih: 24/6/2014

Yes. No: A-255/0

12/15
Annex-D
EIA Not Required Decision
Annex-E

Electricity Generation Pre-Licence
Bu ön lisans kapsamındaki üretim tesisi
Yenilenebilir Enerji Kaynağı kullanmaktadır.
(5346 Sayılı Kanunda yer alan, “Bu Kanun kapsamındaki yenilenebilir enerji
kaynakları” tanımı çerçevesinde olan üretim tesisleri için)

Lisans No : ÖN/5307-5/03169
Tarih : 20/11/2014

Bu ön lisans, Halk Enerji Yatırımları Üretim ve İnşaat Anonim Şirketi’ne,
Erzurum İli’nde kurulması planlanan Halk Enerji Erzurum GES üretim
tesisinin yatırımına başlanabilmesi için gerekli onay, izin, ruhsat ve
benzerlerinin alınabilmesi amacıyla 20/11/2014 tarihinden itibaren
24 ay süreyle, 6446 sayılı Elektrik Piyasası Kanunu ve ilgili mevzuat
uyarınca Enerji Piyasası Düzenleme Kurulu’nun 20/11/2014 tarihli ve
5307-5 sayılı Kararı ile verilmiştir.

ASLININ AYNIDIR

Mustafa YILMAZ
Başkan
Annex-F
Documentation of Public Information Meeting
A. MEETING INFORMATION

Meeting Announcement Methods: Announcement text has been hung on the notice board of Ilica Headman’s Office and the meeting has been declared.

Meeting Date: December 25, 2015 at 15:30

Meeting Place: Ilica Thermal Facility, Meeting Saloon

Participants: Participants information is provided in the attached list.

Public Consultation Meeting has been carried out about the Project in order to inform the public and consult to their opinions and suggestions by the Project owner. The meeting has been carried out on December 25th, 2015 at 15:30 in the 2nd floor meeting saloon of Ilica Thermal Facility located in Aziziye County, Ilica Town. Meeting announcement has been hung on the notice board of Ilica Headman’s Office on December 10th to be left there until the meeting day and declared. Photograph showing the announcement text, meeting protocol and announcement protocol is presented below.
GEVBE YÖNETİM PLANI / PROJE TANITIM DOSYASI
ASLI TUTAN McL

HAK, ENERJİ YATIRIMLARI GÜÇ'TİM VE İNSAAT A.Ş. tarafından yapımı planlanan 2,1 MW gücünde, Eزمum ÖES Projesi için hazırlanmış olan Proje Tanıtım Dosyası (PTD) fragmanının Proje hakkında bilgi edinilmesi için NCC Halkâsında Mutlakında projenin başlatılmasına kadarampling üre, asla aslina, asla aslina, aslana aslanın.


Mütevver

[İmzası]

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TOPLANTI TUTANAGI

Konu: EDEBLEN OGE / Halk Bilgilendirme Toplantısı
Tarih: 25.12.2015
Saat: 15:30
Yer: İlaç Teremli Tesisleri / Toplantı Salonu
Katılımcılar: Anı Erdöğan (Halk Enderi) Ceyda Göpiz (Dokay CED)

* 15:30'da toplantı başladı.
* Sunum yapılır ve proje tanıtıldı.
* Sunundaki bir konusunun projelinin ana dersi önemini anlatıldı.
* Katılımcılar ile karşılık, birlik olgusunu yapildı.
* Katılımcılar Sualarını yanıtladı.
* Anket formu bulundu ve isteyenler anket formunu doldurdukları.
* Sualor Dokay CED personelinden Ceyda Göpiz kâbusu çerçevesi zararlarla

Healk Enderi'den Proje Müdürü Anı Erdöğan tarafından

Hazırlayan: Anı Erdöğan

Form No: GN-006/F02-R03
**B. PARTICIPANTS INFORMATION**

Totally 24 people has been participated in Public Consultation Meeting for the proposed Erzurum Solar Energy Plant Project, and their names and contact information has been recorded. Participants List is provided below.

<table>
<thead>
<tr>
<th>ADI-SOYADI (NAME-SURNAME)</th>
<th>MESLEK (OCCUPATION)</th>
<th>İLETİŞİM (CONTACT INFORMATION)</th>
<th>İMZA (SIGNATURE)</th>
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<tbody>
<tr>
<td>Fatih Cığlar</td>
<td>Pedodontist</td>
<td>05384565051</td>
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<tr>
<td>Ahmet Demirge</td>
<td>electricity engineer</td>
<td>05337846464</td>
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<td>Ahmet Sezai</td>
<td>Boledige</td>
<td>05354733328</td>
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<tr>
<td>Halim Aksan</td>
<td>Electrician</td>
<td>05059371707</td>
<td></td>
</tr>
<tr>
<td>Kemal Tuncer</td>
<td>seller</td>
<td>0543141241</td>
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<td>Zehra Aydin</td>
<td>5C1625</td>
<td>0555687325</td>
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<td>Nihan Kadiyar</td>
<td>Emeli</td>
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<td>Cavit Tepkoğlu</td>
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<td>Mustafa Özen</td>
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<td>Mahmut Cığlar</td>
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<td>Muhammet Hasa</td>
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<td>Nevzat Ilıcali</td>
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<td>ADI-SOYADI</td>
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<tr>
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<td>Mehmet Kapın</td>
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<td>Alin Engin</td>
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<td>Yalcın Bozkır</td>
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<tr>
<td>Cahit Absel</td>
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<td>Marıh Kapın</td>
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<td>Ozlem Erdin</td>
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<tr>
<td>Lutfullah Arın</td>
<td>Gıftci</td>
<td>05318312349</td>
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</table>
C. QUESTIONNAIRE AND SURVEY STUDY

Followed by the presentation, environmental and social impacts along with Project description has been discussed. Participants have been asked for their opinions and suggestions together with the questions about the Project. All questions by the participants have been responded to. There has been no negative opinion by the participants. All conversations, questions and answers have been recorded. These questions and the answers are presented below.

Question: Halim AKSAKAL
- First of all, I thank you for your informative presentation. I have a question about the mentioned panels. Will there be any harm to the environment when the panels are being installed?

Reply: Çağdaş CENGİZ (DOKAY-ÇED Personnel, Environmental Engineer)
- They will be installed on a steel unit and there will be no harm to environment in the scope of the Project.

Question: Nevzat ILICALI
- Thank you for these kinds of beneficial meetings. Does the Project provide employment opportunity for his region?

Reply: Anıl ERDOĞAN (HALK Energy Project Manager)
- Workers will be selected among the local people during the construction period of the Project. Besides, a security personnel will be employed during operational phase and similarly, he will also be selected from the local people.

Question: Cahit AKSAL
- Thank you for the presentation. Can you explain once again where the Project site is located?

Reply: Kübra ERDOĞAN (DOKAY-ÇED Personnel, Archeologist)
- Project is located in the northern side of Taşınboynu Hill within an area of 9.72 ha. Project site is approximately 2.5 km away from Ilıca District. (Topographic map has been shown again and explained by zooming in the Project site.)

Question: Kemal ÖZASLAN
- What is the annual energy generation?

Reply: Anıl ERDOĞAN (HALK Energy Project Manager)
- It will be approximately 8,805,000 kWh

Question: Yalçın BAKIR
- Will there be any serious negative impact on the people and animals?

Reply: Kübra ERDOĞAN (DOKAY-ÇED Personnel, Archeologist)
- It would be impossible to say that zero negative impact will be observed, for any kind of energy generation method. However, solar panels are the least harmful ones regarding the other means of energy generation, having the the least impact on bio-diversity.
Question: Adnan DİNDAROĞLU
- Is Erzurum Province a good location for solar panels?

Reply: Kübra ERDOĞAN (DOKAY-ÇED Personnel, Archeologist)
- Yes. Türkiye has long sunshine duration and in this sense it is very advantageous in terms of solar panels. Erzurum is also suitable for solar panels according to Solar Energy Potential Atlas.

Question: Alim ŞENGEL
- Will there be any discounts in electricity payments for the local people?

Reply: Anıl ERDOĞAN (HALK Energy Project Manager)
- No. Energy that will be generated by the Project will be transmitted to the national electricity network.

D. QUESTIONNAIRE RESULTS

Questionnaire forms, which have been prepared beforehand, have been distributed in order to collect the opinions about the Project at the end of the Project. Survey consists of two forms. First one is multiple choice form consisting totally 3 three questions. Second one is the form that participants are free to express their own opinions without having to select from multiple choices. 20 people have participated in the survey. Questionnaire study have been transferred to the digital medium and the results have been assessed. The percentages of the most common answers are presented in the figures below.

1- Did you obtain detailed information about the project?
2- Are precautions of environmental impacts sufficient?

Proje kapsamında çevresel etkiler için alınacak tedbirleri yeterli buluyor musunuz? / Are precautions of environmental impacts sufficient?

- Evet / Yes: 95%
- Hayır / No: 5%
- Boş / Blank: 0%

3- Are security precautions of the construction phase of Solar Power Plant sufficient?

Güneş Enerji Santrali'nin inşaat çalışmaları sırasında alınacak olan güvenlik önlemlerini yeterli buluyor musunuz? / Are security precautions for the construction phase of Solar Power Plant sufficient?

- Evet / Yes: 95%
- Hayır / No: 5%
- Boş / Blank: 0%
E. PHOTOGRAPHS
F. CONCLUSION

As a result of the Public Consultation Meeting, local people obtained detailed information about the “Erzurum Solar Power Plant Project”. Expressed opinions and survey studies Show that local people support the Project. In conclusion, it is determined that local people have positive opinions about the implementation of the proposed Project.