Menzelet and Kılavuzlu HEPP Projects

Non-Technical Summary (NTS)

ENTEK Elektrik Üretimi A.Ş.

December 2017

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1. Project Description

Menzelet and Kilavuzlu Dam and Hydroelectric Power Plants (“HEPPs”) are two conventional hydropower developments that were constructed by the Turkish State Hydraulic Works (DSI) on Ceyhan River. Menzelet HEPP, with an installed capacity of 124 MW, is operational since 1992 and Kilavuzlu HEPP, with an installed capacity of 54 MW, is operational since 2012. State-owned Electricity Generation Company (EUAS) is the current operator of the HEPPs.

The Turkish Privatisation Administration, with the authorisation of the Privatisation High Council, included both HEPPs in its privatisation portfolio and launched the relevant tender processes in June 2017.The scope of the privatisation is specified as the “transfer of operating rights of the HEPPs and the immovable assets used by them to the operator for 49 years starting from the date when the immovable assets in the scope of the tender are handed over to the Operator”.

1.1 Project Company

ENTEK Elektrik Uretimi A.S., (“ENTEK”) an affiliate of Koç Holding active in the area of electricity generation since 1998, won the tender for the privatisation of the Menzelet and Kilavuzlu HEPPs in September 2017. ENTEK has several investments in the energy sector and conducts all its operations in line with its environment, safety, health and quality policies and Code of Ethics Guidelines. It has integrated Quality Management System (ISO 9001), Environment Management System (ISO 14001) and Occupational Health and Safety Management System (OHSAS 18001) certifications since 2009.

After privatisation, HEPPs are planned to be operated by ENTEK and/or through a company whose shares are wholly owned by ENTEK (“Project Owner” or “Company”).

1.2 Privatisation Process

The final resolution of the High Council of the Privatization for the effectuation of the privatization process, approving the tender was issued on 5th of December, 2017. The Company will provide an additional temporary bank guarantee to Privatization Administration until the end of 2017 and then, the negotiations regarding the transfer of the operating rights agreement (TOORA) will start between Privatization Administration and the Company. During the negotiations of TOORA, the Company will apply to the Energy Market Regulatory Authority (EMRA) in order to obtain an electricity generation license for Menzelet and Kilavuzlu HEPP Project and will execute a water usage agreement with the Turkish State Hydraulic Works (DSI) simultaneously. The operating rights of the Menzelet and Kilavuzlu HEPPs and the usage rights of the associated immovable assets will be transferred to the Company for 49 years through the TOORA (to be signed between the Turkish Privatization Administration, EUAS and the Company).

1.3 The Project

“The Project” refers to the “transfer of the operating rights of the Menzelet and Kilavuzlu HEPPs” to the Company for 49 years (starting from the execution date of transfer of the operating rights agreement (TOORA). Accordingly, the Project subject to this NTS includes the hand over, any improvement work to be done at the existing HEPPs and operation of the HEPPs by the Company throughout the TOORA duration.

No major change, extension or transformation/conversion (no modification of hydraulic structures or dam heightening) at the HEPPs is planned by the Company in the scope of the operations to be conducted after the privatization of HEPPs. On the other hand, the Company plans to take actions to improve the environmental and social performance of the HEPPs in accordance with the Environmental and Social Management System (ESMS) it will establish and maintain in accordance with EBRD’s performance requirements.

1.4 Project Location

Menzelet Dam and HEPP is located around 27 km (road distance) northwest of the Kahramanmaras city centre. The plant was constructed by DSI on Ceyhan River between 1980 and 1989 and taken into operation in 1992. The closest settlement to the Menzelet HEPP is the Saricukur neighbourhood, which is located around 1.5 km (southeast) and the Bulutoglu neighbourhood, which is located around 4 km southwest of the Menzelet HEPP (by air distance).

Kilavuzlu Dam and HEPP is located around 11 km (road distance) west-northwest of the Kahramanmaras city centre, near the Kilavuzlu neighbourhood in Onikisubat district. The Project was constructed by the DSI around 7 km downstream (air distance) of the Menzelet HEPP between 1996 and 2011. The reservoir of the Kilavuzlu Dam and HEPP inundated a former HEPP operating at this area (i.e. Ceyhan HEPP). The HEPP was taken into operation in 2012. The closest settlement to the Kilavuzlu HEPP is the Kilavuzlu neighbourhood to the Kilavuzlu, which is located around 350 m southeast of the HEPP, while Hasancikli neighbourhood is around 1.2 km in the southwest (by air distance).

Both HEPP Projects are located close to the Kahramanmaras city centre. Access to the HEPP sites are provided by neighbourhood roads connected to D825 Kayseri-Kahramanmaras State Road. A map showing the locations of the HEPPs is provided in Figure 1.

At the upstream of Menzelet HEPP, Hacininoglu HEPP is being operated. At the downstream of Kilavuzlu HEPP, Sir HEPP is being operated. Fish farms are located on the reservoirs of Menzelet and Kilavuzlu Dams. At the downstream of the Kilavuzlu HEPP, the historical Ceyhan Stone Bridge is present. Fish farms and restaurants are also being operated at the downstream of the Kilavuzlu HEPP, within the reservoir of Sir Dam.

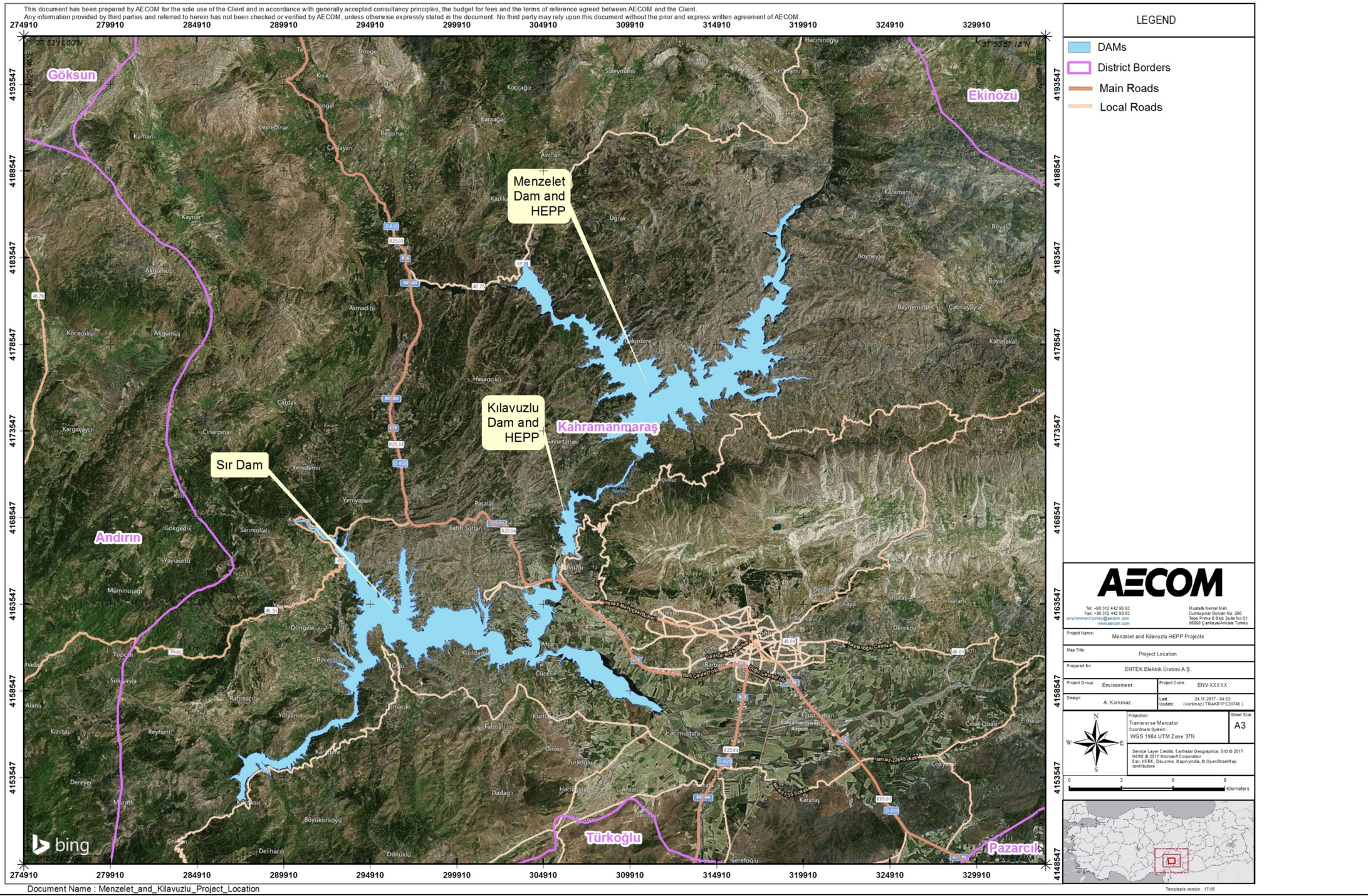

Figure 1. Project Location Map

1.5 Project Components

Main components of the Menzelet and Kilavuzlu Dam and HEPP Projects include the reservoirs, dam bodies and the power plants. Spillway, water intake structure, surge chamber, penstock, bottom outlet, transformer, switchyard and administrative offices are the auxiliary components of both projects. Kılavuzlu Project includes additional irrigation structures. There are also access roads and ETLs (154 kV for Menzelet; 34.5 kV for Kilavuzlu) as associated facilities of the HEPPs. Different components/assets of Menzelet and Kilavuzlu Dam and HEPP Projects and their associated facilities are currently under the authority and responsibility of different governmental parties including DSI, EUAS, and TEIAS. Following the completion of construction by DSI, operation of the HEPPs was transferred to state-owned EUAS. After the completion of privatisation process, EUAS's current rights and responsibilities will be transferred to the Company and the Company will replace EUAS as depicted in Table 1.

Table 1. Responsibilities of the Related Governmental Organisations/Parties over the Project Components

Related Organisation/ Party and the Project	DSi	EÜAŞ	ENTEK **and/or the Company**	TEİAŞ
	State Hydraulic Works (DSI)	Existing Operator of the HEPPs prior to Privatisation	Operator of the HEPPs after Privatisation	Turkish Electricity Transmission Company (TEIAS)
Project Component Under the Authority and Responsibility of Related Organisation/Party	- Dam - Reservoir - Spillway - Irrigation structures	- Power Plant - Switchyard • Ownership of the Menzelet switchyard belongs partially to EUAS and partially to TEIAS ; responsibility for operation and maintenance officially belongs to TEIAS; but currently EUAS operates and maintains the switchyard on behalf of TEIAS*) • Ownership of the Kılavuzlu switchyard belongs to EUAS. Responsibility for operation and maintenance belongs to EUAS – Operation and maintenance of the ETLs from Kilavuzlu HEPP's Switchyard (34,5 kV)		- Switchyard • Ownership of the Menzelet switchyard belongs partially to EUAS and partially to TEIAS; responsibility for operation and maintenance officially belongs to TEIAS; but currently EUAS operates and maintains the switchyard on behalf of TEIAS and charges the associated fees to EUAS) - Operation and maintenance of the ETLs from Menzelet HEPP's Switchyard (154 kV)

**TEIAS does not have a control room at the Menzelet HEPP's switchyard site in the current situation. Thus, EUAS operates and maintains the switchyard on behalf of TEIAS and charges the associated fees to TEIAS. Following the privatisation, TEIAS may establish a control room and take over the operation maintenance activities or request the Company to conduct the operation and maintenance activities at cost on behalf of TEIAS (as currently being done by EUAS) in accordance with an agreement to be executed between the Company and TEIAS.*

1.6 Project Characteristics

Menzelet Dam and HEPP is a multipurpose facility, which was constructed to generate electricity by making use of the flow of Ceyhan River and to meet irrigation needs. Current use of the Project is electricity generation and flood protection (supply of irrigation water is not included in the current Project)[1]. Installed capacity of the Menzelet HEPP is 124 MW (4 x 31 MW). Connection of the electricity generated at the Menzelet HEPP is provided through three 154 kV energy transmission lines erected between its switchyard, connecting to Goksun transformer station (TS), Maras TS and Kilavuzlu TS. The total length of Menzelet ETLs, which is operated by TEIAS, is approximately 65 km.

Kilavuzlu Dam and HEPP was constructed for energy generation and irrigation purposes. Installed capacity of Kilavuzlu HEPP is 54 MW (4 x 13.5 MW). Connection of the electricity generated at the Kilavuzlu HEPP is done through a 34.5 kV energy transmission line that has been erected between the switchyard site and the Kilavuzlu Transformer Station (TS) and has a length of 3.5 km. Irrigation water from the Kilavuzlu Dam's reservoir is taken through DSI's inlet channel structure located adjacent to the Kilavuzlu HEPP's water intake structure. This water (80 m^3/sec) is conveyed to the agricultural areas found within the boundaries of the Kilavuzlu irrigation project and is planned to be ultimately transferred up to Amik plain in Hatay province.

Key characteristics of each Project is summarised in Table 2.

Table 2. Key Project Characteristics

Characteristic	Menzelet	Kılavuzlu
Current Use	Energy generation, flood control	Energy generation, irrigation
Installed Capacity	124 MW (4 x 31 MW)	54 MW (4 x 13.5 MW)
Annual Electricity Generation	515 GWh	248 GWh
Height Above Foundation	150.5 m	54 m
Reservoir Area (at Maximum Water Level)	42 m^2	3.1 km^2
Maximum Water Level (Operation)	609.4 m	485.5
Minimum Water Level (Operation)	560.2 m	483.5
Number of Employee (as of November 2017, including direct EUAS workers and contractors)	112	56

1.7 Energy Generation Process at Hydropower Plants

A simplified sketch representing the energy generation process at conventional HEPPs is presented in Figure 2.

For energy generation at Menzelet and Kilavuzlu HEPPs, water flows from the reservoir to the HEPP through the energy tunnels (concrete tunnel for Menzelet HEPP and two steel pipes for Kilavuzlu HEPP). The water is conveyed to the HEPPs to drive the turbines and generators located inside the power houses at each facility. Following the energy generation process, the water is discharged back to the river bed through the downstream outlet. Transformers adjust the voltage level of the generated electricity to grid levels and the electricity is transmitted to the grid (transformer stations) through the switchyard and the ETLs.

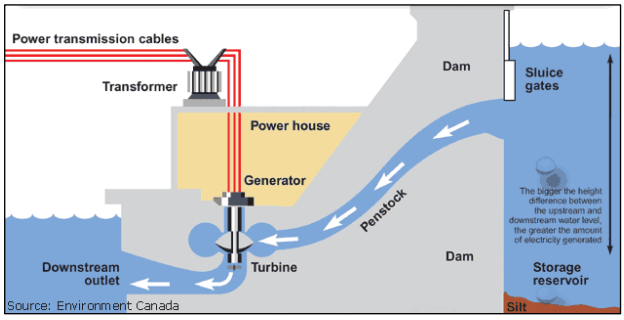

Figure 2. Simplified Sketch for Energy Generation at a Conventional HEPP (*Source: https://www.usgs.gov/)*

[1] Kahramanmaras Metropolitan Municipality has developed a project regarding the use of Menzelet Dam's reservoir for supplying drinking water to the Kahramanmaras province. According to information provided by the EUAS, the project is currently suspended by the Municipality.

2. Background

Menzelet and Kilavuzlu HEPPs were included in the Turkish State Planning Organisation's Investment Program) in 1977 (as part of Middle Ceyhan Menzelet Project). Being projects executed in line with this high-level Investment Program, Menzelet HEPP is operational for 25 years (since 1992) and Kilavuzlu HEPP is in operation for the last 5 years (since 2012). The current operator of both HEPPs is state-owned EUAS, which operates the plants in a scheme to meet the demand it needs to supply to the system. The Water Usage Agreements executed between DSI and EUAS specifies the terms of water usage and operational conditions for Menzelet and Kilavuzlu HEPPs. Regarding the terms of grid connection and system usage, agreements were executed between EUAS and TEIAS. In the current situation, Menzelet HEPP holds a quality (ISO 9001) management system certificate.

ENTEK won the privatisation tender in September 2017. Following the completion of privatisation and hand over of the HEPPs, DSI will remain as the authority responsible from the operation and maintenance of reservoirs, dams and the spillways of the Menzelet and Kilavuzlu Projects. HEPPs, including all related immovable assets, water intake structure, penstock, surge chamber and tail water gates will be operated by the Company following the execution of TOORA.

Even though no major change, extension or transformation/conversion (no modification of hydraulic structures or dam heightening) at the HEPPs is planned by the Company in the scope of the operations to be conducted after the privatization of HEPPs, the existing operational regime of the HEPPs is likely to change under Company's operation. The Company considers operating both HEPPs from a single control centre at the Menzelet HEPP. In addition, based on the findings of the environmental, social and technical due diligence studies to be completed by competent experts, it plans to conduct improvement and where necessary modernization works at both HEPPs. Besides the operational and economic aspects, these works are anticipated to improve existing environmental and social performance of both HEPPs.

2.1 Status with respect to the National EIA Regulation

Both Menzelet and Kilavuzlu HEPP Projects have been exempted by the related authorities from the requirements of the Turkish Environmental Impact Assessment (EIA) Regulation because of their planning and start of operation dates. Kahramanmaras Governorate (Provincial Directorate of Environment and Urbanisation) confirmed the exemption status of both project with its official letter dated 17 June 2016. Therefore, no full or limited EIA process was required to be conducted for the Menzelet and Kilavuzlu Dam and HEPP projects.

2.2 Existing Permits and License

Menzelet and Kilavuzlu HEPPs are currently operating with the following major licenses, permits and agreements in place:

- Electricity Generation Licenses obtained from the EMRA
- Water Usage Agreements executed between the EUAS and the DSI
- Forestry permits obtained from the related Forestry authorities
- System usage agreement with TEIAS (applicable to Menzelet HEPP for its 154 kV ETL)

The Company will apply to the related authorities during the privatisation process and/or following the completion to confirm the validity of existing licenses, permits and agreements (i.e. Electricity Generation License, Water Usage Agreement, etc.) to its operations, or otherwise amend/renew them. In addition, the Company is planning to improve the existing waste and wastewater management practices at the HEPPs and obtained any relevant permit or approval to ensure full compliance of its activities with the applicable national legislation.

2.3 Need for the Environmental and Social Due Diligence (ESDD) Study and Project Disclosure Package

For the development of the Project, the Company is considering obtaining finance from a group of banks, including the European Bank for Reconstruction and Development (EBRD) and other commercial banks. In line with the international categorisation approach and criteria of the EBRD, the Project has been assessed as a “Category B” Project. Therefore, the need for preparation of a disclosure package (Disclosure Package) consisting of a Non-technical Summary (NTS) and a Stakeholder Engagement Plan (SEP) has arisen.

For this purpose, ENTEK has retained AECOM Turkey Consultancy and Engineering Limited Company (“AECOM”) in November 2017 for the development of the Disclosure Package for the Project in line with the Equator Principles III (June 2013) and the EBRD Performance Requirements to inform its decision making process on financing the Project.

2.4 Key Environmental and Social Issues for the Existing HEPPs

Construction of Menzelet Dam and HEPP Project started in 1980 and the HEPP was commissioned in 1992. Kilavuzlu Dam and HEPP Project was started to be constructed in 1996 and the HEPP was commissioned in 2012 (before the construction of Kilavuzlu HEPP, Ceyhan HEPP was being operated at the location of Kilavuzlu Reservoir). Construction phase impacts of both Projects including changes in the land use (such as loss of forests and agricultural lands), socio-economic impacts including physical and economic displacement as well as employment causing workforce influx, habitat loss and fragmentation and associated impacts on species, dust and noise nuisance, impacts due to materials extraction and transportation, and occupational health and safety had occurred during that period. Following the reservoir impoundment and commissioning of HEPPs, corresponding river environment was transformed into standing water bodies (lentic environment) and a new ecological balance has been established. As a result of the current cascade operation of Menzelet and Kilavuzlu HEPPs, with other upstream and downstream operational HEPP projects in place, downstream sections of the Menzelet and Kilavuzlu HEPPs are in the form of lakes rather than rivers.

Monitoring of environmental flow, stakeholder engagement to manage especially downstream risks on community health and safety and downstream users, emergency preparedness and response and implementation of necessary actions for the management of environmental and social performance are the key environmental and social issues for the operation phase of the HEPP projects, which are also underlined by the EBRD’s Environmental and Social Guidance Note for Hydropower Projects.

3. Potential Impacts and Mitigation Measures

Menzelet and Kilavuzlu Dam and HEPP Projects were started to be constructed back in 1980s-1990s. Accordingly, environmental and social conditions in the area have changed within the past decades. The baseline terminology referred to in this document thus represents the existing environmental and social conditions that have been reached after the construction and commissioning of the dams and HEPPs. The construction phase impacts of the Projects were already removed, while the land use, hydrological conditions and biodiversity has permanently changed. Past and existing impacts of the HEPPs and the measures taken so far are identified below. The Company, in the scope of its operations to be conducted following privatisation, is planning to improve the existing environment, environmental and social performance of the HEPPs and establish an environmental and social management system in order to support the minimisation of any potential impact and risk potentially associated with the operation of Menzelet and Kilavuzlu HEPPs.

3.1 Land Use and Ownership

According to the 1/100,000 scale Environmental Master Plan of Kahramanmaras, surroundings of Menzelet and Kilavuzlu Dams and reservoirs are covered mainly with forest lands and plantation areas, while there are also limited agricultural lands. Thus, the Projects inundated forests and agricultural areas during the commissioning stage that followed the construction activities. Artificial reservoirs formed as a result of water impoundment by Menzelet and Kilavuzlu Dams cover a total area of around 45 km^2 (4,500 ha) at the maximum water level.

The Menzelet HEPP facilities correspond to registered forest lands, while Kilavuzlu HEPP facilities are located on partially on non-registered lands and partially on registered forest lands. Forestry permits were obtained by EUAS from the Forestry Authorities for the corresponding forest areas (around 5.5 ha for Menzelet HEPP; around 1.1 ha for Kilavuzlu HEPP).

The ownership of the Menzelet HEPP's switchyard belongs partially to EUAS and partially to TEIAS. The 154 kV ETL for the Menzelet HEPP belongs to TEIAS. The ownership of the Kilavuzlu HEPP's switchyard belongs to EUAS. The 34.5 kV ETL for the Kilavuzlu HEPP passes mainly through the lands owned by the DSI. DSI will transfer the ownership and/or easement rights of the corresponding parcels to EUAS. There are a few parcels along the ETL route, for which expropriation process (for the ETL towers/pylons) and constitution of easement rights is on-going and will be completed by EUAS. The Company will only have the operating rights of the HEPPS and not be authorized to interfere in any kind of expropriation issue under the tender specification and the TOORA.

Following the completion of privatisation process and start of HEPP operations by the Company, no further change will occur in the existing land use. The usage rights of the immovable assets belonging to the HEPPs will be transferred to the Company.

3.2 Topography, Soils and Geology

The elevation at the location of Menzelet HEPP is around 500 m, where the elevation at the location Kilavuzlu HEPP is around 445 m. The wider area surrounding the Menzelet and Kilavuzlu HEPPs has a mountainous topography, where alluvial soils are transported by rivers on young sediments. The HEPPs are located in 2nd Degree Seismic Zone according to Turkey Seismicity Map. There is an existing landslide and rock fall risk along the Menzelet HEPP's access road.

Impacts on topography and soils due to the construction of Menzelet and Kilavuzlu Dams and HEPPs and associated material extraction works occurred during the construction phase of the projects. The operation of the Company after privatisation will not result in additional disturbance on the existing topography and soils. Company will assess the existing landslide risks within the Project Area and take the necessary corrective measures to avoid any risk on Project personnel and nearby communities.

3.3 Water Resources and Wastewater Management

The Projects are located on Ceyhan River within the boundaries of Ceyhan Basin. Several dams and HEPPs are being operated on the Ceyhan River. Among these, Hacininoglu HEPP is being operated at the upstream of the Menzelet Dam's reservoir and Sir Dam and HEPP is being operated at the downstream of Kilavuzlu HEPP. The hydrological conditions at the Project Area have already changed following the commissioning of these dam and HEPP projects.

At Menzelet HEPP, utility and drinking water is supplied from the water leaking from dam which is treated with chlorine and active carbon; whereas at Kilavuzlu HEPP, municipality's water distribution network is used to supply drinking and utility water.

Domestic wastewater generated by the personnel employed at both HEPPs is currently managed by septic tanks. Kilavuzlu HEPP's septic tank is non-leaking, while Menzelet HEPP's septic tanks are leaking, which allows infiltration of the wastewaters through the soil. As the privatisation is likely to result in reduced number of on-site personnel, amount of wastewater to be generated would decrease further. The Company is planning to improve the existing domestic wastewater management practices to avoid any impact on soils and surface and groundwater resources. Other than domestic wastewater, no industrial wastewater is generated at the HEPPs.

Water quality monitoring data for the upstream and downstream of the HEPPs is not present at the site. The Company will consult with the DSI and EUAS to obtain the results of the monitoring studies conducted in the past period and conduct a programme to identify the existing water quality before and after the start of operations in the framework of TOORA.

3.4 Flora and Fauna

Degradation, transformation and fragmentation of habitats corresponding to the reservoir and HEPP areas had occurred during the construction and commissioning of the Menzelet and Kilavuzlu projects. Following the water impoundment, artificial reservoirs in the form of lakes and riparian habitats were created. With cascade operation of Menzelet and Kilavuzlu HEPPs, together with other HEPPs located at the upstream and downstream, river environment was transformed into standing water bodies and hydro biological conditions are likely to be altered. As a result, a new ecological balance has already been established. No aquatic or terrestrial baseline study was conducted prior to the construction or after the start of operation of the HEPPs.

The activities to be conducted by the Company following the completion of privatisation will not include modification of hydraulic structures or dam heightening and thus no addition impact on the existing terrestrial or aquatic habitats is anticipated. On the other hand, the operation scheme at the HEPPs is likely to change under the operation of Company. The Company will retain experts to conduct aquatic surveys at the Project Area and its vicinity and characterise the existing flora and fauna. Based on the results of the surveys to be conducted, species-level assessments will be done and any requirement specific to species or ecosystem needs will be identified by the experts.

As a result of the cascade operation of Menzelet, Kilavuzlu and Sir HEPPs, tail water of the Menzelet HEPP merges with Kilavuzlu HEPPs reservoir and the tail water of Kilavuzlu HEPP merges with the reservoir of Sir HEPP operating at the downstream. In the current situation, Kilavuzlu HEPP continually releases environmental flow (i.e. through continuous operation of one of its four turbines) and the downstream of both Menzelet and Kilavuzlu HEPPs are in the form of lakes rather than rivers. The Company will continue to release environmental flow in line with the requirements of the related authorities and the related regulation. The Company will continuously monitor and record the environmental flow releases of the HEPPs by using proper techniques/equipment.

Fish passages were not installed by the DSI during the construction of HEPPs. Given this situation, it is likely that migratory species could not survive the transformed ecosystem in the last decades or already migrated to alternative habitats. Official letters of the relevant authorities also indicate that the installation of fish passages to existing dams would not be a convenient solution for the conservation of existing habitats that have already been transformed. Dam heights above the river bed elevation are 136.5 m for Menzelet and 52 m for Kilavuzlu projects, which would also be a factor that would jeopardize the functionality of fish passages.

3.5 Air Quality and Greenhouse Gases

The existing operations conducted at the Menzelet and Kilavuzlu HEPPs do not cause any significant impact on the air quality as it does not involve stack emissions or intensive traffic movements causing exhaust emissions. The Company will continue the existing operations thus no significant impact on air quality will occur after privatisation. National legislation does not require any environmental permit (related to air quality) for the HEPP operations.

Greenhouse gases (GHGs) might continue to be emitted from the existing reservoir of Menzelet Dam (as the reservoir area is relatively large) would be insignificant when compared to other power generation technologies using fossil fuels. The Company's operations will not influence the existing GHG emissions from the reservoirs.

3.6 Micro-Climate

As both reservoirs are in place for years, along with other existing reservoirs in the Ceyhan Basin there is a potential that the two projects have contributed to existing and/or future cumulative impacts on the micro-climatic conditions on Ceyhan Basin. On the other hand, it is not assessed to be likely that Menzelet and Kilavuzlu reservoirs on their own with a total surface area of less than 50 km^2 had led to significant change in the micro-climate of the region. The Company operations will not involve modification of hydraulic structures or dam heightening that may cause increase in the existing impoundment area.

3.7 Noise

The existing operations conducted at the Menzelet and Kilavuzlu HEPPs do not cause any significant environmental noise impact as the activities do not involve operation of heavy machines or intense traffic movements. No complaint was received about noise in the past operation period. Potential impacts on HEPP personnel due to indoor noise are managed by use of personal protective equipment. The Company will continue the existing operations thus no significant impact on background noise will occur after privatisation. National legislation does not require any environmental permit (related to noise) for the HEPP operations.

3.8 Landscape and Visual Impacts

Menzelet HEPP Project is in operation since 1992 while Kilavuzlu HEPP is in operation since 2012. Therefore, the dams and reservoirs became a component of the existing landscape character, which could be considered a positive impact depending on the perception of different viewers. Especially, Kilavuzlu Dam is visible from the downstream fish restaurants as well as the Historical Ceyhan Stone Bridge. It is understood that the authorities plan to form a recreation area around this Bridge, which would increase the number of visitors in the area.

3.9 Protected Areas / Cultural Heritage

The Menzelet and Kilavuzlu HEPPs are not located within the borders of any legally protected area such as national park, natural park, natural monument or wild life protection area. The closest legally protected area is the Yavsan Upland National Park located around 18 km southwest of the Kilavuzlu HEPP, at an elevation of around 1,500 m.

The Historical Ceyhan Stone Bridge is located 300 m downstream of the Kilavuzlu HEPP. Currently, the site does not have a legal protection status. It is understood that the authorities plan to form a recreation area around this Bridge, which would increase the number of visitors in the area. The dams serve for flood protection purposes that avoid potential damage risk to the historical bridge that would be caused by uncontrolled flood events. Company's planned operations (excluding any force majeure events) are not anticipated to cause any adverse impact on the Historical Ceyhan Stone Bridge or any other protected area.

3.10 Waste Management

Current operations at the Menzelet and Kilavuzlu HEPPs result in routine generation of municipal solid wastes (including recyclables) from personnel activities and occasional waste oils, waste accumulators, scrap metals, packaging/containers/drums/gloves/rugs contaminated with hazardous substances produced during the maintenance and repair of relevant HEPP components. Oils used to maintain the HEPP components are reused to the extent possible to minimize the amount of waste oil produced by applying relevant analysis and on-site separation techniques. Besides the HEPP site, floating wastes (mainly consisting of plastic bottles, bags, packaging materials left at the reservoirs banks by the people using the reservoirs for recreational purposes) are accumulated at the intakes particularly in the Kilavuzlu Reservoir. These wastes are collected by the HEPP personnel occasionally.

Municipal solid wastes are regularly collected by the waste trucks of Kahramanmaras Greater Municipality and other wastes that can be recovered or recycled are disposed of in line with agreements done competent governmental institutions. Both HEPPs declare their waste production and disposal amounts annually in line with the legislative requirements. A proper temporary waste storage area needs to be established at the Menzelet HEPP site, while the designated waste storage area established at the Kilavuzlu HEPP site needs improvement.

The Company is planning to improve the waste management practices applied at the Menzelet and Kilavuzlu HEPP sites. Project-specific waste management plans meeting the requirements of Turkish legislation and good international practices will be developed. Personnel to be employed will be trained on the waste management practices (source reduction, minimisation, reuse, recovery) in line with the waste management plans. Floating wastes accumulating at the intakes will be regularly collected and sorted by the site personnel as well. A temporary waste storage area will be established at the Menzelet HEPP site and the existing area at the Kilavuzlu HEPP site will be improved. Designated compartments with proper labelling of the wastes to be stored at each compartment will be provided. Proper roofing, impervious ground and drainage will be ensured. Wastes collected and temporarily stored at the waste storage areas will be removed from the sites regularly in line with the agreements to be done with the municipality and/or licensed disposal firms. As the privatisation is likely to result in reduced number of on-site personnel who will be trained on waste management practices, amount of waste to be generated at the HEPP sites would decrease further. On the other hand, the improvement and modernisation works to be conducted by the Company following the privatisation is likely to result in production of demolition waste, waste electrical and electronic equipment, cables, etc. during a limited transition period. These wastes will also be recorded and disposed of in line with the applicable national waste management regulations.

3.11 Occupational Health and Safety

Due to the nature of activities, measures taken (trainings, warning signs, etc.) and the relatively limited number of personnel involved, the operations at the Menzelet and Kilavuzlu HEPPs did not result in any major or minor accident or incident in the past three years of operation. Previously, one electrocution incident that injured one HEPP personnel (who is still working at the HEPP) significantly was recorded. The accidents and incidents have started to be recorded through the general recording system of EUAS that was initiated in the last year. In addition as per Turkish legislation, EUAS is liable to report all accidents immediately to the system of Turkish Social Security Institution. Necessary risk analyses and occupational health and safety audits of the HEPPs are conducted by competent experts in line with the legislative requirements through relevant service procurement agreements. Both HEPPs have emergency response plans and fire-fighting equipment that meet the national legislative requirements.

The Company will apply its occupational health and safety policy in the Project. It will prepare an emergency preparedness and response plan that meets the requirements of the international standards and improve the existing fire-fighting systems. The training programme to be developed and implemented will cover the occupational health and safety aspects.

3.12 Community Health and Safety

Routine operations of the existing Menzelet and Kilavuzlu HEPPs do not pose any significant risk to community health and safety. On the other hand, if the operation of HEPPs results in rapid variations of the downstream flow due to spillway opening by the dam operator, the DSI, during the flood events or planned or unplanned turbine shut down, mitigation measures would be needed to mitigate potential downstream impacts. A downstream impact assessment will be prepared in cooperation with the related national authorities (i.e. DSI).

In the past operation period, spillways were opened a few times in a controlled way that did not result in any impact on the downstream users, lands or structures, as reported by the current HEPP management. At the Menzelet HEPP, local people can access the spillway outlet to conduct fishing activities. The existing HEPP management put warning signs at this location, whilst no audible warning system is available.

Drowning incidents have reportedly happened both in the reservoirs of Menzelet and Kilavuzlu Dams, which are under the authority and responsibility of DSI. Especially, local people are understood to use the area of Historical Ceyhan Stone Bridge located in the downstream of Kilavuzlu HEPP for swimming purposes in the summer months, where drowning incidents mainly take place. In case of a drowning incident, the existing HEPPs can only cease their operations upon notification by related authorities (i.e. gendarmerie).

The Company, as part of its Stakeholder Engagement Plan (SEP), will communicate with the dam operator (DSI) and the downstream users regarding the potential downstream risks that may be caused by planned and unplanned operational changes. It will identify areas where access restrictions (i.e. fencing) and additional warning signs may be required to ensure community health and safety and authorities will be consulted about the implementation of relevant measures. A Community Health and Safety Plan and an Emergency Preparedness and Response Plan will be prepared to address and manage relevant risks considering the results of the downstream impact assessment as well.

Regarding the road safety, access roads are generally in good condition as a result of the previous maintenance and improvement works conducted by the DSI. However, there may be risk of rock falls and landslides at certain sections of Menzelet HEPP's access road, which experienced rock falls and landslides in the past. The Company, after privatisation, will assess the risks on the personnel or community using the HEPPs access road and take necessary actions to ensure community and personnel health and safety throughout its operations.

3.13 Cumulative Impacts

Cumulative impacts can be defined as changes to the environment caused by a project or activity in combination with other past, present and future human actions (see Figure 3). In determining cumulative impacts regarding Menzelet and Kilavuzlu HEPPs, other HEPPs and/or dam projects located in the Ceyhan Basin were taken into consideration. At the upstream of Menzelet HEPP, Hacininoglu HEPP is being operated. At the downstream of Kilavuzlu HEPP, Sir HEPP is being operated.

Operation of other HEPP projects located in Ceyhan Basin along with Menzelet and Kilavuzlu HEPPs has already resulted in the transformation of land use, alteration of hydrogeological regime of the rivers, biodiversity and microclimate. Meanwhile, existing HEPPs serve as a significant contributor in meeting the energy demand of the country and providing control for potential flood events.

As Menzelet and Kilavuzlu HEPP projects are in operation for years, activities to be conducted by the Company following the completion of privatisation will not result in any additional/incremental impact.

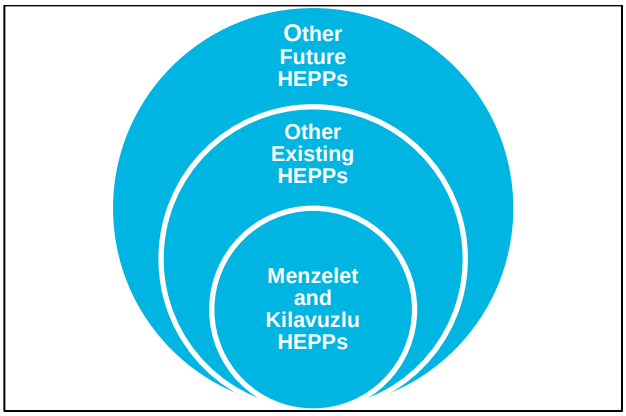

Figure 3. Cumulative Impacts

4. Socio-economic Baseline Conditions, Impacts and Mitigation Measures

Both Menzelet and Kilavuzlu HEPP Projects are located in Onikisubat district of Kahramanmaras. Bulutoglu, Kilavuzlu and Saricukur neighbourhoods are situated in the surroundings of the HEPP sites. These settlements lost their lands and buildings (only in Kilavuzlu neighbourhood; also Cakirdere neighbourhood lost lands, buildings and structures due to Menzelet's Reservoir) during the land acquisition phase of the projects conducted by DSI back in 1980s. Resettlement took place only for the affected households of Kilavuzlu and Cakirdere neighbourhoods. In the current situation, main economic activities of the Bulutoglu and Saricukur are husbandry and agriculture. On the other hand, residents of Kilavuzlu are mostly employed in facilities located in Kahramanmaras.

After the completion of privatization process, the Company will take over the operating rights of the HEPPs. The activities to be conducted by the Company will not cause use or acquisition of any additional land. It is anticipated that current procurement methods and number of employees will change. Retrenchment of existing workforce due to privatization/acquisition of the operating rights of the HEPPs by the Company will be done by EUAS.

4.1 Labour and Working Conditions

Working relationships with the existing personnel and recruitment is currently managed by EUAS in line with the national legislation (i.e. Turkish Labour Law) and governmental procedures. On-site accommodation is not provided at the HEPP sites as the personnel are mainly from the local or stay in the district centres. The reappointment or retrenchment of the existing workforce and cancellation of the existing service agreements will be done by EUAS.

Following the privatisation, the Company will develop and implement a Project-specific human resources policy based on its company policies and meeting the requirements of applicable national legislation and EBRD's Performance Requirement 2. A new organisational structure will be developed for the Project. The Company will provide transparent information regarding the reemployment and service procurement opportunities and conduct required consultations to identify the qualifications of the existing employee and the conditions of the existing service procurement processes to minimise, to the extent possible, the impacts that would be caused as a result of the privatisation process.

The Company will also provide all direct employees and contracted workers with access to a grievance procedure through which they can submit their complaints, concerns and suggestions to the Project management. This grievance procedure will be implemented in line with Company's own Code of Ethics Guidelines that encourages transparent communication among the employees and use of reporting mechanisms.

4.2 Stakeholder Engagement

As state-owned projects, previous stakeholder engagement activities were carried out by EUAS, the current operator of the HEPPs, in line with the governmental procedures. These activities included the meetings and official correspondence with the related governmental organisations regarding permitting, technical information, etc. Existing employees of the HEPPs comprise mainly local people, thus communication with the local people has been provided through the employees hired from the local. Local businesses (i.e. fish farms, fish restaurants) operating at the downstream of the HEPPs) were consulted in the past as necessary regarding the environmental flow released from the HEPPs.

As part of the ESDD process initiated by the Company in November 2017, consultations were conducted with the key stakeholders identified in the Project Area. In this scope, meetings were conducted with the Kilavuzlu and Bulutoglu Neighbourhoods Headmen, Kilavuzlu Irrigation Union, fish farms and restaurants operating at the downstream of Kilavuzlu HEPP and exiting EUAS employees. During the consultations, topics such as effective stakeholder engagement, employment conditions, health infrastructure, issues regarding community health and safety, expropriation processes, environmental flow in downstream of the HEPPs, water release issues etc. were covered.

The Company will ensure that effective stakeholder engagement is conducted in compliance with international standards with an ultimate aim of establishing and maintaining constructive relationships with all project stakeholders, including local communities, related governmental and non-governmental organisations, local commercial entities (e.g. downstream fish farms and restaurants regarding the environmental flow releases, HEPPs), etc. This will be achieved through the implementation of the Stakeholder Engagement Plan (SEP). Regular meetings will be conducted with the headmen and community representatives to inform them about the Project development accurately. A Community Liaison Officer (CLO) will be appointed by the Company (a site personnel with relevant qualifications may also be assigned with the community liaison responsibilities). Complaints, comments and suggestions of the public will be recorded and responded by the Company within a reasonable time and method.

5. Environmental and Social Management System

The Company, following the completion of privatisation, will develop and maintain an Environmental and Social Management System (ESMS) in line with EBRD's performance requirements. As part of the ESMS, the Company will develop project-specific environmental, health and safety, and human resources/labour policies. The Company will also develop a number of action/management plans to implement the relevant policies.

Effective implementation of these management plans will ensure a sound environmental and social performance that minimises the potential impacts on the environment and local communities. Accordingly, the Company will improve the existing waste and wastewater management practices. With the involvement of independent experts, the Company will conduct baseline aquatic surveys to characterise the existing conditions and if necessary, implement measures based on the findings of the baseline surveys. Release of minimum environmental flow will be ensured in accordance with the water usage agreements to be executed with DSI and the environmental flow releases will be monitored real-time and recorded by using proper techniques/equipment. The Company will collaborate with relevant authorities and operators of other HEPPs to address cumulative issues as required and based on relevant studies.

The Company will establish and maintain an organisational structure having proper capacity to ensure effective implementation of the ESMS and the management plans. A Community Liaison Officer (CLO) and/or environmental, health and safety officers will be appointed by the Company under its organisational structure.

A separate Stakeholder Engagement Plan has been developed for the Project to manage the relations with all stakeholders of the Project. This SEP, including a grievance and comment mechanism for the public, will be disclosed as part of the Disclosure Package and implemented throughout the Project lifetime. A Corporate Social Responsibility (CSR) Programme will be developed and maintained for the Project.

A project-specific Emergency Preparedness and Response Plan will be prepared by the Company. This Plan will meet the requirements of the international standards. The procedures to be applied in case of extreme natural floods, planned/unplanned abnormal flows, spillway overflows and up-to-date contact lists of people to be informed or communicated during emergencies will be included in the emergency preparedness and response plan.

An Environmental and Social Action Plan (ESAP), containing the environmental and social measures to be taken, will be prepared and implemented. Effective implementation of the measures contained in the ESAP will be monitored periodically and corrective action plans will be developed by the Company where necessary. Results of the monitoring studies will be compiled in reports that will be submitted to the Lenders in accordance with the frequencies to be determined by them. Annual progress reports on the environmental and social performance of the Project will also be prepared and disclosed on the web-site.

6. Contact Information for the Public

The following contact information can be used to submit comments and questions on the Project:

ENTEK Elektrik Uretimi A.S. Headquarters

Address: Çamlıca İş Merkezi B1 Blok
Ünalan Mahallesi Ayazma Caddesi, Üsküdar
34700 Istanbul, Turkey

Telephone: +90 (216) 217 11 00

E-mail: info@entekelektrik.com.tr

[Contact information for the site offices at the HEPPs will be inserted following the completion of privatisation]

The following web-site link can be used to get more information on the Project Company:

http://www.entekelektrik.com.tr/tr/index.html

aecom.com