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**Consultancy Services for the Basic Design Phase, EPC Tendering Phase
And Project Execution Phase**

REQUEST FOR PROPOSAL

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REQUEST FOR PROPOSAL

Consultancy Services for the Basic Design Phase, EPC Tendering Phase and Project Execution Phase

1. Background

Konya Şeker Sanayi Ticaret A.Ş. won the tender of privatization of the 990 MW Soma B Power Plant and the 457 MW Kangal Power Plant.

The existing Soma B plant as well the Kangal plant have to comply with the new emission limits for existing plants, latest by 31.12.2018, as per actual law.

Soma B plant and Kangal plant shall meet the following emission limits:

Table 0-1: Air Emissions Limits

Parameter (mg/Nm ³)	Limit
Dust (Particulate Matter)	20
SO ₂	200
NO _x as NO ₂	200
CO	200

The values given in the **Table 0-1** refer to dry flue gas with 6 % O₂ content and are the daily average values. The hourly emission values should not exceed the 200% of the above mentioned limit values through the year.

1.1 Soma B CFPP situation

Soma B CFPP is located in Soma District which is 88 km away from Manisa city centre. Manisa is in the western part (Aegean Region) of Turkey.

Main fuel of Soma B CFPP is lignite. Soma B CFPP has 990 MW installed capacity. There are 6 units in the power plant and each unit has 165 MW power output capacity. Commercial operation dates are indicated

in

Table 0-2.

Table 0-2: COD of Units

Unit	Date
Unit 1	1981
Unit 2	1982
Unit 3-4	1985
Unit 5	1991
Unit 6	1992

The ESPs of the Units 1 and 2 were refurbished in 2006 and 2007. The refurbishment of the Units 3 and 4 were just finished in 2013. Dust emissions are just on actual emission limits. Taking into account that until 2019 the current limit needs to be decreased to the new limit values, further optimization of the entire filters will be necessary.

Retrofitting of Flue Gas Desulphurization (FGD) for each Unit is necessary in order to meet the future limit value.

The available area for the retrofitting of the FGDs is very limited. Also, there is existing above ground and buried infrastructure (e.g. flue gas ducts, pipe and cable trays), which needs partially to be relocated. Only limited information is available about the location of that infrastructure.

1.2 KANGAL PP situation

KANGAL PP is located in Hamal village in Kangal which is a district of Sivas city located in the centre of Turkey.

KANGAL PP consists of three pulverized coal fired steam generators. Main fuel is lignite. Unit 1 and Unit 2 are rated 150 MW and Unit 3 is rated 157 MW. Total power output is 457 MW gross.

Commercial operation dates are indicated in **Table 0-3**.

Table 0-3: COD of Units

Unit	Date
Unit 1	1989
Unit 2	1990
Unit 3	2000

An electro static precipitator is installed for Unit 1 and 2.

Retrofitting of FGDs for Unit 1 and Unit 2 is necessary to fulfil the future emission limits for SO₂. Client intends to implement an amine based desulfurization process for these two units with the goal the sell the products to the fertilizer industry.

Only Unit 3 has already a Flue Gas Desulphurization (FGD) System and needs refurbishment.

The space for the FGDs is limited.

2. Objectives

The Consultancy Works and Services specified in this Request for Proposal (RfP) shall encompass all three of the following retrofit and refurbishment projects:

- Project A: Soma B Plant
- Project B: KANGAL Plant, units 1 and 2
- Project C: KANGAL Plant, unit 3 (refurbishment of existing FGD Plant)

These projects comprise mainly FGD systems retrofits and refurbishments but include also:

- If need boiler rehabilitations
- Modifications of other systems of the flue gas path (e.g. ESP, ID fan, stack, ductwork),
- Installation/ adaption of systems required for the operation of the FGD system (e.g. waste water treatment plant)
- Tie-in (civil, mechanical, electrical, I&C) to the existing CFPPs.

The projects are structured in the following three main phases:

- Phase 1: Award of Consultant until Finalization of Basic Design
- Phase 2: Tendering until EPC Contract Signature
- Phase 3: Project Execution until COD (Commercial Operation Date)

The objectives are to ensure the timely and successful tendering, contracting, construction,

installation, commissioning and operation of the FGD plants to the improvement of the environment in Turkey and complying with Turkish pollution regulations.

3. Qualification of the Consultants

The Consultants who are interested in this projects shall have capabilities and proven experiences in similar magnitude of this project.

Therefore, the Consultants shall have experiences of providing consulting services for thermal power plant construction projects (not older than 20 years) mentioned below as minimum requirements:

- Not less than two (2) FGD retrofit projects of similar magnitude (i.e. concept design, tender specification, award assistance, site supervision, commissioning) at lignite fired units of 150 MW or more capacity, which are in successful operation for at least two years, and
- Not less than two (2) ESP modernization projects of similar magnitude (i.e. concept design, tender specification, award assistance, site supervision, commissioning) at lignite fired units of 150 MW or more capacity, which are in successful operation for at least two years, and
- Not less than two (2) projects of FGD installation and/or ESP modernization at lignite fired units of 150 MW or more capacity outside the Consultant's home country,
- Not less than two (2) projects of boiler/combustion system modernization and NOx reduction at lignite fired units of 150 MW or more capacity, which are in successful operation for at least two years and
- Not less than two (2) projects of thermal power plant reconstruction projects tendered and successfully implemented based in FIDIC Silver or Yellow Book.

4. Scope of Work

These document cover the requirement for the following services:

Procurement assistance to ABH to enable cost effective and efficient procurement of the FGD, including but not limited to the following:

- 1) Preparation of a pre-feasibility study for the purpose of identifying the optimum techno-economic solution under consideration of possible boiler optimization
- 2) Preparation of a basic design for the purpose of tendering.
- 3) Preparation of tendering documents based on FIDIC Silver or Yellow book.
- 4) Assistance with tender issuance and during the pre-bid meeting and clarification requests.
- 5) Assistance with evaluation of Tender for the FGD plants
- 6) Assistance with Contract negotiations and Contract award.
- 7) Owner engineering services of Project Implementation until COD (Commercial Operation Date)

4.1 Boiler Rehabilitation (for SOMA B PP)

The Consultant shall perform a plant visit, collect data and investigate the current situation of the existing boiler plants based on provided documentation and based on the fact findings during the site visit with the key expert team and create a plant review and assessment report focused on boiler island performance.

To evaluate the existing plant performance a full load test (> 8h) will be carried out by the client with monitoring of the Consultant's key experts. Based on the results from this full load test(s) and the prior plant assessment, a rehabilitation program including time schedule and cost estimate will be developed. This part of the report will consider the actual status and the estimated remaining life time.

The technical assessment will cover the evaluation of the key components of the boilers regarding their:

- key technical features like, but not exclusively, nominal data, efficiency, availabilities
- asset condition incl. age and residual life span
- failure and shut down history
- maintenance and inspection reports
- plant operation data (historic and planned future)
- fuel specifications (actual and future)
- assessment of already implemented optimization improvement measures
- specific risks

The rehabilitation of the boilers is to be focused on the following targets:

- Immediate measures
- Improvement of the plant reliability (output and efficiency)
- Increase of availability
- Life time extension of the plant
- Compliance with environmental standards

Focusing on the above mentioned targets, the boilers have to be analyzed and evaluated in order to identify the steps and the actions to be recommended and initiated. In order to fulfil the targets, options and alternatives for the rehabilitation steps and/or methods have to be described and ranked.

The Consultant will analysis studies carried out in the past, if any, considering the above mentioned strategy and compare with the current situation. Site and system investigation, including interviews with plant engineers have to be conducted.

Based on existing maintenance documentation and comments from the operational staff, already carried out repairs, replacements, changes and improvements will be considered and included into the analyses.

Site tests are to be performed, as far feasible, in line with materials tests for residual lifetime assessment of boiler heating surfaces and critical piping.

The findings and information will be assessed with determination of parts or systems that are worn and have completed their life time, and/or insufficient working efficiency.

4.2 FGD Pre-Feasibility study for SOMA and KANGAL PPs

The Consultants' services will start with preparation of a feasibility study to bring stack emissions (namely dust, SO₂ and NO_x) in line with Turkish regulations. The study shall include the following scope:

1. Analysis necessary modifications required at the boilers' firing system for achieving the NO_x emission limit of 200 mg/Nm³. The Consultant shall describe necessary technical measures, CAPEX and OPEX estimate, time schedule including unit outage period.
2. Analysis necessary modifications required at the ESPs for achieving the dust emission limit of 20 mg/Nm³ at stack. The Consultant shall describe necessary technical measures, CAPEX and OPEX estimate, time schedule including unit outage period.
3. Technical solutions for application of FGD technology for Units 1 and 2 either as separate or joint FGD to achieve 200 mg/Nm³ at the stack. The Consultant shall describe necessary technical measures, CAPEX and OPEX estimate, time schedule including unit outage period.

The draft Final Study shall be submitted within 3 months after contract signing and Final Study within 1 month after receiving ABH's comments.

4.3 Procurement assistance

4.3.1 For KANGAL PP Unit 1,2 FGD retrofit and Unit 3 Refurbishment

After pre-selection of the best technical solution – considering possible changes of quality and quantity of flue gas after boiler modification towards primary NO_x reduction the Consultant will start procurement assistance by providing a basic design and specification of the FGD installation and ESP upgrade for incorporation into the tender documents for the purpose of tendering. The contract shall be on an EPC-Turnkey basis. Whether or not the necessary NO_x reduction measures will be tendered separately will be decided ABH at the start of this Phase.

The specifications shall cover in minimum:

1. Existing Electrostatic Precipitators upgrade
 - Specification of possible ESP upgrade/modification measures for improved dust collection and fly ash handling
 - The modification may also involve conversion to or additional installation of a bag filter
2. Civil and structural works
3. Flue gas ducts and booster fan (if necessary)
4. FGD absorber
5. Absorbent preparation, storage and handling systems
6. Reagent handling and storage systems
7. Water supply and effluent treatment system (if any)
8. Computerized emission monitoring system (CEMS)
9. Electrical equipment
10. I&C system incl. DCS (to be connected with main control system) and field equipment

The Consultant will advise ABH regarding preferred contractual arrangement and regarding prequalification and establish a list of suitable possible vendors.

The Consultant will prepare tender documents using FIDIC standard contract and will advise ABH on the preferable contract model (i.e. Silver or Yellow Book) for plant supply and installation incorporating the design and specification previously prepared.

Particular attention shall be paid to the infrastructure necessary for equipment supply and facilities and the Contractor's scope of works and services for design, procurement, manufacturing, installation, commissioning, performance testing and training. The battery limits shall be clearly described as well as the interfaces to existing facilities.

The Consultant will assist and advise ABH during the process of issuance of tenders to shortlisted firms, providing clarifications to technical or commercial questions and assist in the process of evaluation of tenders received.

The Consultant will advise and assist ABH during subsequent negotiations with two preferred bidders which may include issues relating to technical and contractual matters and during the award of contract ensuring that the contract includes all the required contractor's obligations.

4.3.2 For SOMA B PP's Boiler Rehabilitation

For boiler rehabilitation specification, the following factors and main systems will be considered, based on results of visual inspection, operational data, maintenance documentation, material tests/RLA and Consultant's experience on similar projects resulting in measures referring to:

1. Fuel handling (preparation and transport)

- Crusher, conveying equipment, lignite quality monitoring, daily bunkers and dosing equipment

2. Boiler

- design and performance data, outages and availability, reports, history of repairs
- Combustion system including mills (considering lignite fineness, air flow rate, burners, leakages, characteristic data, as e.g. furnace outlet temperature, unburned carbon in ash) and specification of primary De NOx measures
- Boiler pressure parts
- Combustion chamber and casing (cleaning devices to reduce slagging and fouling, reducing air leakages; consideration of corrosion and erosion issues for furnace and different heating surfaces)
- Water chemistry
- Including boiler equipment, such as air pre-heaters (steam, if applicable, and flue gas operated, start-up burners, bottom ash extraction, etc.

3. FD- and ID-fans

- Investigation and assessment with respect to additional pressure drop by FGD to be retrofitted

4. Ash handling and conveying system

- If necessary modifications of the ash handling system shall be specified

5. Instrumentation and Control

- DCS modification/renewal incl. boiler safety devices and boiler diagnostic systems shall be specified under consideration of envisaged FGD retrofit

Whether or not the NOx reduction measures will be tendered, will be decided by ABH at the start of this Phase

4.3.3 SOMA B FGD Tender Specification

After pre-selection of the best technical solution – considering possible changes of quality and quantity of flue gas after boiler modification towards primary NOx reduction the Consultant will start procurement assistance by providing a basic design and specification of the FGD installation and ESP upgrade for incorporation into the tender documents for the purpose of tendering. The

contract shall be on EPC-Turnkey basis.

The specifications shall cover in minimum:

1. Existing Electrostatic Precipitators upgrade
 - Specification of possible ESP upgrade/modification measures for improved dust collection and fly ash handling
 - The modification may also involve conversion to or additional installation of a bag filter
2. Civil and structural works
3. Flue gas ducts and booster fan (if necessary)
4. FGD absorber
5. Absorbent preparation, storage and handling systems
6. Reagent handling and storage systems
7. Water supply and effluent treatment system (if any)
8. Computerized emission monitoring system (CEMS)
9. Electrical equipment
10. I&C system incl. DCS (to be connected with main control system) and field equipment

The Consultant will advise ABH regarding preferred contractual arrangement and regarding pre-qualification and establish a list of suitable possible vendors.

The Consultant will prepare tender documents using FIDIC standard contract and will advise ABH on the preferable contract model (i.e. Silver or Yellow Book) for plant supply and installation incorporating the design and specification previously prepared.

Particular attention shall be paid to the infrastructure necessary for equipment supply and facilities and the Contractor's scope of works and services for design, procurement, manufacturing, installation, commissioning, performance testing and training. The battery limits shall be clearly described as well as the interfaces to existing facilities.

The Consultant will assist and advise ABH during the process of issuance of tenders to shortlisted firms, providing clarifications to technical or commercial questions and assist in the process of evaluation of tenders received.

The Consultant will advise and assist ABH during subsequent negotiations with two preferred bidders which may include issues relating to technical and contractual matters and during the award of contract ensuring that the contract includes all the required contractor's obligations.

4.3.4 As a whole, the studies of all kinds needed for Soma B a separate package needs to be done.

Soma B Thermal PP in one package required all kinds of rehabilitation and refurbishment work

to be done for each phase separately for determination by creating and conducting the necessary studies for the creation of the package price.

4.4 Implementation Assistance

4.4.1 Activities during Engineering and Implementation Phase

The Consultant will act as “Supervising Engineer” or “Owner’s Representative” during the Project implementation shall provide assistance to ABH to ensure successful and timely implementation of the contract for FGD & ESP and related services.

The Supervising Engineer should establish a site team to coordinate and monitor the site activities of the Contractor(s) and ensure that design, construction and erection is performed in accordance with contractually agreed standards, the design documents, the applicable codes and standards, accepted industry practices and other requirements. The Supervising Engineer shall act for ABH on all site related matters and provide the necessary liaison and co-ordination between the ABH, XXXX power plant and the Contractor.

The Supervising Engineer’s **home office** services include inter alia the following:

- a. Prepare a project implementation manual which is to be strictly observed by all the project participants incl. preliminary documents for
 - Site establishment
 - Site establishment layout and formation (open air lay down area)
 - Site access procedure
 - Site regulations
- b. Review *inter alia* the Contractor’s quality assurance plan for design, procurement and construction
- c. Once the works contract has been awarded, the Supervising Engineer will liaise with the Contractor to work out a detailed programs for the implementation of the Project, to ensure proper sequence of construction, timely receipt of drawings and designs and relevant documents
- d. Review all Contractor’s designs, drawings and documentation for proper compliance with the requirements of the agreed contract specification, review and approve plant and equipment to ensure compliance with the agreed contract document
- e. Provide engineering and project management procedures
- f. Review budget estimates periodically
- g. Advise on project cash flows

The responsibilities of the **site staff** will be *inter alia* to:

- a. Supervise and monitor the contractor's performance against the baseline program and provide reports regarding potential scheduling conflicts or delays by Contractor
- b. Prepare and endorse the certifications for work accomplishment such as those for inspection, construction, erection and commissioning activity milestones
- c. Review claims and change orders submitted by the Contractor, if any including the preparation of cost estimates to check the Contractor's claims and maintain appropriate records
- d. Review the site erection quality assurance and commissioning procedures submitted by Contractor for construction and Coordinate, supervise and monitor their implementation
- e. Prepare monthly progress reports and other reports, as may be required, and submit the reports to the relevant parties for information, review and action as necessary
- f. Supervise and monitor details of plant construction and installation to ensure conformance with the contract specifications and approve drawings made at site
- g. Compile a project completion report. This report shall be ready not later than 2 months after the taking-over of the retrofitted unit
- h. Mitigate any contract claims and contractual disputes and take action to try to avoid any disputes that may arise.
- i. Inspect major plant items at manufacturers' work shops where appropriate
- j. Certify all invoices
- k. Take care that the quality of Contractor's personnel is maintained up to the contracted level.

4.4.2 General Task and Organization of the Project Management Unit (PMU)

For the execution of the Project, ABH (with the assistance of the Supervising Engineer) will establish a project organization which is capable to handle all different management, engineering and procurement, erection, commissioning as well as coordination and training activities. The PMU will comprise the Supervising Engineer and ABH counterparts working together in a single unit. The PMU will be led by an ABH Project Manager assisted by the Engineer (the Team Leader)

- a. The specific responsibilities of the ABH Thermal Power Plants are set out in Section 4.4 below.
- b. After the PMU is established they will take care that the required administrative procedures

(classification system for documents and correspondence, arrangement and documentation of meetings, approval procedures, etc.) will be implemented.

- c. The “working tool” for the administration of the project shall be the Project Manual.
- d. The Project Manual shall be developed by the Supervising Engineer and issued for comments and approval by the PMUs. Upon acceptance of the document, it shall be distributed to all responsible staff and later to the selected Contractor(s) as administrative guidance.
- e. Updating of the Project Manual shall take place as necessary to reflect project developments or changed circumstances.
- f. The Project Manual shall be distributed and presented in the kick-off meetings with Contractor(s) for the project to all parties involved. After the kick-off meeting, technical conferences shall be organized on a regular basis and in extraordinary cases according to needs that may arise.
- g. All technical and commercial matters related to the project shall be followed up by the Supervising Engineer and shall be checked for quality standards and for financial adequacy. In the case of claims, these shall be formulated and corrective measures shall be organized. The PMU shall inform ABH about all important technical and commercial decisions and corrective measures taken.
- h. For all problems that may arise, back up staff of the Supervising Engineer shall be available for consultation and co-ordination.
 - a. Work organization, interface engineering and progress control shall be supported by the introduction of computerized planning tools. A work break down structure (WBS) and project identification system shall be established at the beginning of the project in order to develop the project schedule.
 - b. During the implementation period all Contractors shall be obliged to submit updated schedules, showing the actual status of their drawing release, manufacturing, delivery and construction progress. This information shall be incorporated in the project master plan to detect discrepancies to the planned project progress in time. If significant discrepancies are detected countermeasures should be initiated by the PMU to avoid a shifting of the project key dates.

4.4.3 Cost Control

Cost control is a key function of the PMU. Targets are set and monitored against the project budget established and manifested by the contract prices for the individual contracts.

According to the payment conditions of the contractors a financial plan for the whole project shall be established. The characteristic "S"-curve for the expenditures shall be plotted which indicates the expected cash flow on a monthly basis during the whole project.

4.4.4 Project Quality Assurance

The aim of project quality assurance is to prevent quality deficits and to adapt quality standards, which are applied to all the work of the PMU as well as to the work of the Contractor(s).

The PMU shall elaborate quality assurance guidelines for all steps of the projects.

The quality requirements and the quality assurance procedures to be applied for the project shall be incorporated in the project manual of the project. During the project execution, the PMU shall supervise the compliance with the quality assurance procedures and give the necessary instructions.

4.4.5 Witness of Factory Inspections and Tests

The Supervising Engineer will develop a factory inspection and testing witness program covering major components. The PMU will implement this program and a report on each inspection and test witness will be submitted to ABH.

For ESP & FGD equipment, a total of 40 factory inspections shall be calculated as part of the lump-sum fixed price assuming inspections in Europe incl. Turkey.

4.5 Project Management by ABH

ABH Power Stations (ABH PS) are the beneficiary of the works project. The specific responsibilities of ABH PS include:

- 4.5.1** Project management together with Supervising Engineer through PMU.
- 4.5.2** Undertaking all measures for the site personnel health, protection, and safety, including the application of standards for health protection and safety, and application of rules that are to be observed within power plant including where necessary, responsibility for removal and disposal of asbestos or other hazardous waste in accordance with accepted standards.
- 4.5.3** Facilitating the smooth operation of the works.
- 4.5.4** Giving all access to the site and to all documents (drawings etc.) for all persons contracted for the implementation of the projects (internal or external).
- 4.5.5** Obtaining and granting all authorizations and permits necessary to start, undertake, commission, and operate the three pollution mitigation projects.

- 4.5.6** Providing any facilities to the Works Contractor(s) as to be described in details in the Tender Dossier for the Works Contracts.
- 4.5.7** Providing assistance to the Works Contractor(s) concerning relevant laws, statutes, and regulations, etc. according to the provisions of the Contracts.
- 4.5.8** Provision of an organization chart of the ABH / KPS personnel who will work as members of the PMU, who will assist the PMU and the Works Contractors and their roles. In particular the chart will show which personnel will be charged with responsibility for commissioning plans. The chart should show the reporting structures to ABH senior management, together with their roles in relation to the project.

In addition to the above defined general responsibilities, the specific responsibilities or areas of competence of PS include:

- 4.5.9** Examination and recommendation for approval of extension to the period of performance (subject to the written approval of ABH)
- 4.5.10** Examination and recommendation for approval of Variations and Modifications (subject to the written approval of the Engineer)
- 4.5.11** Examination and recommendation for suspension (subject to the written approval of ABH)
- 4.5.12** Examination and recommendation for Partial Acceptance (subject to verification and written approval by the Engineer)
- 4.5.13** Examination and recommendation for Final Acceptance (subject to verification and written approval by the Engineer)
- 4.5.14** Examination and recommendation for Breach of Contract (subject to verification and written approval by the Engineer)

5. Timing

The Consultant's Team will be expected to begin work in November 2015 and complete their work by mid of 2019.

6. Project Team

It is expected that the Consultant's Team will comprise the following key professional staff who will provide the required services from home office and/or on site at the ABH PSs

International Experts – All International Experts must be suitably qualified and are preferably able to

demonstrate experience of assisting in the implementation of similar ESP/FGD installations. They shall have a good command of English language. One key expert can cover one or two of the below mentioned positions:

- Project Manager – Qualified engineer with MSc. Equivalent education and with at least 10 years professional experience in the power sector, thereof of 5 years of project management in lignite/coal fired thermal power plant construction with FGD and ESP installations/retrofits, as well as experience in Turkey;
- FGD Engineer – Qualified chemical, environmental or process engineer with MSc. Equivalent education and with at least 10 years professional experience, excellent knowledge in FGD technology in lignite fired thermal power plants and in Best Available Technology for lignite power plants;
- Mechanical Engineer – Qualified mechanical engineer with at least 10 years experience in lignite fired thermal power plant construction/re-construction;
- Electrical Engineer - Qualified electrical engineer with at least 10 years professional experience in the energy sector; experience in lignite fired thermal power plant construction/re-construction would be beneficial;
- I&C Engineer - Qualified I&C engineer with at least 10 years professional experience in the energy sector; experience in lignite fired thermal power plant construction/re-construction would be beneficial;
- Civil and Structural Engineer – Qualified civil and/or structural engineer with at least 10 years professional experience in the energy sector; experience in lignite fired thermal power plant construction/re-construction would be beneficial;
- Contract Expert – Qualified engineer, economist, lawyer with MSc. equivalent or MBA education and with at least 10 years professional experience with at least 5 years demonstrated experience of procurement and contracting in the power sector
- Environment Expert – Suitably qualified in an environmental/ecological field with at least 5 years of experience in pollution control in coal fired thermal power plants;
- Site Manager - Qualified expert with at least 10 years professional experience in the power sector and in supervision of lignite fired thermal power plant construction / re-construction; the expert shall ideally have experience in installation/retrofit of FGD or ESP installations;

Site Staff

The Consultants is encouraged to utilize local staff where relevant expertise as available and required.

However, the Consultant is free to select Site Supervision staff regardless of nationality, provided they are fluent English and/or Turkish speakers.

The Site Supervision experts must be suitably qualified and able to demonstrate experience in providing assistance in the implementation of thermal power plant construction projects:

- Deputy Site Manager – Qualified engineer with at least 5 year experience in the project management in coal fired thermal power plant construction project;
- Mechanical Site Supervisor – Qualified mechanical engineer with at least 5 year experience in coal fired thermal power plant construction;
- Electrical Engineer – Qualified electrical engineer with at least 5 year experience in thermal power plant construction;
- I&C Engineer – Qualified I&C engineer with at least 5 year experience in thermal power plant construction;
- Civil and structural Engineer – Qualified civil and/or structural engineer with at least 5 year experience in power plant construction;
- In addition, the Consultant is expected to provide support staff for the Project.

7. Client's Contributions

The Client will provide furnished, serviced office space for the Consultant's site team and visiting experts, telephones including the cost of local calls, internet access, office stationary and use of a vehicle in local traffic.

The office will be located on the site i.e. at the ABH Thermal Power Plants premises.

8. Reporting

The Consultants will work closely with ABH through regular bi weekly video conferences and during Project Implementation Phase through weekly meetings at site in order that ABH is fully informed of the progress of the Contractor's work.

The Consultants will also provide the following reports as part of the services in hard copies and electronic copies:

Inception Report

This will be provided to ABH in the English and Turkish Languages in electronic form one month after the Consultant's Team commenced work on site. The Inception Report will detail the team members who are present during the first month of the project, their intended activities, will confirm that all Client

facilities have been provided and will highlight any issues that might impact on the future progress of the project.

Monthly Progress Reports

These will be provided to ABH in the English and Turkish Languages in electronic form at the end of each month and will report on the activities undertaken during the previous month. The reports will also report on any problems encountered and what remedial measures the Consultants has employed or intends to employ. The Monthly Reports will also provide details of intended inputs during the following month.

Quarterly Progress Reports

These will be provided at every three months in English and Turkish Languages and will report on the activities undertaken and the project progress achieved during the previous three month period. The reports will also provide details of any barriers to progress with suggestions for remedial actions and will update the ABH on the key milestones of the installation.

Project Completion Report

The Consultant will provide ABH with a report at the stage of formal completion, commissioning and guarantee testing highlighting any perceived failures by the Contractor. The Consultants will also report on the O&M planning documents and the Manuals.

9. The Bid Price Format

Willing power plant units and on the basis of clause 4 of the title of each subsections will separately for the price.