

**TECHNICAL SPECIFICATION****OF****BOILER FEEDWATER PUMPS**

for the

**Matarbari Ultra Super Critical Coal-Fired Power Project**

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**Distribution: (Ka-Chotatsu), (Ka-Chohin), (Ka-EX), (Ka-IX), (Ka-IC), (Ka-FP)****INDEX**

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## 1. DEFINITIONS

The following complements define the meaning of term. The following words and expressions shall be used in all documents under the contact. Capitalized terms used elsewhere in this technical specification and which are not defined below shall have the meaning (if any) ascribed to them in the general conditions of contract or main contract as the case may be, provided always that in the event of conflict, the definition in the general conditions of contract shall prevail over the main contract.

- A. The "**Owner**" means Coal Power Generation Company Bangladesh Limited(CPGCBL)
- B. The "Contractor" means TOSHIBA ENERGY SYSTEMS & SOLUTION CORPORATION or its authorized representative.
- C. The "Vendor" means the firm or company whose offer has been accepted by the Contractor.
- D. The "Bidder" means the firm or company submitting an offer for the work covered by the Specification.
- E. The "Contract" means the written agreement between the Contractor and the Vendor for the execution of and the payment for the work.
- F. The "Specification" means this technical specification and/or documents issued by the Contractor.
- G. The "Letter of Intent" means the letter issued by the Contractor indicating his intention to award the Contract.
- H. The "Purchase Order" means a written order to the Vendor, issued and signed by the Contractor.
- I. The "Unit" means any 1 of 2 coal fired power generating units forming part of the plant and comprising a coal fired boiler and steam turbine generator and ancillary equipment and facilities.
- J. The "Site" means the destination of the equipment and the location of the plant.

Notwithstanding the foregoing and only in Attachment-11, the term "Contractor" shall be construed as meaning "Vendor" as defined above.

## GENERAL

- |                                   |   |
|-----------------------------------|---|
| (1) Project name                  | Matarbari Ultra Super Critical Coal-Fired Power Project                                   |
| (2) Location of the power station | Matarbari area, Maheshkhali Upazila,Cox's Bazar District ,Chittagong Division, Bangladesh |

(3) Name of Owner	Coal Power Generation Company Bangladesh Limited(CPGCPL)
(4) Gross Capacity	600,000kW each unit
(5) Unit Nos.	Two (2) unit
(6) Delivery	<ul style="list-style-type: none"> <li>➤ For Equipment manufactured inside Japan: FOB Yokohama Port</li> <li>➤ For Equipment manufactured outside Japan: CIF Port Chittagong</li> <li>➤ For Equipment manufactured in Bangladesh: DDP at site</li> </ul>
(7) Provisional delivery schedule	Unit1: FOB 22 Oct 2021/ CIF 22 Nov 2021 Unit2: FOB 22 Feb 2022/ CIF 22 Mar 2022
(8) Expected schedule of Taking Over Certificate (TOC) / Commercial Operation Date (COD) (subject to change)	Unit1 : 1 <sup>st</sup> Feb. 2023 Unit2 : 1 <sup>st</sup> Aug 2023
(9) Project description	2 x 600MW class Super Critical Coal Fired Thermal Power Plant Consisting of Steam Turbine/Generator Sets & their Auxiliaries

(10) Unit

For tendering as well as contract purposes, units of measurement in all correspondence technical schedules, drawings and instruction manuals shall be in International System (SI) of Units. Markings on plant, graduations and scales shall also be in SI of Units.  
Refer to Chapter 5.8 in Attachment-11.

(11) Language

The language for all communications related to or required by the Contract is the English language. In addition, operation and maintenance manuals shall be translated into Bangla and provided as paper copies and in electronic format.

(12) Compliance with this specification

In order to comply with the intent and spirit of this specification, an item not specifically referred to, but considered to be necessary to the fulfillment of the requirements of this specification shall be included in the Vendor's quotation and so noted.

(13) Progress and expediting

Within 30 days after the letter of intent or 14 days after the date of the purchase order

(whichever is the earlier), the Vendor shall submit to the Contractor for approval his manufacturing schedule showing in critical path method the various processes of the work such as design, ordering of material, subletting, fabrication, machining, testing, inspection, cleaning, painting, dispatch and all other relevant scopes of work.

The said manufacturing schedule shall be maintained monthly and reported to the Contractor as a monthly progress report.

The monthly progress report shall include the following statements at a minimum;

- The state of progress in the work
- The updated manufacturing schedule
- The updated drawing list
- Any photographs for equipment under manufacturing
- A statement of any delay and reason why such a delay has occurred
- An assessment of any delay on the contractual schedule
- A statement of efforts to minimize or recover the delay

Neither the approval by the Contractor of the said manufacturing schedule nor the issuance by the Vendor of the monthly progress report shall release the Vendor from any obligation under the contract.

The Contractor shall have the right to pay visits to the Vendor's or their sub-vendor's factory for checking the manufacturing progress. The Vendor shall provide full opportunity to the Contractor to the detailed extent necessary to establish that the satisfactory progress relative to the monthly progress report is being achieved.

(14) Change and confirmation

Whenever Vendor desires to change the contents of the specification and/or the drawings, Vendor shall receive the Contractor's written approval in advance. When Vendor finds it difficult or impossible to understand clearly the objectives and requirements of the specification only through the documents and drawings provided by Contractor, or have questions about each item, Vendor shall immediately communicate their doubts with Contractor in order to receive the Contractor's written clarification and consent.

Vendor shall notice any doubt in writing one month prior to any critical date (e.g. the placement of material order, start of manufacturing and/ or inspection). If Contractor fails to return the comments to the Vendor by one month, the Vendor shall re-issue the notice to the Contractor. Otherwise, Vendor shall be responsible for any drawbacks due to neglecting the Contractor's comments or for the rejection of the supplied Equipment or work caused by Vendor's individual judgment.

(15) Alternative proposal

When Bidder desires to improve the design required in this specification due justifiable reasons, such as a better effectiveness, economical advantage and design, Bidder may propose an alternative proposal as option showing the differences from the basic

proposal in terms of technical features, quality, price or lead time for manufacturing.

(16) Conflict

All conflicts among the requirements in this specification, drawings and related codes shall be clarified by Contractor. If Bidder is aware such conflicts in the contract documents, then Bidder shall submit written notice to Contractor immediately.

In the event of conflict among technical specification, technical specification of sub contract (attachment-11) and codes/standards referred to in the specification, the stringent of these shall govern.

(17) Meeting

Contractor has a right to hold a meeting with Vendor when Contractor judges it required. Vendor shall submit the minutes of meeting (including memorandums of telephone) to Contractor within five days after the meeting or the telephone. Contractor shall return the minutes with sign after confirmation.

Vendor shall attend the meeting with Owner at Vendor's expense under the request of Contractor.

(18) Product liability

Vendor shall consider the design, manufacturing, inspection and delivery, in order to protect the accident (e.g. injury, fire, explosion, etc) so that Vendor's Product Liability will not be demanded by Owner.

As a result of Vendor's review for Product Liability, the caution plate shall be installed for necessary parts. Furthermore, Vendor shall describe the item which must be called by user's attention in the instruction manuals concretely.

(19) Design life

The Vendor shall use a period of not less than 30 years of operation or 200,000 full load operating hours as the basis for the design lifetime of all works intended for incorporation in the plant in normal commercial operation.

(20) Environmental requirements - Green Procurement

Global environmental issues concern the foundation of the existence of humankind. As resources are finite, it is necessary to transform the conventional economy and society characterized by mass production, mass consumption and mass disposal. The Contractor is engaged in development of environmentally conscious products with minimal environmental impact at every stage from procurement of raw materials and manufacturing to distribution, consumption and disposal. At the raw materials procurement stage, the Contractor has been promoting environmentally conscious procurement in accordance with the Green Procurement Guidelines. The details are referred to the Attachment-8 and latest requirements shall be referred to the Contractor's Web Site (<http://www.toshiba.co.jp/procure/index.htm>).

If any changes occur of the requirements after the contract effectiveness of this specification, that will constitute an adjustment item of the Contract, the adequate rectification work for the changed requirement will be the Vendor's and their Contractor's

responsibility with cost adjustment, if necessary.

(21) Plant and Equipment Identification

The vendor shall apply a plant identification system showing the name and number of each item of plant and its respective arrangement drawing number and add any additional items necessary to fully identify the plant.

All design submissions shall include a detailed labeling list indicating the label text, size of the lettering and fixing details for the approval of the contractor or its representative.

The identification and numbering of equipment, system, items, etc. of supply, as well as of all documents and drawings shall be in accordance with the latest version of VGB guideline RDS-PP (Reference Designation System for Power Plant-KKS System). There is to be only one description for any one item of plant and this must be used consistently for plant, electrical and instrumentation designations throughout.

The vendor shall supply all labels, nameplates, instruction and warning plates necessary for the identification and safe operation and all inscriptions shall be in the English language and Bangla language. Refer to Chapter 5.2 in Attachment-11.

(22) Material Requirement

Materials complying with codes and standards written in Chapter 5.12 in Attachment-11 shall be used for the design and construction work. Unless the materials meet these codes and standards or their equivalent ASME/ASTM standard, it shall be subjected to Owner's approval. Asbestos are prohibited and grey cast iron will not be accepted without Owner's approval.

(23) Requirement on the Bidder's experiences

The Bidder shall have the commercial experiences of at least six (6) sets with similar type and similar or higher capacity. (The experience list shall be submitted to the Contractor on the bidding stage.) In addition, one (1) end user certificate confirming at least two (2) years successful commercial operation with experience of supplying in a G8 countries in the last fifteen (15) years shall be submitted on the bidding stage.

(24) Sub-Vendor

Bidders to provide their sub vendor list based on their experience along with their offer which shall be subjected to owner/contractor approval.

## **2. SCOPE OF WORK**

(1) General

Vendor shall, in accordance with the provisions of the contract, design, manufacture, test, supply and complete the works in accordance with the specification and the division of works to the extent so applicable to Contractor and provide all labor (including the supervision thereof) outside Bangladesh necessary therefore. Vendor shall carry out its obligations hereunder to the extent that the necessity for providing the same is specified

in or is reasonably inferred from this contract. Vendor shall generally be responsible for the following aspects relating to its works:

- (a) Conducting works of design, specification and selection of materials, equipment, machinery goods, processes and technology and managing and coordinating the works;
  - (b) Designing, manufacturing or procuring materials, equipment, machinery and other goods or things (including all spare parts as listed in the specification in respect of the equipment) including such major design as listed in Attachment-1;
  - (c) Storing, protecting and securing materials, equipment, machinery and other goods or things (including all spare parts as listed in the specification in respect of the equipment) and arranging for the transportation of such materials, equipment, machinery and other goods or things (including such spare parts) to a port of unloading in Bangladesh;
  - (d) Supporting, coordinating and acting as a liaison with and having necessary consent and permit that is reasonably inferred under the contract from Contractor and Owner to ensure that the works shall be completed smoothly.
  - (e) Preparing documents, reporting and submitting such documents and/or information to Contractor and/or Owner, at the reasonable request of the Contractor, within a reasonable period of time as required by the Contractor.
- (2) Design information, operation and maintenance manual  
Vendor shall compile and provide all necessary manuals, drawings and documents listed in Attachment-4.

### **Drawings**

Vendor shall, during the progress of the works, submit to Contractor of the following:

- (a) Design information as required for by the Specification, and in the numbers of copies required therein, within such reasonable times as Contractor may require;
- (b) Drawings of the general arrangement and details of the works within such reasonable times as Contractor may require; and
- (c) Vendor shall submit six (6) hard copies and a set of electronic copy of drawings to Contractor. Additional copies of drawings in accordance with the reasonable request of Contractor and at no charge to Contractor. Electronic copy shall be submitted in primary original data format (e.g. DOC, XLS, DWG) as well as in a printable non-proprietary document format (e.g. PDF). Especially P&IDs shall be submitted as DWG files and PDF-files.
- (d) CAD data submission
  - 1. Submission of the CAD File



When Vendor delivers the drawings to Contractor for the approval or reference (hereinafter "Drawings"), at the same time, Vendor shall submit to Contractor the 2D-CAD File and/or 3D-CAD File (hereinafter collectively the "CAD File"), in electric form, which should include the information equal to the information of the Drawings delivered by Vendor. Vendor also shall be responsible for above obligation when Vendor submits the amendment or updated Drawings to Contractor.

The format of CAD File to be submitted by Vendor in accordance with above clause shall be DWG or DXF format of Auto CAD 2009 or earlier.

The subject drawings for which Vendor submits CAD File to Contractor shall be:

2D-CAD File for Drawings of the outline of the equipment and/or building structures except for the detailed drawings of the parts; and

3D-CAD File for Drawings of the outline of the equipment and/or building structures.

When Vendor submits the CAD File in any form other than forms stipulated in above clause for rational reason or has any other comment concerning the CAD File, Vendor shall immediately notice that to Contractor.

## 2. Treatment of CAD File

2-1. The CAD File submitted by Vendor shall never be deemed as the approval drawings for Contractor even if the submitted CAD File were the data of the approval drawings. Contractor gives approval to the Drawings only.

2-2 Copyrights of the CAD File shall remain in possession of the Vendor. Vendor shall agree herein that Contractor modifies, arranges, converts or combines the CAD File in order to incorporate into the 3D Review Data which would be prepared by Contractor. And also Vendor shall agree herein Toshiba use such 3D Review Data including CAD File at its own discretion, with no compensation, only for the purposes and within the scope following:

To review for studying, checking or confirmation of arrangement, conflicts, interference, coordination or harmonization in Contractor and/or with concerning third companies, and disclose to such companies for such practices; or

To submit to Contractor's customers as the part of official drawing material if necessary

2-3 Vendor shall not claim or exercise its Copyrights of CAD File against Contractor to the extent that Contractor uses CAD File for the purposes and within the scopes provided in above sub clause 2-2.

Contractor may object to any design information so provided:

- (i) On the grounds that such design information does not conform to the requirements of the specification, giving reasons for its objection. Based on such information, Vendor

shall modify the design information and re-submit the modified design information to Contractor but Vendor shall not be entitled to any extension of time or increase in the contract price in respect of any such modification; and

- (ii) On any ground other than that referred to in (i) above, as soon as is reasonably practicable and Contractor shall, within the time period specified by Contractor of Vendor's receipt of such objection, acknowledge its receipt thereof and state in such acknowledgement either that, in its reasonable opinion, any modification required to give effect to such objection will have an adverse cost and/or time implication and therefore it will not proceed with such modification *or* that, in its reasonable opinion, there is no such implication and that it will (1) forthwith make the required modification or (2) notwithstanding the absence of such implication, not make the required modification, in which case, it shall include in such acknowledgement a detailed written explanation for such refusal.

### **Submitted Drawings**

Drawings submitted to Contractor and to which no objection is raised shall not be departed from except with the prior consent of Contractor. If any drawings are changed, Vendor shall promptly provide Contractor with copies of such amended drawings.

### **Design Information required for the Contractor's Approval**

Without prejudice to the provisions in this clause, Vendor shall prepare and furnish to Contractor the design information specified by Contractor and listed in Attachment-4 in this specification for Contractor's approval.

Vendor shall not depart from any approved design information unless Vendor has first submitted to Contractor amended design information and obtained Contractor's approval thereof pursuant to the provision of this clause.

### **Witness of Drawing Inspection**

Contractor and such other person as Contractor may reasonably require be present, including Owner, shall have the right at all reasonable times to inspect all drawings for any part of works at Contractor's premises.

### **Plant Manual and Other Drawings and Information**

Vendor shall provide Contractor, at such time as it may reasonably request, with sufficient information in order for Contractor to prepare the plant manual in accordance with Contractor's requirement.

### **(3) Training of personnel on-site training**

Vendor shall train personnel nominated by Contractor / Owner and supply operation and maintenance manuals and associated training materials to do so, in accordance with, and to the standards set out in, the training schedule set forth in the specification (or subsequently provided by Contractor), to the extent that such personnel shall, assuming exercise of reasonable diligence by them, be able to operate the equipment and be able to have good acknowledgement and understand to the design and the equipment of the

Vendor's work without further assistance from Vendor and/or Contractor. This level of operational competence shall be achieved by no later than the commencement of the provisional acceptance trials. The costs of such manuals and associated training materials are included in the contract price.

The daily trainer fee of onsite classroom training for the Vendor's scope of work shall be estimated separately. However, OJT (on the job training required other than the on site class room training) at site shall be included in the contract price of technical adviser fee estimated separately.

(4) Assistance and support work

Vendor shall provide engineering support for permission work for local regulation.

Vendor shall review Contractor's and other vendor's related drawings.

(5) Environmental Impact

Vendor shall comply with the environmental impact assessment, referred to as local regulations. In addition, Vendor shall cooperate with the Contractor for the purposes of the environmental management and monitoring plans required by the environmental legislation; by among other things, submitting data, conducting interviews and meetings and controlling its Contractor's activities.

(6) Export packing and ocean transportation

Vendor shall be fully responsible for export packing and ocean transportation.

(7) Temporary instrumentation

Vendor shall supply the Contractor with all temporary instrumentation as shall be necessary to prove the warranties, performance and compliance with the specification herein.

### **3. WORK NOT TO BE INCLUDED**

- (1) In case of delivery from Japan (FOB): Ocean transportation and inland transportation in Bangladesh
- (2) In case of delivery from other country (CIF): Inland transportation in Bangladesh  
(The delivery of local procurements in Bangladesh should be DDP at site.)
- (3) Installation, erection and commissioning work at the site
- (4) Civil works including building and foundations.
- (5) External cabling

Note: Please refer attachment 1 for scope excluded from vendor.

### **4. Codes and Standards**

- (1) The equipment and works to be provided by Vendor shall be in accordance with the applicable codes and standards shown in Chapter 4.1 in Attachment-11.
- (2) Where the requirements of specification are at variance with codes and standards, in which case the requirements of this specification shall take precedence.
- (3) Where Vendor has an intention to use of other standards, Vendor shall submit proof that the alternative standards offered are equivalent to or higher quality than listed ones in this

specification beforehand. Vendor shall provide four (4) originals with a searchable softcopy for codes and standards.

## **5. Electric Power and I&C Requirements**

Refer to Attachment-6, General Specification for Electrical Equipment, Attachment-5 for the General Requirements for I&C Equipment, and to Chapter 5.21, 5.22 in Attachment-11.

## **6. Transportation Limits**

The packing/each consignment dimensions shall comply with the following requirements of inland transportation:-

- (1) General transportation limits by Truck/Trailer (in Bangladesh) :  
Length 6 m, Width 2.4 m, Height 2.5 m, Gross weight 17 ton  
Marine transportation during monsoon season (from July to August) is impossible.
- (2) Special permitting transportation limits by BARGE & Jetty (in Bangladesh) for dimension and weight exceeding the values above.

## **7. Permissible Noise Level**

Refer to Chapter 6.1.7 of Attachment-11 for details.

## **8. Vibration**

Refer to Chapter 6.1.8.2 in Attachment-11.

## **9. Seismic Requirement**

Seismic loads equal to a horizontal acceleration of 0.28G at ground level shall be considered for design of equipment / equipment support / equipment foundation.  
Refer to Chapter 3.4 in Attachment-11.

## **10. Site Condition**

Refer to Chapter 3 in Attachment -11.

## **11. PAINTING SPECIFICATIONS**

Refer to Attachment-9, Painting Specification and color coding scheme.

## **12. Inspection and Quality Assurance Requirements**

- (1) Test and inspection item requested by the Contractor is shown in Attachment-3.1. The Vendor shall issue the "site inspection and test plan" and "shop inspection and test plan" that is incorporated test and inspection items listed in Attachment-3.1. The all items stated in the refereed documents are the part of Vendor's scope of work even if the item is not listed in the plan prepared by Vender.
- (2) The shop tests shall be witnessed by the Contractor and/or Owner in accordance with the

approved shop Inspection Test Plan (ITP) document. However during the manufacturing, the Contractor and such other person as the Contractor may reasonably require to be present, including the Owner, shall have the right to inspect and examine, and to witness shop tests of, equipment prior to shipment, as the case may be. Such examination, witnessing or inspection shall not relieve the Vendor of any liabilities under the contract. The Vendor shall propose to the Contractor in a timely manner the dates of the tests to be witnessed. Upon request by the Contractor, arrangements for air-tickets, accommodation and transportation for Owner staff shall be made by the Vendor.

- (3) The Vendor shall give at least 30 days prior notice to the Contractor of the date on, and the place at which, any equipment will be ready for testing. Inspection and test shall be conducted in the manner and procedure duly approved by the Contractor. All such tests shall be carried out at the expense and cost of the Vendor. The travel, lodging and subsistence cost of attendance of the Contractor, Owner's representative and any employees of the Owner shall be borne by the Contractor and Owner.

As and when any equipment shall have passed the tests referred to in this clause, within seven (7) days of the successful completion of such test, the Vendor shall furnish to the Contractor a certificate in writing to that effect together with all test records of such test.

- (4) If any equipment fail to pass the applicable inspection, examination or test in accordance with this contract, the Vendor shall promptly make good the defect and ensure that the equipment comply with requirements of this contract. The tests referred to above shall be repeated at the expense or cost of the Vendor and the travel, lodging, subsistence and other costs of attendance by the Owner's representative or other permitted person, including the Owner and Contractor at the repeated tests shall be borne by the Vendor.

### **13. SPARE PARTS / SPECIAL TOOLS / CONSUMABLES**

#### **(1) INITIAL SPARE PARTS**

The Vendor shall provide initial spare parts expected to be used during the Defect Notification Period (that means, 24 months from the date of Taking Over Certificate (TOC) / Commercial Operation Date (COD)) and maintenance of the Equipment (as listed in detail in the Specification) in order to achieve 90% of operation availability. The Vendor will liaise with Contractor for the purpose of preparing any inventory of such spare parts. The Vendor shall only use such spare parts in the performance of the Vendor Warranty obligations with the prior consent of the Contractor, in which circumstances the Vendor shall restock such spare parts at its own expense without unreasonable delay. Title to the spare parts and to any replacement spare parts and other materials that the Vendor is required to restock when it performs the Vendor Warranty obligations shall be held by the Owner or Contractor.

Initial Spare parts consist of Commissioning & Testing, Mandatory and Recommended/Strategic spare parts.

##### **(1-1) Commissioning & Testing Spare Parts**

Necessary Spare parts until units taking over shall be included in the basic offer by the Vendor.

##### **(1-2) Mandatory Spare Parts**

Mandatory spare parts, which are requested for the normal operation and scheduled

maintenance/ repairs of the plant (That means mainly “wear and tear parts”), shall be estimated individually and shall be not included in the basic offer price by the Vendor.

**(1-3) Recommended/Strategic Spare Parts**

Recommended/Strategic Spare Parts are in the Vendor's opinion and from the Vendor's experience required to minimize the outage of the plant that means, parts which may be required for unscheduled repairs, which will lead to outage of the unit or the plant and which will have a longer delivery period.

The Vendor shall submit the recommended spare part list with delivery term and detailed price, however, the price for the recommended spare parts shall not be included in the contract price.

**(2) CONSUMABLES**

Necessary Consumables until units Expected provisional acceptance schedule shall be included in the basic offer price by the vendor.

The Vendor shall supply all consumable items for operation for the Defect Notification Period (that means 24 months from the date of Taking Over Certificate (TOC) / Commercial Operation Date (COD)).

**(3) SPECIAL TOOLS**

Necessary special tools (including gauges and lifting) for maintenance which cannot be procured in the general market, shall be noted and included in the basic offer by the Vendor. The Vendor shall provide two (2) sets of all special tools and gauges required for the operation and maintenance of the Plant along with One (1) set of special lifting and handling appliances required for the operation and Maintenance of the Plant. The price of each tools set shall be separated.

**(4) Spare Parts and Consumables for extra 3 years operations**

The Vendor shall propose, as option, the Mandatory Spare Parts, the Recommended Spare Parts and Consumables, if any, in order to achieve 90% of operability for 36 months after the completion of the Defect Notification Period of the first unit.

The Vendor shall submit the spare parts and consumables list with delivery term and detailed price.

## **14. TDBFP FOR TRAINING FACILITY**

Apart from main supply requirement of Boiler feed pumps for plant operation, Bidder to supply 1 Nos. TDBFP (Main pump) which will installed in Owner Training facility.

Scope of supply for this pump shall be considered same as mentioned for main supply TDBFPs indicated in Attachment 1. However, items indicated below shall be excluded.

- a. Suction strainer
- b. Booster pump and its drive motor.
- c. All integral instruments (Only provisional slot shall be provided)
- d. Cooling arrangement of Mechanical seal
- e. Instrumentation and valves for Cooling water supply line.

## **15. PRICE SCHEDULE**

Bidder shall submit the price schedule for each equipment separately of their offer and detailing the price breakdown of items, at least as per the following detail list:

- (1) Turbine driven Boiler Feedwater Pump (T-BFP) and its Booster Pump (T-BFP BP) with

- drive Motor, Motor driven Boiler Feedwater Pump (M-BFP) and Booster Pump (M-BFP BP).
- (2) M-BFP and MDBFP BP drive Tandem Motor.
  - (3) The Four (4) categories of Spare Parts, Special Tools and Consumables as per Clause 13 (each item is to be made clear of which category it belongs to).
  - (4) Price schedule for Test and Inspection Plan
  - (5) Price schedule of TDBFP for training facility.
  - (6) Field Technical Advisory services on man/hour rate for the following rate basis with the expected man-days required for Erection, Commissioning and Testing
    - aa) Normal hour rate (weekdays (Monday to Saturday), within 8 hours)
    - bb) Overtime hour rate (weekday (Monday to Saturday), exceeding 8 hours)
    - cc) Holiday hour rate (Sunday and holiday, within 8 hours)
    - dd) Holiday overtime hour rate (Sunday and holiday, exceeding 8 hours)
  - (7) Price schedule for training.
  - (8) Transportation fees.

## 16. ATTACHMENT LIST

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