GENERAL TECHNICAL SPECIFICATIONS

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SECTION 1 – SCOPE OF ENQUIRY

1. This Specification covers the design, manufacture, inspection and testing at vendors work, proper packing and delivery as per Particular Technical Specification (annex III) for MECHANICAL WORKSHOP EQUIPMENTS of :

4X180 MW MANGDECHCHU HEP

2. It is not intent to specify herein all the details of design and manufacture. However the equipment shall conform in all respect to high standards of design engineering and workmanship and shall be capable of performing in continuous commercial operation up to vendors guarantee.

3. The general terms and conditions, instructions to tender and other attachment referred to elsewhere be hereby made part of the tender specification.

4. The tenderer shall be responsible for and governed by all requirements stipulated herein after.

5. **Deviation**, if any should be brought out very clearly on deviation sheet of Specific Technical specifications (Schedule of Technical Deviation- Annexure II). Otherwise it would be presumed that the tender offer is in line with what has been stated / asked for in specifications.

6. The offer should be complete with technical data, catalogue, brochures and drawings, as applicable.

7. The bid shall be in English language and MKS system of unit.

SECTION 2 – GENERAL CONDITIONS

1. SCOPE OF SUPPLY

The scope of supply indicating technical specification & Bill of quantity shall be as per Particular Technical specification (Details of Equipment's annexure - III) along with all essential accessories required for the successful operation of the equipment's.

2. CODES AND STANDARDS

All relevant National and International standards shall be specified and followed.

3. DESIGN CRITERIA

3.a. Mechanical Workshop Equipment shall be used for testing various electrical equipment/ devices during Commissioning, Operation and Maintenance of plant.

3.b. The equipment will be kept in a clean but hot, humid and tropical atmosphere when not in use. Equipment will be placed in dust laden, hot, humid atmosphere during its use.

3.c. For continuous operation at specified rating, temperature rise of various equipment/ components shall be limited to the permissible value stipulated in the relevant standards and this specification.

3.d. The equipment and component thereof shall be capable of withstanding the mechanical forces and thermal stresses of the short circuit current without any damage and deterioration of material.

4. SPECIFIC REQUIREMENTS & RATINGS

4.a. The bidder may note that the equipment ranges, ratings, quantities as detailed herein, are the minimum requirement only. The equipment shall be furnished in strict accordance with the same. All accessories for the equipment not covered here, but are necessary for satisfactory and trouble free operation of the equipment, shall be supplied by the Bidder. Bidder may also quote for optional accessories.

4.b. The instrument shall be designed suitably for satisfactory operation and storage in wide range of temperature variations prevailing at projects sites:

Temperature Range: 36° C to -7° C

Humidity Range: 100% to 20%

4.c. The portable instruments shall be suitable for hand held operation, rugged in construction and suitable for field use.

4.d. Power supply AC = 415/240 ± 10% V AC, 50 ± 5%Hz single phase & DC = 220 ± 10% V

4.e. All mechanical instruments shall be dust and moisture proof.

4.f. Calibration tests shall be done on all instruments, wherever applicable and calibration certificates are to be furnished with instruments.

4.g. Equipments shall be of shock proof.

4.h. Instruments shall meet National or International relevant safety standards.

4.i. Manufacturers name plate:
The following data shall be shown in accordance with the relevant standard
- Manufacturers name and address
- Works serial number and date of manufacture
- Main technical data

4.j. Warning Plates:

Warning plates / caution for the safety of instrument & human beings with Dos and Don'ts to be inscribed on the instruments / Recorders / all electrical equipment in English.

5. TESTING & INSPECTION

5.a. The manufacturer shall carry out all acceptance and routine tests as per relevant standards and specification in line with BHEL specifications and QAP. Charges for all these routine and acceptance tests and calibration for all the equipments shall deem to be included in the bid price.

5.b. Equipment shall be completely assembled, wired, adjusted and tested in factory as per the latest edition of relevant standards.

5.c. The Bidder shall submit the Test Certificates/Reports for all the acceptance and routine tests as per relevant standards, specifications and in line BHEL approval and QAP. Based on approved Test Certificates/ Reports, the BHEL will give the dispatch clearance. Only after clearance vendor can dispatch the material.

5.d. Bidder shall also submit the Test Certificates for all the acceptance and routine tests as per relevant standards, specifications along with the equipment as per TABLE-2, Annexure - I.

6. DOCUMENTATION

6.a. To be submitted with bid:

The Bidder shall submit all documents as per TABLE-1, Annexure - I along with the bid.

The Bidder shall ensure that the all-necessary information required to fully describe the equipment are submitted with the bid.

6.b. To be submitted after award of order:

The Bidder shall submit all documents as per TABLE-2, Annexure - I.

After award of contract for BHEL and/ or end customer approval (MHPA) and also along with equipment.

7. DELIVERY

The delivery of Equipment shall be completed as per NIT (Notice Inviting Tender)

8. While quoting Bidder shall have to furnish unit rate for each item. Purchaser reserves the rights to add/delete quantity of any item during detailed engineering as finally required for the project. Unit rate quoted shall be applicable for price adjustment in such cases.

9. All the equipment shall be procured from reputed manufacturers and make of equipment shall be subjected to the approval of BHEL/ BHEL's Customer.

10. PERFORMANCE GUARANTEE

The bidder shall guarantee that the equipment offered shall meet the requirement as stipulated in this specification and as confirmed by them in Particular Technical Specifications (Schedule of Guaranteed Technical Particular-Duly filled in Annexure – IV If Any). In case the performance of equipment is not as per performance guarantee, the bidder will have to replace the equipment at site free of cost.

11. DEVIATION

The Bidder shall indicate the deviation, if any, in Specific Technical Specifications (Schedule of Technical Deviation) Annexure II, along with the justification for the deviation. Deviation mentioned anywhere else will not be entertained.

12. PACKAGE & CONSIGNMENT DATA

The Bidder shall pack all the equipment, their accessories and spares in road -worthy package. Bidder to indicate the number of packages of consignment together with the size (L x W x H) and weight for transporting the equipment along with their bid. Vendor has to submit packing list and other documents as per TABLE 2, Annexure - I along with items supplied.

Each package shall be legibly marked with the following information:

Applicable for MANGDECHCHU HEP:

MECHANICAL WORKSHOP EQUIPEMENTS
4X180 MW MANGDECHCHU HEP

BHEL Purchase Order No:
Job No: 2912-12
Supplier's Name:
Manufacturer's Name:
Name of the Equipment:
Quantity:
Weight:

Annexure -I

Table 1

LIST OF DOCUMENTS TO BE SUBMITTED ALONG WITH BID

Sl.No	Documents	No of copies
1	Annexure – III Details of Equipment (Duly Filled)	2 copies
2	Product Catalogue for all equipment/ instruments referred in Specific Technical specifications (Details of Equipment's)	2 copies
3	Schedule of Deviation against relevant Particular Technical Specification - Annexure -II Schedule of Technical Deviation	2 copies
4	Acceptance of model QAP - Sign and stamp of supplier (wherever applicable attached in relevant Particular Technical Specifications)	2 copies

NOTE: All above documents to be submitted strictly, failing which the offer may likely be rejected.

Table 2

LIST OF DOCUMENTS TO BE SUBMITTED AFTER AWARD OF ORDER FOR BHEL / END CUSTOMER APPROVAL and ALONG WITH EQUIPMENT

Sl.No	Documents	No of copies
1	Product catalog with complete specifications, model nos. physical dimensions etc.	3 copies (2 for MHPA + 1 for BHEL)
2	QAP approval in line with Model QAP / acceptance of model QAP - sign and stamp of supplier	3 copies (2 for MHPA + 1 for BHEL)
3	Test Certificates of all acceptance and routine tests (as per equipment & approved QAP – as applicable).	3 copies (2 for MHPA + 1 for BHEL)
4	Calibration certificates as applicable.	3 copies (2 for MHPA + 1 for BHEL)
5	Guarantee certificate as per NIT	2 copies (1 for MHPA + 1 for BHEL)
6	Instruction manual of individual equipment Instruction manual of individual equipment shall clearly indicate in English the installation and connection method. Operating. Maintenance and Calibration methods shall be provided in the manual.	7 copies (6 for MHPA + 1 for BHEL)
7	OGA diagram, Line diagram, Foundation diagram, any relevant document/diagram, necessary for Erection and commissioning at site	7 copies (6 for MHPA + 1 for BHEL)

Annexure – II

Schedule of Technical Deviation

Sr No.	Item	Deviation	Justification for Deviation

Use extra sheet if required.

Note: Bidder has to indicate clearly the deviations if any w.r.t. specification. Bidder has to indicate all the deviations on this Annexure – II only, deviations mentioned elsewhere in Bidder's offer will not be considered.

Spare Parts III-A

Following spare items shall supplied along with items (as applicable)

Sl No	Description	Quantity
1	Indicating Lamp (each used type)	2 Nos
2	Fuses (each used type)	5 Nos
3	Plugs and Sockets (each used type	4 Nos
4	Belts (each used type)	5Nos