



TECHNICAL SPECIFICATION (PART-I)
FOR
MECHANICAL WORKSHOP ITEMS

(2 X 30 MW) TURAL HEP

SPECIFICATION NO.
EM-NEEPCO-TUR-MWS-GTS-00

Rev. No 00

Rev Date 29/07/2015

GENERAL TECHNICAL SPECIFICATIONS

Vimlanshu Prawal Horo
Sr. Engineer

PREPARED BY

Mandvi Gupta
Manager


CHECKED & APPROVED BY

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 :

(2 X 30 MW) TURIAL 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.

 BHEL-EMRP MUMBAI	TECHNICAL SPECIFICATION (PART-I) FOR MECHANICAL WORKSHOP ITEMS (2 X 30 MW) TURAL HEP	SPECIFICATION NO. EM-NEEPCO-TUR-MWS-GTS-00	
		Rev. No 00 Rev Date 29/07/2015	

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:
- 4.c. The portable instruments shall be suitable for hand held operation, rugged in construction and suitable for field use.
- 4.d. Power supply for AC operation Instrument shall be 240 V AC, 50 Hz single phase.
- 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



TECHNICAL SPECIFICATION (PART-I)
FOR
MECHANICAL WORKSHOP ITEMS

(2 X 30 MW) TURIAL HEP

SPECIFICATION NO.
EM-NEEPCO-TUR-MWS-GTS-00

Rev. No	00
Rev Date	29/07/2015

- 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. **ERECTION & COMMISSIONING**

Erection & Commissioning of supplied item is in vendor's scope, at site.

6. **TESTING & INSPECTION**

- 6.a. The manufacturer shall carry out all acceptance and routine tests as per relevant standards and specification in line with BHEL specifications. Charges for all these routine and acceptance tests and calibration for all the equipments shall deem to be included in the bid price.
- 6.b. Equipment shall be completely assembled, wired, adjusted and tested in factory as per the latest edition of relevant standards.
- 6.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. Based on approved Test Certificates/ Reports, the BHEL will give the dispatch clearance. Only after clearance vendor can dispatch the material.
- 6.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.

7. **DOCUMENTATION**

7.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.

7.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 (NEEPCO) and also along with equipment.

8. **DELIVERY**

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



TECHNICAL SPECIFICATION (PART-I)
FOR
MECHANICAL WORKSHOP ITEMS

(2 X 30 MW) TURIAL HEP

SPECIFICATION NO.
EM-NEEPCO-TUR-MWS-GTS-00

Rev. No	00
Rev Date	29/07/2015

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

11. 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.

12. 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.

13. 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 Turial HEP:

MECHANICAL WORKSHOP EQUIPEMENTS for (2 X 30 MW) TURIAL – HEP

BHEL Purchase Order No:

Job No:

3887-12

Supplier's Name:

Manufacturer's Name:

Name of the Equipment:

Quantity:

Weight:

TECHNICAL SPECIFICATION (PART-I)
FOR
MECHANICAL WORKSHOP ITEMS

(2 X 30 MW) TURAL HEP

SPECIFICATION NO.
EM-NEEPCO-TUR-MWS-GTS-00

Rev. No	00
Rev Date	29/07/2015

Annexure

Table 1

LIST OF DOCUMENTS TO BE SUBMITTED ALONG WITH BID

Sl.No	Documents	No of copies
1	Annexure – III Details of Equipments (Duly Filled)	2 copies
2	Product Catalogue for all equipments/ instruments referred in Specific Technical specifications (Details of Equipment's)	2 copies,
3	Schedule of Deviation referred in Specific Technical Specifications - Annexure -I I Schedule of Technical Deviation	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 NEEPCO + 1 for BHEL)
2	Test Certificates of all acceptance and routine tests (as applicable for equipment).	3 copies (2 for NEEPCO + 1 for BHEL)
3	Calibration certificates as applicable.	3 copies (2 for NEEPCO + 1 for BHEL)
4	Guarantee certificate as per NIT	2 copies (1 for NEEPCO + 1 for BHEL)
5	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 NEEPCO + 1 for BHEL)
6	OGA diagram, Line diagram, Foundation diagram, any relevant document/diagram, necessary for Erection and commissioning at site	7 copies (6 for NEEPCO + 1 for BHEL)

57



TECHNICAL SPECIFICATION (PART-I)
FOR
MECHANICAL WORKSHOP ITEMS

(2 X 30 MW) TURBINE HEP

SPECIFICATION NO.
EM-NEEPCO-TUR-MWS-GTS-00


Rev. No	00
Rev Date	29/07/2015

Schedule of Technical Deviation

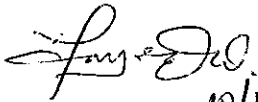

Sr No.	Item	Deviation	Justification for Deviation

Use extra sheet if required.

Note: Buyer has to clearly state the deviations if any w.r.t. specification given in the annexure - If only, deviations mentioned in the annexure are considered for order and no other deviations are considered.

 BHEL-EMRP MUMBAI	TECHNICAL SPECIFICATION PART-II FOR MECHANICAL WORKSHOP ITEMS (2 X 30 MW) TURIAL HEP	SPECIFICATION NO. EM-NEEPCO-TUR-MWS-PTS-08	
		Rev. No	00
		Rev Date	10/10/2015

PARTICULAR TECHNICAL SPECIFICATIONS

 Vimlanshu Prawal Hora Sr. Engineer	 Mandvi Gupta Manager
PREPARED BY	CHECKED & APPROVED BY

	TECHNICAL SPECIFICATION PART-II FOR MECHANICAL WORKSHOP ITEMS (2 X 30 MW) TURAL HEP	SPECIFICATION NO. EM-NEEPCO-TUR-MWS-PTS-08	
		Rev. No	00
		Rev Date	10/10/2015

Annexure III

Details of Equipments

Bidder must quote the material code number, material description & quantity offered in their quotation /bid, as specified below. Bidder's alternate description can also be given in separate column.

Completeness of Equipment

Each of the equipment listed shall be complete with applicable accessories like power supply main leads, screened guard leads, screened line test leads, earth leads, connectors and clips, leather carrying case, fastners/washers/nuts/anchoring bolts/etc required for erection and commissioning and any other accessories required for completing the equipment.

Sl. No	Item specification	Details of Equipment offered by the Bidder Make	Model & Catalogue No
1	<p>Welding table (1 No)</p> <p>The welding table complete with plate, supports, drawers, vice and all necessary accessories for welding operations.</p> <p>Table Size 1000 x 1200mm (Approx.)</p>	<p>Pushpak, Clean Air, Multi Link Marketing International, Arvind Furnitures, D K P Petro, City storage systems</p>	
2	<p>Work bench (1 No)</p> <p>The work benches complete with plate, supports, chest of drawers for tools, vice etc.</p> <p>Height of work bench = 850mm Size of Work bench with vice 800 x 2,000mm (Approx.)</p>	<p>Pushpak, Clean Air, Multi Link Marketing International, Arvind Furnitures, D K P Petro, City storage systems</p>	
3	<p>Machine tool cabinet (2 nos)</p> <p>"The Tool Cabinet elements of steel construction with various types of drawers for the storage of all kinds of tools. Height 1000 mm X Width 750 mm X Length 500 mm"</p>	<p>Arvind Furnitures, Mumbai, Mechelec Steel Products, Multilink marketing, Pushpak Products India Pvt. Ltd, Banglore., city storage, DK Petro, Nagman</p>	



BHEL-EMRP
MUMBAI

TECHNICAL SPECIFICATION PART-II
FOR
MECHANICAL WORKSHOP ITEMS

(2 X 30 MW) TURAL HEP

SPECIFICATION NO.
EM-NEEPCO-TUR-MWS-PTS-08

Rev. No

00

Rev Date

10/10/2015

4	<p>Universal racks (2 Nos)</p> <p>The universal racks made of steel profiles with all necessary metal or wooden trays and designed as a series of modular parts which can be used to build free-standing racks of multibay racking. Height = 2.30m (approx.) X width = 0.8m</p> <p>For the Mechanical Workshop - Total length = 2.0m (approx.) (multiple sections)</p> <p>For the Welding Section - Total length = 2.0m (approx.) (multiple sections)</p>	<p>Arvind Furnitures, Mumbai, Mechelec Steel Products, Multilink marketing, Pushpak Products India Pvt. Ltd, Banglore., city storage, DK Petro, Nagman</p>
5	<p>Stools (2 nos)</p> <p>Stool with 3-legged steel base, with plastic covered circular seat and adjustable height</p>	<p>Infiniti India, Neelkamal, Arvind Furnitures</p>
6	<p>Folding ladder (1 No.)</p> <p>Aluminium, folding ladder with minimum height 2,500mm in folded position.</p>	<p>Cipla plast</p>
7	<p>Portable Rechargeable lighting appliances (2 nos)</p> <p>Output – 160 lumen, along with Ni-cd battery & built in charger, drop out switch, cable with plug for connection to main supply, carry handle.</p>	<p>Philips, Eveready</p>
8	<p>Tool Trolley (1 no)</p> <p>Size 750mm X 750mm X 500mm</p>	<p>Arvind Furnitures, Tristar</p>