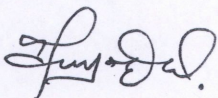
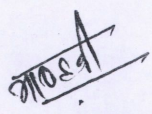

	TECHNICAL SPECIFICATION FOR MECHANICAL WORKSHOP ITEMS (4 X 200 MW) PARBATI-II – HEP	SPECIFICATION NO. EM-NHPC-PBTII-MWS-41	
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SECTION 1 – SCOPE OF ENQUIRY

1. This Specification covers the design, manufacture, inspection and testing at vendors work, proper packing and delivery as per NIT for MECHANICAL WORKSHOP EQUIPMENTS of :
4 X 200 MW PARBATI-II 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 Statement Technical (ANNEXURE-III) of the specification. Otherwise it would be presumed that the tender offer is in line with what has been stated / asked for in this specification.
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.

 Vimlanshu Prawal Horo Engineer	 Mandvi Gupta Manager
PREPARED BY	CHECKED & APPROVED BY

	TECHNICAL SPECIFICATION FOR MECHANICAL WORKSHOP ITEMS	SPECIFICATION NO. EM-NHPC-PBTII-MWS-41	
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SECTION 2 – General Conditions

1. SCOPE OF SUPPLY

The scope of supply indicating technical specification & Bill of quantity shall be as per Annexure –I (Details of Equipment's) 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:
PARBATI-II: (-) 4°C to 46°C.
- 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
 - Manufacturers name and address
 - Works serial number and date of manufacture

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- 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 . Charges for all these routine and acceptance tests 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. 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 - II.

6. Documentation

6.a To be submitted with bid:

The Bidder shall submit all documents as per TABLE-1, Annexure - II 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 - II.


After award of contract for BHEL and/ or end customer approval (NHPC) 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.

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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 annexure – I, (Duly filled in). 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 Deviation Statement Technical as per Annexure – III, along with the justification for the deviation. Deviation mentioned anywhere else shall not be entertained.

12. Package & Consignment Data

The Bidder shall pack suitably all the equipment, their accessories and spares in road -worthy package to avoid in-transit damage. 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.

Each package shall be legibly marked with the following information:

Applicable for PARBATI-II Project:

MECHANICAL WORKSHOP EQUIPEMENTS for 4 X 200 MW

PARBATI-II HEP

BHEL Purchase Order No:

Job No: 3864-12


Supplier's Name:

Manufacturer's Name:

Name of the Equipment:

Quantity:

Weight:

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Annexure – I


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, fasteners/washers/nuts/anchoring bolts/etc required for erection and commissioning and any other accessories required for completing the equipment

SI No	Item specification	Qty	Details of Equipment/item offered by the Bidder	
			Make & Model No	Catalogue No
1	Protective eye goggles protective eye goggles required during grinding	24 nos.	Any Reputed/Standard make**	
2	Socket Head Wrenches Size 2-10 mm	4 Sets	Any Reputed/Standard make**	
3	Screw drivers for recessed cross head Size 75-150 mm: 75 mm (1 mm tip), 100 mm (2 mm tip), 150 mm (3 mm tip)	12 Sets	Any Reputed/Standard make**	
4	Flat Nose Pliers Size 125 mm	4 nos.	Any Reputed/Standard make**	
5	Beak or circular plier PVC insulated Size 275 mm	4 nos.	Any Reputed/Standard make**	
6	Split Pin Pliers to secure a nut or bolt Size 8 inch	4 nos.	Any Reputed/Standard make**	
7	Cable Striping knife with plastic handle	12 nos.	Any Reputed/Standard make**	
8	Fitting knives	5 nos.	Any Reputed/Standard make**	
9	Cape chisel Size 150 mm	12 nos.	Any Reputed/Standard make**	
10	Solid punches Size 2 mm	6 nos.	Any Reputed/Standard make**	
11	Solid punches Size 4 mm	6 nos.	Any Reputed/Standard make**	
12	Rubber hammers Weight 300 gm	4 nos.	Any Reputed/Standard make**	

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13	Flat files Size 200 mm Rough/ 2nd / Smooth cut	6 sets	Any Reputed/Standard make**
14	Flat files Size 300 mm Rough/ 2nd / Smooth cut	6 sets	Any Reputed/Standard make**
15	Triangular Files Size 200 mm Rough/ 2nd / Smooth cut	4 sets	Any Reputed/Standard make**
16	Half round Files Size 200 mm Rough/ 2nd / Smooth cut	4 Sets	Any Reputed/Standard make**
17	Round Files Size 200 mm Rough/ 2nd / Smooth cut	4 Sets	Any Reputed/Standard make**
18	Wood files half round Size 250 mm Rough/ 2nd / Smooth cut	4 Nos	Any Reputed/Standard make**
19	Warding files Size 3 , 4, 6, 8, 10 inch Rough / Smooth cut	10 sets	Any Reputed/Standard make**
20	Solid punches Size 8 mm	6 nos	Any Reputed/Standard make**
21	Square scrapers Size upto 200 mm	2 nos	Any Reputed/Standard make**
22	Triangular scrapers Size upto 200 mm	2 nos	Any Reputed/Standard make**
23	Plastic File handles Size 100 mm	100 nos.	Any Reputed/Standard make**
24	Compass saw Size 12 inch	2 Nos.	Any Reputed/Standard make**
25	Wood saw Size 550 mm	1 No.	Any Reputed/Standard make**
26	Hand Held Hydraulic Concrete Crusher Gypsum crushers	2 Nos.	Any Reputed/Standard make**
27	Smoother Wood working planner (45 mm cutter width)	2 nos.	Any Reputed/Standard make**
28	Smoother Wood working planner (50 mm cutter width)	2 nos.	Any Reputed/Standard make**
29	Wire brush with long handle Size 12 inch	12 nos.	Any Reputed/Standard make**
30	File brush Size 6 inch	12 nos.	Any Reputed/Standard make**
31	Hand Vice	4 nos.	Any Reputed/Standard make**

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32	Scribers Steel body scribers for metal working to mark lines on work pieces Size 6" or higher	4 nos.	Any Reputed/Standard make**
33	Compass Keychain Magnet Compass inside type	2 pairs	Any Reputed/Standard make**
34	Angles or Flat steel square Size 200 X 130 mm	2 nos.	Any Reputed/Standard make**
35	Angle of elevation Combination square Size 300 mm	2 nos.	Any Reputed/Standard make**
36	Fold rulers Size 2 m	5 nos.	Any Reputed/Standard make**
37	Steel measuring tape Size 50 m brass mounted and brass winding handle, in leather case , with 13 mm stainless steel tape, graduation on one side	4 nos.	Any Reputed/Standard make**
38	Glass fiber measuring tapes Size 50 m brass mounting and brass winding handle, with 13 mm tape graduation on one side	4 nos	Any Reputed/Standard make**
39	Steel measuring tape Size 3 m with 13 mm stainless steel tape, graduation on one side	12 nos.	Any Reputed/Standard make**
40	Metal levers Size 300 mm	3 nos.	Any Reputed/Standard make**
41	Metal tool boxes for electrician with standard tools 3 nos. drawer	2 nos.	Any Reputed/Standard make**
42	Leather tool boxes for electrician with standard tools	4 nos.	Any Reputed/Standard make**
43	Metal cutting saw Size 8 inch with 12 sets of blades	4 nos	Any Reputed/Standard make**
44	Conical drills with box	6 nos.	Any Reputed/Standard make**
45	Tap drills with box Size M3 to M8	5 nos.	Any Reputed/Standard make**
46	Single Tap drills Size M3-M10	3 sets	Any Reputed/Standard make**
47	Screw dies Round Die Set Size M3 - M10	2 nos.	Any Reputed/Standard make**
48	Tap Wrench Size ½ inch suitable for tap size M3 to M 10	4 Sets	Any Reputed/Standard make**

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49	Round die Wrench Size 2 inch suitable to hold round die size M3 to M10	2 Nos.	Any Reputed/Standard make**
50	Handle for hammer Weight 200 gms	12 nos.	Any Reputed/Standard make**
51	Handle for hammer Weight 300 gms	12 nos.	Any Reputed/Standard make**
52	Handle for hammer Weight 500 gms	12 nos.	Any Reputed/Standard make**
53	Handle for rubber hammer Weight 300 gms	6 nos.	Any Reputed/Standard make**
54	Handle for club hammer Weight 1000gms	4 Nos.	Any Reputed/Standard make**
55	Squirt oilers - oil can Qty 1/2 pint	2 nos.	Any Reputed/Standard make**
56	Plate cutters size 1 inch	2 nos.	Any Reputed/Standard make**
57	Wire Brush Size 1 inch	5 nos	Any Reputed/Standard make**
58	Wire Brush Size 1/2 inch	5 Nos.	Any Reputed/Standard make**
59	Die – cutting device Size upto 16 mm	1 no.	Any Reputed/Standard make**
60	Cable cutters Size upto 240 mm2	2 nos.	Any Reputed/Standard make**
61	Cable shoe – pressing pliers + kit (hydraulic) Crimping tool hydraulic	1 no.	Any Reputed/Standard make**
62	Tool device for pressing pliers Crimping tool	1 no.	Any Reputed/Standard make**
63	Portable band saw Portable Variable speed band saw to cut various workpieces	3 nos.	Any Reputed/Standard make**

** Vendor to specifically provide offered make, model & relevant catalogue.

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Annexure -ii

Table 1

LIST OF DOCUMENTS TO BE SUBMITTED ALONG WITH BID

Sl.No	Documents	No of copies
1	Annexure – I Details of Equipments (Duly Filled)	2 copies
2	Product Catalogue for all Equipments/ instruments referred in (Annexure – I)	2 copies
3	Deviation Statement (Technical) (Annexure – III)	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 NHPC + 1 for BHEL)
2	Test Certificates of all acceptance and routine tests as applicable.	3 copies (2 for NHPC + 1 for BHEL)
3	Calibration certificates as applicable.	3 copies (2 for NHPC + 1 for BHEL)
4	Guarantee certificate as per NIT	2 copies (1 for NHPC + 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 NHPC + 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 NHPC + 1 for BHEL)

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Annexure – III

Deviation Statement (Technical)

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 – III only, deviations mentioned elsewhere in Bidder's offer will not be considered.