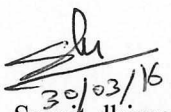


	<b>PURCHASE SPECIFICATION FOR ELECTRICAL WORKSHOP EQUIPMENTS</b>	<b>SPECIFICATION NO. EM-KOL-1-32</b>	
		Rev. No	00
	<b>4 X 200 MW KOLDAM HEP, NTPC</b>	Rev. Date	30.03.16

### SECTION 1 – SCOPE OF ENQUIRY

1. This Specification covers the design, manufacture, inspection and testing at vendors work, if required, proper packing and delivery to site of ELECTRICAL WORKSHOP EQUIPMENT as mentioned in different SECTION of this specification for 4 X 200 MW KOLDAM 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 tenderers 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 from technical specifications is not acceptable.**
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.

 30/03/16 Sumit dhiman Engineer BOP	 30/03/16 Mandvi Gupta Manager,BOP
PREPARED BY	CHECKED & APPROVED BY

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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) along with all essential accessories required for the successful operation of the equipment.

### 2. CODES AND STANDARDS

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


### 3. DESIGN CRITERIA

- 3.a. Electrical 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, if necessary for satisfactory and trouble free operation of the equipment, shall be quoted by the Bidder.
- 4.b. Analog instruments shall be provided with knife-edge pointer and anti-parallax mirror.
- 4.c. All electrical instruments shall be dust and moisture proof.
- 4.d. Calibration tests shall be done on all instruments, wherever applicable and calibration certificates are to be furnished with instruments.
- 4.e. Equipment shall be of shock proof.
- 4.f. Instruments shall meet National or International relevant safety standards.
- 4.g. 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
  - Main technical data

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**4.h. Warning Plates:**

Warning plates / caution plates for the safety of instrument & human beings with Do's 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, BHEL specifications & Customer Approved QAP. Charges for all these routine and acceptance tests for all the equipment shall be deemed 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 Vendor shall submit the Test Certificates for all the acceptance and routine tests as per Approved QAP/relevant standards and specifications along with the equipment as per Annexure – II, TABLE-2.

**6. Documentation**

**6.a. To be submitted with bid:**

The Bidder shall submit all documents as per Annexure – II, TABLE-1 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 Vendor shall submit all documents as per Annexure – II, TABLE-2.


After award of contract for BHEL and/ or customer approval 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. Commissioning at site, Demonstration & Handing over to BHEL / BHEL's Customer**

The bidder shall be responsible for demonstration of the supplied equipment at site to BHEL / BHEL's customer and ensure handing over the same to the satisfaction of BHEL / BHEL's customer.

**11. Performance Guarantee**

The vendor 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.

**12. Package & Consignment Data**

The Vendor shall pack all the equipment, their accessories and spares in proper packaging to avoid damage during transit. Vendor 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:

ELECTRICAL WORKSHOP EQUIPEMENT for 4 X 200 MW KOLDAM HEP

BHEL Purchase Order No:

Job No: 5912-12

Supplier's Name:


Manufacturer's Name:

Name of the Equipment:

Quantity:

Weight:

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**Annexure – I**

**Details of Equipment**


**Bidder must quote the material code, 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 any other accessories required for completing the equipment.

Sl.No	Item specification	Qty	Details of Equipment offered by the Bidder
<b>1</b>	<b>GROUP OIL FILTRATION FLOW 35Ltr/min i.e. ELECTROSTATIC OIL PURIFICATION PLANT.</b>	<b>1 No</b>	
(i)	Make/Model		
(ii)	Plant shall be used for purification of insulation oils (i.e. turbine oil, hydraulic oils) used in machines of hydro power plant & to purify the bearing oil of generator and turbine.		
(iii)	Oil flow rate: 35Ltrs/minute. ✓		
(iii)	Moisture removal: Less than or equal to 50ppm. ✓		
(iv)	Filtration up to 5 micron. ✓		
(v)	All other specifications as per Manufacturer's standards		

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**Annexure -II**

**Table 1**

**LIST OF DOCUMENTS TO BE SUBMITTED ALONG WITH BID**

Sl.No.	Documents	Bidder's Response
<b>1</b>	Annexure – I Details of Equipments (Dully Filled)	
<b>2</b>	Product Catalogue for all equipments / instruments referred in Annexure - I	

**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 / CUSTOMER APPROVAL / ALONG WITH EQUIPMENT**

Sl.No.	Documents	Bidder's Response
<b>1</b>	Product catalog with complete specifications, model nos. physical dimensions etc.	
<b>2</b>	Quality Assurance plan for approval from Customer.	
<b>3</b>	Test Certificates of all acceptance and routine tests as applicable.	
<b>4</b>	Calibration certificates as applicable.	
<b>5</b>	Guarantee certificate as per NIT.	
<b>6</b>	Instruction manual of individual equipment which shall clearly indicate in English the Installation & Connection method, Operating & Maintenance and Calibration methods etc.	

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