



Corrigendum No: 1

Date: 19.08.2022

Tender Enquiry No- TPSODL/OT/2022-23/072

**Work Description –
Supply of Electrical Testing Equipment at TPSODL**

Clause 1.3: Dates in Calendar of events revised as below

		Existing Calendar	Revised Calendar	Revised Calendar (01)
(a)	Last date and time of Payment of Tender Fee	22-07-2022 18:00 Hrs	22-07-2022 18:00 Hrs	22-07-2022 18:00 Hrs
(b)	Last Date of receipt of pre-bid queries if any.	25-07-2022 18:00 Hrs	25-07-2022 18:00 Hrs	25-07-2022 18:00 Hrs
(c)	Date and Time of Pre-Bid Meeting	NA	NA	NA
(d)	Last Date of Posting Consolidated replies to all the pre-bid queries as received	28-07-2022, 18:00 Hrs	12-08-2022, 18:00 Hrs	12-08-2022, 18:00 Hrs
(e)	Last date and time of receipt of Bids	01-08-2022, 18:00 Hrs	18-08-2022, 18:00 Hrs	25-08-2022, 18:00 Hrs
(f)	Date & Time of opening technical bids & EMD (Envelope-1 & 2)	01-08-2022, 18:00 Hrs onwards	18-08-2022, 18:00 Hrs onwards	25-08-2022, 18:00 Hrs onwards

Annexure I-


Sr. No.	Existing Nomenclature	Revised Nomenclature
14	Ohm Meter Low Resistance Digital	Transformer Winding Resistance Meter 10A

Technical Specification of 10A Transformer winding resistance meter Attached.

Please Consider 10A for Transformer Winding Resistance Meter. 25A not required for TPSODL PTR

Rest of the tender document remains unchanged.

**Regards,
Soni Panda
Procurement Dept.
Mob +91 9178149826
TP SOUTHERN ODISHA DISTRIBUTION LIMITED
(A Tata Power and Odisha Government Joint Venture)
MSTC Training Centre, Ambagada | Berhampur | Ganjam | Odisha - 760 006**

	TP SOUTHERN ODISHA DISTRIBUTION LIMITED, BERHAMPUR		
	TECHNICAL SPECIFICATION		
Doc. Title	Specifications for Digital Low Resistance Ohm Meter		
Doc. No	ENG-GEN	Eff. Date: 01/03/2021	
Rev. No	00	Page 1 of 8	
Prepared by:	Reviewed by:	Approved By:	Issued By:

1. SCOPE:

This specification covers technical requirements of design, manufacturing, Inspection, testing, Supply, transportation and unloading of Digital Low Resistance Ohm Meter.

2. APPLICABLE STANDARDS:

Digital Low Resistance Ohm Meter and all the accessories to be supplied shall conform to relevant Indian Standard of latest edition. The equipment covered by this specification shall unless otherwise stated, be designed, manufactured and tested in accordance with the latest editions of the following Indian, International Standards and shall conform to the regulations of the local Statutory authorities:


The equipment and materials covered by this specification shall conform to the latest applicable provision of Indian Standard or other authoritative standards like IEC standards.

3. CLIMATIC CONDITIONS OF THE INSTALLATION:

The material shall be suitable for following climatic conditions,

- | | |
|---|--------|
| 1. Maximum altitude above sea level | 1,000m |
| 2. Maximum ambient air temperature | 50°C |
| 3. Maximum daily average ambient air temperature | 35°C |
| 4. Minimum ambient air temperature | 0°C |
| 5. Maximum relative humidity | 95% |
| 6. Average number of thunderstorm days per annum (isokeraunic level) | 70 |
| 7. Average number of rainy days per annum | 120 |
| 8. Average annual rainfall | 150cm |
| 9. Earthquakes of an intensity in horizontal direction - equivalent to seismic acceleration of 0.3g | |
| 10. Earthquakes of an intensity in vertical direction - equivalent to seismic acceleration of 0.15g | |
- (g being acceleration due to gravity)

Initiator		HOG (ENGINEERING)	
-----------	--	-------------------	--

	TP SOUTHERN ODISHA DISTRIBUTION LIMITED, BERHAMPUR		
	TECHNICAL SPECIFICATION		
Doc. Title	Specifications for Digital Low Resistance Ohm Meter		
Doc. No	ENG-GEN	Eff. Date: 01/03/2021	
Rev. No	00	Page 2 of 8	
Prepared by:	Reviewed by:	Approved By:	Issued By:

11 .Wind velocity: 300 km/hr, 200 km/hr and 160 km/hr.

Environmentally, some of the regions, where the work will take place includes coastal areas, subject to high relative humidity, which can give rise to condensation. Onshore winds will frequently be salt laden. On occasions, the combination of salt and condensation may create pollution conditions for outdoor insulators. Some places are in heavily industrial polluted areas.

Therefore, Outdoor material and equipment shall be designed and protected for use in exposed, heavily polluted, salty, corrosive and humid coastal atmosphere

The design of equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.1 g.

4. GENERAL TECHNICAL REQUIREMENTS AND GENERAL CONSTRUCTIONS:


General Specifications are as follows

Details	Typical value
Temperature co-efficient	< 0.01% per /oC
Display size	Main 5 digits +2 x 5 digit secondary display
Voltage input range	230V , 50 Hz Indian AC Single phase power supply
Weight	< 7 Kg
Record storage	200 test records
Operating temperature	0 to 45°C
Maximum lead resistance	< 100 mohms total for 10A operation

Other general specifications are as follows

- The meter shall be 10A DC Low resistance ohm-meter with a 5 Digit display.
- The meter shall have the range from 0 to 2500Ω with 0.1μΩ resolution.
- The meter shall have the provision to make measurements and charge the battery from line power simultaneously.
- The meter shall have the Automatic Mode in which the forward and reverse current measurement is made and average of the resistance measurement is displayed to cancel thermal emf.

Initiator		HOG (ENGINEERING)	
-----------	--	-------------------	--

	TP SOUTHERN ODISHA DISTRIBUTION LIMITED, BERHAMPUR		
	TECHNICAL SPECIFICATION		
Doc. Title	Specifications for Digital Low Resistance Ohm Meter		
Doc. No	ENG-GEN	Eff. Date: 01/03/2021	
Rev. No	00	Page 3 of 8	
Prepared by:	Reviewed by:	Approved By:	Issued By:

- The meter shall have continuous mode facility in which the measurements are updated every three seconds until the circuit is broken.
- The meter shall also have a separate inductive mode for measuring low resistance of inductive loads. The meter handspikes shall have the facility of lamp indications so as to indicate that a firm connection has been made.
- The meter shall have maximum lead resistance of 100 mΩ total for 10 A operation irrespective of battery condition.
- The meter shall have noise rejection Less than 1% ±20 digits' additional error with 100 mV peak 50/60 Hz. on the potential leads. Warning will show if hum or noise exceeds this level.
- The meter shall be CATIII 300V rated and in accordance with IEC61010-1 and EMC in accordance with IEC61326-1
- The meter shall have IP65 case closed, IP54 battery operation.

5. TESTS:

All routine, acceptance & type tests shall be carried out in accordance with the relevant IS/IEC. All routine & acceptance tests shall be witnessed by the TP Southern Odisha Distribution Ltd. /his authorized representative. All the components shall also be type tested as per the relevant standards. Following tests shall be necessarily conducted on the Digital Low Resistance Ohm Meter in addition to others specified in IS/IEC standards.

Routine Tests

Functional tests on auxiliary equipments such as Digital Low Resistance Ohm Meter.

6. TYPE TEST CERTIFICATE

The Bidder shall furnish the type test certificates of files for the tests as mentioned above as per the corresponding standards. All the tests shall be conducted at CPRI or NABL accredited Lab as per the relevant standards. Type tests should have been conducted in certified Test laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports, i.e. any test report not acceptable, same shall be carried out without any cost implication to TPSODL


7. PRE-DESPATCH INSPECTION

Material shall be subjected to Visual inspection.

Unit shall be subject to inspection by a duly authorized representative of the TPSODL.

Inspection may be made at any stage of manufacture at the option of the purchaser and the unit if found unsatisfactory as to workmanship or material, the same is liable to rejection. Bidder shall grant free access to the places of manufacture to TPSODL's representatives at all times when the work is in progress. Inspection by the TPSODL

Initiator		HOG (ENGINEERING)	
-----------	--	-------------------	--

	TP SOUTHERN ODISHA DISTRIBUTION LIMITED, BERHAMPUR		
	TECHNICAL SPECIFICATION		
Doc. Title	Specifications for Digital Low Resistance Ohm Meter		
Doc. No	ENG-GEN	Eff. Date: 01/03/2021	
Rev. No	00	Page 4 of 8	
Prepared by:	Reviewed by:	Approved By:	Issued By:

or its authorized representatives shall not relieve the supplier of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by TPSODL.

Following documents shall be sent along with material:

- a) Test reports
- b) MDCC issued by TPSODL
- c) Invoice in duplicate
- d) Packing list
- e) Drawings & catalogue
- f) Guarantee / Warrantee card
- g) Delivery Challan
- h) Other Documents (as applicable)

8. INSPECTION AFTER RECEIPT AT STORE

The material received at TPSODL, Berhampur, Odisha store shall be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection.

9. GUARANTEE

Bidder shall stand guarantee towards design, materials, workmanship & quality of process/ manufacturing of items under the contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the Purchaser up to a period of **12 months from the date of commissioning and 18 months from the date of last supplies** made under the contract, **whichever is later**. Bidder shall be liable to undertake to replace/rectify such defects at his own costs. within mutually agreed timeframe, and to the entire satisfaction of the Purchaser, failing which the Purchaser will be at liberty to get it replaced/rectified at Bidder's risks and costs and recover all such expenses plus the Purchaser's own charges (@ 20% of expenses incurred), from the Bidder or from the " Security cum Performance Deposit" as the case may be.

Bidder shall further be responsible for **'free replacement'** for another period of **THREE years from the end of the guarantee period** for any **'Latent Defects'** if noticed and reported by TPSODL.


10. PACKING

Bidder shall ensure that all the materials covered under this specification shall be prepared for rail/road transport in a manner so as to protect the equipment from damage in transit.

11. TENDER SAMPLE

Bidder should **demonstrate 1nos sample to TPSODL** for the approval of the product before finalization of tender i.e. before price bid opening.

Initiator		HOG (ENGINEERING)	
-----------	--	-------------------	--

	TP SOUTHERN ODISHA DISTRIBUTION LIMITED, BERHAMPUR		
	TECHNICAL SPECIFICATION		
Doc. Title	Specifications for Digital Low Resistance Ohm Meter		
Doc. No	ENG-GEN	Eff. Date: 01/03/2021	
Rev. No	00	Page 5 of 8	
Prepared by:	Reviewed by:	Approved By:	Issued By:

12. QUALITY CONTROL

The bidder shall have a prove track of not less than 5 years in manufacturing and servicing of the items in Indian market .The bidder shall submit with the offer Quality assurance plan indicating the various stages of inspection, the tests and checks which will be carried out on the material of construction, components during manufacture and bought out items and fully assembled component and equipment after finishing. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. The Purchaser's engineer or its nominated representative shall have free access to the manufacturer's/sub-supplier's works to carry out inspections.

The Bidder shall invariably furnish following information along with his bid, failing which the bid shall be liable for rejection. Information shall be separately given for individual type of equipment offered.

Statement giving list of important raw materials, names of sub-suppliers for the raw materials, list of standards according to which the raw materials are tested. List of tests normally carried out on raw materials in the presence of Bidder's representative, copies of test certificates.

Information and copies of test certificates as in (a) above in respect of bought out accessories.

List of manufacturing facilities available.

Level of automation achieved and list of areas where manual processing exists.

List of areas in manufacturing process, where stage inspections are normally carried out for quality control and details of such tests and inspection.

List of testing equipment available with the bidder for final testing of equipment along with valid calibration reports shall be furnished with the bid. Manufacturer shall possess 0.1 class instruments for measurement of losses.

Quality Assurance Plan (QAP) withholds points for purchaser's inspection.


The successful Bidder shall within 30 days of placement of order, submit following information to the purchaser.

List of raw materials as well as bought out accessories and the names of sub-Suppliers selected from those furnished along with offer.

Type test certificates of the raw materials and bought out accessories.

The successful Bidder shall submit the routine test certificates of bought out accessories and central excise passes for raw material at the time of routine testing.

Initiator		HOG (ENGINEERING)	
-----------	--	-------------------	--

	TP SOUTHERN ODISHA DISTRIBUTION LIMITED, BERHAMPUR		
	TECHNICAL SPECIFICATION		
Doc. Title	Specifications for Digital Low Resistance Ohm Meter		
Doc. No	ENG-GEN	Eff. Date: 01/03/2021	
Rev. No	00	Page 6 of 8	
Prepared by:	Reviewed by:	Approved By:	Issued By:

11. MINIMUM TESTING FACILITIES

Bidder shall have adequate in house testing facilities for carrying out all routine /acceptance tests and pre-dispatch inspection as per relevant International / Indian standards.

MANUFACTURING ACTIVITIES

The successful bidder will have to submit the bar chart for various manufacturing activities clearly elaborating each stage, with quantity. This bar chart should be in line with the Quality assurance plan submitted with the offer. This bar chart will have to be submitted within 15 days from the release of the order.

12. SPARES, ACCESSORIES AND TOOLS

Bidder shall provide all spares, accessories and tools applicable.

13. DRAWINGS AND DOCUMENTS

Following documents shall be prepared based on TPSODL specifications and statutory requirements with complete BOM and shall be submitted with the bid:

Completely filled in Technical Particulars.

General description of the equipment and all components including brochures.

Bill of Material

Type test Certificates

Experience List.

After the award of the contract, four (4) copies of the drawings, drawn to scale, describing the equipment in detail shall be forwarded for approval and shall subsequently provide four (4) complete sets of final drawings, one of which shall be auto positive suitable for reproduction, before the dispatch of the equipment. Soft copy (Compact Disk CD) of all the drawing, GTP, test certificates shall be submitted after the final approval of the same to the TPSODL.

Following Drawings/Documents shall be submitted after the award of the contract:

S · N o	Description	For Appro val	For Revie w Inform ation	Final Submi ssion
1	Technical Parameters	√		√
2	Manual/Catalogues/drawings for all components.		√	

Initiator		HOG (ENGINEERING)	
-----------	--	-------------------	--

TPSODL	TP SOUTHERN ODISHA DISTRIBUTION LIMITED, BERHAMPUR		
	TECHNICAL SPECIFICATION		
Doc. Title	Specifications for Digital Low Resistance Ohm Meter		
Doc. No	ENG-GEN	Eff. Date: 01/03/2021	
Rev. No	00	Page 7 of 8	
Prepared by:	Reviewed by:	Approved By:	Issued By:


3	Technical details and test certificates of the component.		√	√
4	Instructions for use		√	√
5	Transport/shipping dimension drawing		√	√
6	QA & QC Plan	√	√	√
7	Routine, Acceptance and Type test Certificates	√	√	√

All the Documents and Drawings shall be in English Language.

14.0 GURANTEED TECHNICAL PARTICULARS

Bidder has to furnish all technical parameters mentioned in general technical requirements section.

Initiator		HOG (ENGINEERING)	
-----------	--	-------------------	--

	TP SOUTHERN ODISHA DISTRIBUTION LIMITED, BERHAMPUR		
	TECHNICAL SPECIFICATION		
Doc. Title	Specifications for Digital Low Resistance Ohm Meter		
Doc. No	ENG-GEN	Eff. Date: 01/03/2021	
Rev. No	00	Page 8 of 8	
Prepared by:	Reviewed by:	Approved By:	Issued By:

15.0 SCHEDULE OF DEVIATION:

The bidders shall set out all deviations from this specification, Clause by Clause in this schedule. Unless **specifically** mentioned in this schedule, the tender shall be deemed to confirm the purchaser's specifications.

(TO BE ENCLOSED WITH THE BID)

All deviations from this specification shall be set out by the bidders, clause by Clause in this schedule. Unless specifically mentioned in this Schedule, the tender shall be deemed to confirm the purchaser's specifications:

S. No.	Clause No.	Details of deviation with justifications

We confirm that there are no deviations apart from those detailed above.

Seal of the Company:

Signature:

Designation:

Initiator		HOG (ENGINEERING)	
-----------	--	-------------------	--