



BHEL Document No. TB-316-369-003D				Rev. 00		Prepared by AK	Checked by	Approved by	
Type of Document Technical Specification				Name					
Title Digital Level Oscillator & level measurement kit for PLCC (Lab. Equipment)				Sign					
				Date					
				Group	TBEM				
				W.O. No	83011				
CUSTOMER NTPC LTD.									
CONSULTANT -									
PROJECT North Karanpura Super TPP (3x660MW) 1. 400/220kV Switchyard at NKSTPP 2. 220kV Sub-station at Chatti Bariatu & Kerandari-A Mine									
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Rev No.	Date	Altered	Checked	Approved					
Distribution					To				
					Copies				

PROJECT: 400/220kV Switchyard for North Karanpura Super TPP (3x660MW)		
CUSTOMER: NTPC LTD.		
Technical Specification of Digital Level Oscillator & level measurement kit for PLCC		TB-369-316-003D
Section-1: Scope, Specific Technical Requirements & Quantities		REV.00

SECTION 1

SCOPE, SPECIFIC TECHNICAL REQUIREMENTS AND QUANTITIES

1.0 SCOPE

This specification covers design, manufacture, testing, supply, delivery to site of Electrical Test Laboratory equipment.

1.1 The equipment are required for the following project:

Name of Owner : : **NTPC LTD.**

Name of Project : : **400/220kV Switchyard for North Karanpura Super Thermal Power Project (3x660MW)**

Refer Section - 3 for Project Details and General Specifications.

1.2 TECHNICAL PARTICULARS

Refer Section-2 for specific technical requirement.

1.3 QUANTITIES

Sl.No.	DESCRIPTION	QUANTITY (Nos.)
1.	Fully automatic digital Level oscillator & level measurement meter for PLCC. MAKE: suitable for ABB make PLCC	1

1.4 APPROVED MAKE

Make proposed by bidder shall be suitable for ABB make PLCC & shall be considered as approved only after getting clearance from NTPC. In case the offered make is not approved by NTPC, bidder has to provide equivalent/ alternate make without any commercial/ time of delivery implication to BHEL.

1.5 BIDDER SHALL SUBMIT THE FOLLOWING DOCUMENTS ALONGWITH OFFER

- a) Leaflet/ catalogue of offered items.
- b) Instruction Manual
- c) List of accessories offered
- d) Test Certificates/ reports
- e) Calibration certificate

1.6 CERTIFICATES/ REPORTS

Bidder shall submit valid test reports/ certificates as per relevant standard for review and approval by NTPC/ BHEL.

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Technical Specification of Digital Level Oscillator & level measurement kit for PLCC	TB-369-316-003D
Section-2: Equipment specification	REV.00

SECTION 2

EQUIPMENT SPECIFICATION

- Specification for Electrical Test Laboratory Equipment as follows:
 - o BOQ item Sl. No. 1: Specification of Digital Level oscillator & level measurement meter for PLCC (01 page)

SPECIFICATION FOR DIGITAL LEVEL OSCILLATOR & LEVEL MEASUREMENT METER SUITABLE FOR ABB MAKE PLCC

Sr. No.	Parameter	Range
1	Technical parameters	i) Kit shall be suitable/ compatible with ABB make PLCC. Bidder has to ensure the compatibility with ABB make PLCC at site and in case any additional accessory is required same shall be included along with the standard kit set and no additional price implication will be entertained after award of order in this regard. ii) Tool kit shall be equivalent to ET91 model of Electronika make kit.
2	Scope of supply	All necessary accessory, probes, connector, attenuator etc. for full testing must be supplied as standard.
3	Warranty / Guarantee	18 months form the date of delivery or 12 months form the date of successful & complete commissioning at end user sub-station, whichever is earlier. All the materials, including accessories, cables etc. are to be covered under warranty/guaranty period. If the kit needs to be shifted to supplier's works for repairs within warranty/guaranty period, suppliers will have to bear the cost of spares, software, and transportation of kit for repair at test lab / works.
4	Calibration certificate	Unit shall be duly calibrated before supply and the date of calibration shall not be older than two months from the date of inspection/supply of the kit.
5	Training	Supplier shall have to ensure that the kit is made user friendly. Apart from detailed demonstration at site, the supplier shall also have to arrange necessary training to end user engineers.
6	Commissioning, Handing over the Instrument	Successful bidder will have to commission the instrument to the satisfaction of end user. The instrument failed during the demonstration shall be rejected and no repairs are allowed.
7	After Sales Service	Bidder will have to submit the documentary evidence of having established mechanism in India for prompt after sales services.

PROJECT: 400/220kV Switchyard for North Karanpura Super TPP (3x660MW)	
CUSTOMER: NTPC LTD.	
Technical Specification	TB-316-369-003
Section-3: Project Details and General Specification	

SECTION- 3

PROJECT DETAILS AND GENERAL SPECIFICATIONS

3.0 GENERAL

This section stipulates the General Technical Requirements under the Contract and will form an integral part of the Technical Specification.

The provisions under this section are intended to supplement general requirements for the materials, equipment and services covered under other sections of tender documents and are not exclusive. However in case of conflict between the requirements specified in this section and requirements specified under other sections, the requirements specified under respective sections shall prevail.

3.1 PROJECT DETAILS

	Particular	Details
a)	Customer	NTPC Ltd.
b)	Engineer/Consultant/ Inspector	NTPC Ltd.
c)	Project Title	North Karanpura Super Thermal Power Project (3x660 MW) : 400/220kV Switchyard at NKSTPP end & 220kV Sub-station at Mine end
d)	Project Location	Place: Near Tandwa town District: Hazaribagh & Chatra State: Jharkhand
e)	Latitude & Longitude	400/220kV S/s at NKSTPP: North: 23°50' to 23°52' and East: 84°59' to 85°2' 220kV S/s at Chatti Bariatu & Kerandari-A mine: North: 23°52'35" and East: 85°05'25"
f)	Nearest Railway Station	Khalari Railway Station Ranchi-Garhwa section of Eastern Railways
g)	Distance of project location from the Railway station	40 Km (approx.)
h)	Nearest Major Town	Hazaribagh city
i)	Distance of the town from the project site	50 Km.
j)	Nearest commercial airport	Ranchi
k)	Distance of airport from the project site	150 Km
	<u>SITE CONDITIONS</u> (for design purposes)	
a)	Design ambient temperature	50°C
b)	Maximum Relative humidity	95 %
c)	Height above mean sea level	Less than 1000 meters
d)	Pollution Severity	Heavily polluted (With Coal dust & Fly ash) and Highly Corrosive environment.