

Annexure - B (1)



BHEL, JHANSI

**ANNEXURE TO INDENT No.:140690241
WO.NO. : 72223A17100/72222A17200**

REVISION -00

SPECIFICATION FOR ON LINE MONITORING DEVICE FOR TRANSFORMER

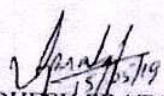
On line monitoring device should be suitable for regular monitoring of 3 key gases and moisture for condition assessment and fault detection of the 220 KV transformer . The device should measure 3 key dissolved gases viz. Hydrogen, Acetylene, Carbon mono oxide with accuracy of $\pm 10\%$.

The minimum range of measurement of dissolved gases shall be Hydrogen :5 to 500, Acetylene : 3 to 5000, Carbon mono oxide : 10 to 5000 . The moisture content shall be measured from 0 to 100 % RS (in ppm). The device shall have non volatile memory storage to prevent loss of data. The device shall be provided with user configurable at least six alarm contacts & two front panel LED arrays. The alarm setting screen shall be available for setting alarms based on level of 3 Key gases or moisture and rates of change for Key gases.

For configuring the six alarm settings, suitable PC software shall be provided with the device. The device shall be supplied with two separate channels for remote communication plus local USB and Ethernet connections. The device should support communication Protocol viz. MODBUS, DNP 3.0 and IEC-61850. It shall be possible to configure sampling rates to hourly/ daily. The alarm & Caution thresholds shall be user configurable. The device should support Load monitoring by analyzing results with loading of Transformer and device shall be provided with suitable software for graphical trending & diagnostic analysis of results. The device shall have minimum maintenance requirements.

On line monitoring unit shall be provided in separate mounting cubicle for mounting on the body of the transformer. Mounting cubicle arrangement shall have proper protective sheds & covers for protection against sun and rains be provided. The mounting cubical shall have provision for ventilation/cooling and also provision for reading of parameters by operators without opening the box. On line monitoring unit shall be complete for remote monitoring alarm and indication in RTCC panel in control room. Complete details of offered device shall be submitted by supplier and explained by suitable manual/pamphlets.

- External temperature range : 0 to 55 °C
- Operating Humidity : 10 to 95% RH non condensing
- Enclosure : IP55
- Input Power requirement : Voltage 120 to 260 V AC, Frequency 47 to 60 Hz; The power supply should be able to withstand electrical surges & disturbances prevalent in EHV substation.


(AWADHESH PRATAP)
DY. MANAGER (TRE)

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