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**TRANSFORMER ENGINEERING DEPARTMENT**  
**BHARAT HEAVY ELECTRICALS LIMITED JHANSI (UP)**

ANNEXURE-A

PRINCIPAL TECHNICAL PARTICULARS FOR 176 VTs

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PI. NO. ~~140660039~~/Dated...10.05.2016

CUSTOMER:-M/S BHEL Jhansi

ITEM No: 01

Qty: 03 NOS

SL	Particulars	Required parameters	Offered parameters
1.	Type	Outdoor/Indoor EM VT	
2.	Manufacture's Type and Designation	Oil filled, Single phase ,hermetically sealed (with N2 gas), 176kV EM VT	
3.	Rated primary voltage	176 000V/ $\sqrt{3}$ -88000V// $\sqrt{3}$ -44000V/ $\sqrt{3}$	
4.	Standard to which the VT confirms	IS-3156-1992	
5.	Number of secondary winding	01 No.	
6.	Type of insulation used	Class "A"	
7.	Rated secondary voltage	110 V/ $\sqrt{3}$	
8.	Rated secondary burden (VA)	30VA	
9.	Rated transformation ratio	176 000V/ $\sqrt{3}$ – 88000V// $\sqrt{3}$ – 44000V/ $\sqrt{3}$ / 110 V/ $\sqrt{3}$	
9.a	Ratio selection	with tapping on secondary side	
10.	Rated thermal burden(VA)	30 VA	
11.	Accuracy Class	0.2	
12.	Rated Frequency	50Hz	
13.	Number of phases	Single Phase	
14.	Grade of oil	As per IS-335	
15.	Temperature rise 1.1 times rated voltage with rated burden	55 ° C. Over the ambient of 50 ° C.	
16.	Rated voltage factor and time	1.2 cont. & 1.5 For 30 Second	
17.	Temperature rise for(12 above)	10 ° C.	
18.	One minute power frequency Dry withstand test	325 kVrms	

	voltage		
19.	1.2/50micro Impulse wave withstand test voltage	750 kVp	
20.	One minute power frequency (dry) withstand test on secondary	3kKV rms	
20.	Visual corona extinction voltage KV rms	>1.1Um/√3	
21.	Seismic acceleration (Horizontal)	0.3g	
22.	Total Creepage distance	4250 mm	
23.	Type of housing	Composite insulator /ceramic insulator	
24.	Overall Dimensions	Drawings to be submitted by Vender	
25.	Mounting details	Fixing Centers 600x600mm	

**NOTE:-**

1. **All THE 03 Nos EMVTs to be tested for accuracy/calibration test at NABL accredited lab.**
2. All ferrous part of the CTs shall be painted to shade 631 of IS-5.
3. The manufacturing process, quality assurance plan, vendor list of raw materials to be submitted for review.
4. All the type tests as per IS-3156/IEC 60044-2 shall be furnished for our reference along with the offer.
5. GTP of the VTs to be submitted in given format as above.
6. OGA / Sectional View drawings to be submitted with the offer.
7. GTP, OGA & R&D plate drgs with QAP and vender list etc. shall be got approved before manufacturing of VTs at ordering stage

*L.S.P.*  
R.C. Saxena  
Manager (TRE)  
BHEL Jhansi

10-05-16

*P. Nograiya*  
11-05-16  
(Pramod Nograiya)  
Dy. Gen. Manager  
(Power & Sp. Trfr Test)  
B.H.E.L., Jhansi