

BHEL/ PSER-KOLKATA

**TENDER CHANGE NOTICE
(TCN-01 DATED 30/07/2010)**

TENDER NO.:- PSER:PUR:PMX:096(VI):054 Dtd. 22/07/2010

FOR

SUPPLY OF TWO NOS. (02) 5000 KVA, 33000/11000 VOLTS STEP DOWN TRANSFORMER AT BHEL:PSER'S VIZAG SITE

FOLLOWING CLAUSES OF THE AFORESAID TENDER IS TO BE READ AS STATED BELOW:-

(1) Part – C (Technical Specification) of tender shall be as follows :-

TECHNICAL SPECIFICATION FOR 33/11KV TRANSFORMER-5MVA

Supply of 2 (Two) Nos 5000 KVA, 33000/11000 volts, step down Power transformer, 3 phase, 50 cycles, oil immersed, naturally cooled (ONAN), core type, double wound with copper conductor, having tapping range $\pm 5\%$ in steps of 2.5% off-circuit tapplings on HV to vary HV, 50/55°C temperature rise in oil and winding respectively, high voltage side connected in Delta whereas low voltage side connected in Star, having Vector Group Reference Dyn11 with neutral of the secondary winding brought out for earthing, outdoor type having porcelain bushing on HV & LV sides complete with first filling of oil as per ISS:335 and other fittings & accessories as per ISS:2026

The broad technical parameters shall be as under :

SL No		DESCRIPTION	Unit	PARTICULARS
1.		Name & type		3 ph,Oil Immersed Power transformer
2		Reference Standard		IS 2026
3		Rated Power	KVA	5000
4		Rated Voltage		
	a)	HV Winding	KV	33
	b)	LV Winding	KV	11
5		Voltage Ratio		33/11
6		Cooling		ONAN
7		Rated Power		
	a)	HV Winding	MVA	5
	b)	LV Winding	MVA	5
8		Temp. rise over ambient		

	a)	Winding (by resistance)	Deg C	55
		Top Oil(by Thermometer)	Deg C	50
9		Winding connection		
	a)	HV Winding		Delta
	b)	LV Winding		Star
	c)	Vector Group		Dyn11
10		Rated Frequency	Hz	50
11		No load loss at rated voltage & freq.	KW	5.5
12		Load loss at rated current at 75 deg C	KW	33.0
13		Impedence at rated voltage and freq.	%	7.15
14		Tolerance on losses 7 Impedence	%	As per IS:2026
15	a)	Tap Changer on HV for HV variation	%	+/-5%
	b)	Tapping Steps		2.5%
16		Regulation in % of no load voltage		
	a)	At 1.0 p.f 100% load	%	0.913
	b)	At 0.8 p.f(lg) 100% load	%	4.940
17		Efficiency in percentage at 75 degC		
	a)	At 1.0 p.f 1.00 Load	%	99.236
	b)	At 1.0 p.f 0.75 Load	%	99.362
	c)	At 1.0 p.f 0.50 Load	%	99.453
	d)	At 1.0 p.f 0.25 Load	%	99.399
18		No Load current as % of rated voltage	%	1
19		Basis insulation level withstand		
	a)	HV Winding (Lightning Impulse)	KVp	170
		(Power Frequency)	KVrms	70
	b)	LV Winding (Lightning Impulse)	KVp	75
		(Power Frequency)	KVrms	25

The transformers shall comply with IS : 2026 latest along with our specification as applicable.

Delivery : Delivery shall be within 2-4 months from date of LOI in FOR site(Vizag Thermal Power Project) basis.

Warranty : 12 months from date of supply at site.

Testing & MDCC : The transformer shall be subject to routine test free of cost as per IS: 2026 in presence of BHEL representative and the test certificate shall be submitted to BHEL for issuing MDCC (Material Despatch Clearance Certificate)

Guarantee Parameter : The bidder shall submit guaranteed parameters & GA drawings along with bid.

(2) SITE RELATED DATA : VIZAG TPP(2 X 520MW)

1.0 Site Related Data

-Longitude / Latitude : 83°07'30" E / 17°34'30" N

-Elevation above MSL : RL (+) 9 m (approximately) for main plant block

- Important Meteorological data as obtained from the nearest observatory at Visakhapatnam from 1931-1960 is as follows;

Maximum Monthly Temperature : 44.4 deg. C

Minimum Monthly Temperature : 12.8 deg. C

Maximum Relative Humidity : 84 %

Minimum Relative Humidity : 68 %

Design Relative Humidity : 80 %

Annual Mean Wind Speed : 10.8 m/sec

Maximum Rainfall : 293.3 mm in 24 hours

2.0 Seismological Parameters

The proposed project is located in Seismic Zone III, as per IS: 1893. Seismic forces would be considered as per the IS accordingly.

3.0 Wind Loading

The various design parameters, as defined in IS: 875 (Part-3), to be adopted for the project site shall be as follows:

(a) The basic wind speed "V_b" at ten mtrs above the mean ground level- 50 m/sec.

(b) Other parameters or coefficients shall be as per IS:875 (Part-3) stipulations

(3) Only supervision of Erection & Commissioning of the Transformer's shall be under the scope of Bidder.

ALL OTHER TERMS & CONDITIONS OF THE ABOVE TENDER SHALL REMAIN UNCHANGED.

Bidders are requested to acknowledge this TCN-01 in their Techno-Commercial offer.

**Sr. MANAGER / PUR
BHEL:PSER:KOLKATA**