BELLARY THERMAL POWER PROJECT
PROJECT INFORMATION

1.0	Owner / BHEL	:	Karnataka Power Corpn. Ltd., Shakthi Bhavan No. 82 Race Course Road, Bangalore – 560 001, Karnataka, India.
2.0	Owner / BHEL's Consultant	:	Later
3.0	Project Title	:	Bellary Thermal Power Station
4.0	Location	:	Kudatini Village Bellary Dist Karnataka State, India.
5.0	Latitude and Longitude	:	15°11' 58" N Latitude 76° 43' 23 E Longitude
6.0 A	Elevation above mean sea level	:	478 meters
6.0 B	Barometric Pressure	:	725 mm
7.0	Climatic Conditions		
(a)	Temperature		
(i)	Monthly Basis		
	Mean of daily maximum temp.	:	42.5°C (in the month of April)
	Mean of daily minimum temp.	:	19.5° C (in the month of Dec)
(ii)	Monthly Basis		
	Mean of daily maximum temp.	:	37.5°C
	Mean of daily minimum temp.	:	19.5°C
(iii)	Highest temp. recorded	:	44.1°C
(iv)	Lowest temp. recorded	:	14.6°C
(b)	Relative Humidity	:	Varies between 11% and 70%
(c)	Rainfall		
	Annual average rain	:	492 to 846 mm most of which occurs during August to October
(d)	Wind Speed		
(i)	Annual mean wind speed	:	8.4 km / hr
(ii)	Maximum mean wind speed	:	19 km / hr in the month of July
8.0	Wind Load		
	Calculations for wind effect shall be in accordance with IS:875-1987 (part-3) taking into account the following		
(a)	Basic wind speed of 39 m / sec as given in Fig. 1 of the code		
(b)	Factor K1 shall be taken as 1.06		
(c)	Terrain category shall be 2 and corresponding values shall be taken for K2		
(d)	Factor K3 shall be taken as 1.0		
9.0	Wind Loading for Stack		
(a)	For wind pressure as per clause 8.0		
(b)	For RC stacks as per IS: 4998		
10.0	Seismic data (as per IS: 1893 latest issue)		
(a)	Zone	:	Zone III
(b)	Importance factor (I)	:	2.5 for electrical equipment 1.5 for others.
11.0	Auxiliary power supply	:	Auxiliary electrical equipment to be supplied against this contract shall be suitable for

			operation on the following supply system.
(a)	For motors rated above 175 KW	:	11000V, 3 phase, 3 wire, 50 Hz medium earthed AC 3300V, 3 phase, 3 wire, 50 Hz medium earthed AC
(b)	For motor control centre	:	415V, 3 phase, 3 wire solidly earthed AC
(c)	For motor rated 175 KW and below	:	415, 3 phase, 3 wire solidly earthed AC
(d)	DC motor starters, DC solenoids, DC alarm, control and protections	:	220 / 230V DC, 2 wire, unearthed DC
(e)	AC control & protective devices	:	230 V 1 phase, 50Hz, 2 wire AC supply. The single-phase 110V AC supply shall be derived by CONTRACTOR BY PROVIDING 415V/110V control transformers of adequate rating with MCCB /MCB on both the primary and secondary sides.
(f)	Uninterrupted power supply	:	230 V, 1 phase, 50Hz, 2 wire AC supply from UPS system for I&C (including indicator recorders) and UCMS only
(g)	AC solenoids, indicators / recorders, space heaters (for motors rated 30KW and above)	:	240V DC, 220V DC or 110V AC, 240V 1 phase, 2 wire 50 Hz AC system with effectively earthed neutral. The power supply shall be derived by the Contractor by providing 415V / 240V transformer of adequate rating with MCCB / MCB on primary / secondary sides.
(h)	Winding heating of motors below 30KW	:	24V 1 Phase, 50 Hz, AC with one point earthed. This shall be derived by the Contractor by providing 415V 3 phase, 3 wire, AC supply through an adequately rated step-down transformer of adequate rating with MCCB / MCB on primary / secondary sides.
(i)	Solid state controls (including solenoid valves)	:	24V DC, 2 wire, supply from UPS for instrumentation system only.
(j)	Lighting fixtures	:	240V, 1 phase, 2 wire, 50 Hz system
(k)	Lighting fixtures and space heaters in panels	:	240V, 1 phase, 2 wire, 50 Hz system
(l)	The above voltages may vary as follows		
	All devices shall be suitable for continuous operation over the entire range of voltage and frequency indicted below without any change in their performance.		
i.	AC supply	:	Voltage variation $\pm$ 10% Frequency variation $\pm$ 5% Combined voltage & frequency variation $\pm$ 10%
ii.	DC supply	:	Voltage variation +10% - 20%