

 MAHAGENCO Maharashtra State Power Generation Co. Ltd.	MAHARASHTRA STATE POWER GENERATION CO. LTD.	Volume: II
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VOLUME II
SECTION – 2
GENERAL PROJECT INFORMATION

CONSULTANT : PROCON ENGINEERS

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1.0 INTRODUCTION

The proposed 1x 660 MW Bhusawal Thermal Power Project will be set up by Maharashtra State Power Generation Co. Ltd. (MAHAGENCO) in Deepnagar near Bhusawal, Maharashtra, India.

The Bidder shall acquaint himself by a visit to the site, if felt necessary, with the conditions prevailing at site before submission of the bid. The information given herein under is for general guidance and shall not be contractually binding on the Owner. All relevant site data/information as may be necessary shall have to be obtained /collected by the Bidder.

2.0 APPROACH TO SITE

Deepnagar is well connected by rail and road. By road, it is about 8 Km from Bhusawal city. Nearest railway station is at Bhusawal. The nearest Airport is at Aurangabad. The nearest sea port is at Mumbai. The site is located on the Mumbai-Nagpur Highway.

3.0 LAND

Bhusawal Thermal Power Plant is already having 1x62.5 MW + 2x210 MW Units and Two (2) Units of 500 MW each are under execution stage. About 108.94 Hectares of land is acquired by MAHAGENCO near existing TPS. It is proposed to install 1x 660 MW unit on this land.

4.0 SOURCE OF COAL

Indian coal would be sourced from Machaakata coal blocks in Orissa state. The Coal will be received at Plant site directly by rail. The coal from the railway wagons would be unloaded by means of wagon tippers and will be either bunkered or stacked in the stock pile at site.

5.0 SOURCE OF WATER

The main source of water is considered Ozerkheda Reservoir which is located at around 18 km from plant site.

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6.0 ASH DISPOSAL AREA

The ash generated from 1 x 660 MW unit shall be disposed off in slurry form to the existing Ash Pond located at Velhala, approx. 12 Km from the site.

7.0 PROJECT INFORMATION

7.1	Client / Owner	: Maharashtra State Power Generation Co. Ltd.
7.2	Consultant	: Procon Engineers, Navi Mumbai (Division of Nimoto Consulting Engineers Pvt. Ltd.)
7.3	Project Title	: BHUSAWAL T.P.S. UNIT – 6 : 1X660 MW
7.4	Location	: Dipnagar, Near Bhusawal, Maharashtra, India
7.5	Nearest railway station	: Bhusawal
7.6	Nearest Airport	: Aurangabad
7.7	Nearest Harbour	: Mumbai
7.8	Access Roads	: NH 6 (Mumbai-Nagpur Highway)
7.9	Elevation above MSL	: 210 M
7.10	Longitude/latitude	: 75° 51' 10" East / 21° 02' 30" North
7.11	Seismic Zone	: Zone III as per IS:1893
7.12	<u>AMBIENT TEMPERATURE</u>	
7.12.1	Mean of daily maximum temperature	: 48.25 °C (during May)
7.12.2	Mean of daily minimum temperature	: 18 °C (during January)
7.12.3	Highest temperature recorded	: 48.7°C

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7.12.4	Lowest temperature recorded	: 13°C	
7.13	Wet bulb temperature	: 27°C (Maximum)	
7.14	Rainfall	: 112 mm average annually	
7.15	Wind Speed	: 0 to 39 Km/hr	
7.16	Wind direction	: East North East to West South West	
	<u>ELECTRICAL</u>		
7.17	<u>MAIN POWER SOURCE FROM GRID</u>		
7.17.1	Rated Voltage	: 400kV	
7.17.2	Voltage variation	: ± 10 %	
7.17.3	Frequency Variation	: ± 5 %	
7.17.4	Rated Short Circuit Level	: 50 kA, Three Phase Symmetrical	
7.18	<u>AUXILIARY POWER SUPPLY</u>		
	Auxiliary electrical equipment shall be suitable for operation on the following supply system:		
7.18.1	Motors above 1000 kW & other Power devices	: 11kV, 3Ph, 3wire, 50Hz system	
7.18.2	Motors below 1000 kW & above 160kW & other power devices	: 3.3kV, 3 ph, 3 wire 50 Hz, Non Effectively earthed	
7.18.3	Motors upto 160 kW & other power devices	: 415V, 3 ph, 4 wire 50 Hz	
7.18.4	Motor Starting Methods	: Direct on Line	
7.18.5	(a) Lighting fixtures, Space heaters, and single Phase motors	: 240V, 1 phase, 50 Hz Supply through suitably rated transformers to limit the short circuit level to 9kA – 1 sec.	

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(b) Control & : 240V, 1 Phase, 50 Hz from UPS Instrumentation 7.18.6 Short circuit levels of 11kV, 3.3 kV and 415V system equipments The equipment shall be suitable for the following short circuit levels (a) 11kV Switchgears : 44 kA/3 sec (b) 3.3kV Switchgears : 40 kA/3sec (c) 415V PCC/ : 50 kA/1sec PMCC/ MCC (d) Lighting : 9 kA/1sec Distribution Boards & 240V A.C. supply 7.18.7 Auxiliary DC supply The auxiliary DC supply will be used for control, indication & protection, Turbine lube oil system, AVR, Emergency DC lighting of power plant and Control & Instrumentation etc. (a) Voltage : (i) 220V DC for utility purpose (ii) 24V DC for Control and Instrumentation (b) Voltage variation : + 10 %, - 15 % 7.18.8 Emergency power supply (a) Purpose : (i) Standby power to normal incomer of emergency MCC (ii) Alternate power source to Fire water Pumps (b) Rated voltage and : 415 V, 3 phase, 3 wire, 50 Hz. frequency		

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7.18.9	UPS power supply (a) Purpose : (i) Vital process loads (ii) Critical lighting (iii) Control and Instrumentation (iv) Office for LAN power supply/Server etc. (b) Rated Voltage : 415V, 3 ph, neutral/240V single phase, 50Hz	
7.19	The variation in voltage and frequency may be $\pm 10\%$ and $\pm 5\%$ respectively. The combined voltage and frequency variation may be $\pm 10\%$. All devices shall be suitable for continuous operation over the entire range of voltage variation without any change in their performance	
7.20	Power socket shall be 415V AC, 50 Hz, 4 pin 32/63 Amps. Power socket outlets for portable tools, hand lamps etc shall be 240 volts, single phase, 3 pin, metal clad industrial type	
7.21	All electrical equipment shall be designed for the following ambient conditions (a) Maximum ambient temperature : 50°C (b) Minimum Ambient temperature : 13°C	