

9	Condenser	
Make	BHEL	L & T
Rated Vacuum	0.1187 Bar	0.1187 Bar
Heat Load	644.76 x 10 ⁶ Kcal/Kwh	586.25 x 10 ⁶ Kcal/Kwh
CW flow	60,000 M ³ /Hr	60,000 M ³ /Hr
No. of Tubes	24,690	24,690
Cooling Surface	26,272 M ²	26,272 M ²
Back Pr	0.12 Bar	0.12 Bar
Support Plates	88	

10	Chimney	
Material	RCC	RCC
Height	152 M	275 M
Base Dia	14.27 M	19.82 M
Top Dia	7.32 M	7.60 M
	Inside Refractory Lining	Inside Refractory Lining

11	Cooling Water System	
CW Pumps	425 rpm, 1 stage	425 rpm, 1 stage
Make	Kubota	Kubota
Type	Pull out type bowl impeller	Fixed bowl Semi Pull out
Capacity	16,000 M ³ /Hr each pump	16,000 M ³ /Hr each pump
Material of Bowl Housing Etc	Ni-Resist	SS-316
Cleaning of Condenser tubes	Back-wash 4 way valve	Debris filter & ball cleaning system
Methods of chlorine dosing	Liquified chlorine gas injection	Electrochlorination i.e. dosing of hypochloride solution

12	Boiler Feed Pumps	
Make	KSB	Worthington
Motor of MBFP	Siemens, Constant speed	Anasaid, Variable speed with hydraulic coupling
Turbine of STBFP	BHEL	BHEL

13	CEP	
Pump	Weir	Worthington
Motor		

14	Feed water heaters	
Make	Yuba	BHEL
Number	5 nos + 1 dearator (2) HPH vertical + 3 LPH Horizontal)	6 nos + 1 dearator (3) HPH + 3 LPH All horizontal)
Material	HP monel & LP Admiralty	SS 304 for both

15	Deaerator	
Make	IAEC	L & T
Type	Mixing type of heat exchanger consisting of no. of trays	Mixing type of heat exchanger consisting of spray nozzles

16	DM plant	
Make	Ion exchanger ltd, 3 streams, 45 M ³ /Hr each	Gaco system ltd, 2 streams, 45 M ³ /Hr each.

17	Condensate Polishing unit	
Make		Ion exchange Ltd, 2 stream 50% each i.e. 733 M ³ /Hr each.

18	Instrumentation & control	
Supplier	Siemens, Germany.	Honeywell, USA.
System	Teleperm / Iskamatic b modular hardwired system with Simatic S-5 PLCs.	Honeywell USA TDC 3000 distributed digital system.
Sequence of events recording	Part of DAS.	Stand alone Redundant system.
Annunciation system	Hardwired.	Micro processor based ,Alarms are printed & historised.
Analog control system	Hardwired, Implimentation of control loops.	software, Implimentation of control loops.
Binary control system	Hardwired, Implimentation of control loops.	software, Implimentation of control loops.
Logs,reports, Journals etc.	Part og DAS	Partly on TDC 3000 In addition , process information computer system (PICS) is provided for performance calculation , start up , shut down guidance etc.
Measurement	3000 parameters, 120 field instrument enclosures, Analog 30 closed loops, Binary controls 50 ON-OFF controls, Audio Visual alarms 716 displays.	
Ease of on line	Modification fairly flexible.	Highly flexible.

19	Turbine cycle heat rate	
	2100.8 Kcal/Kwhr	2057.5 Kcal/Kwhr
Improvement in turbine cycle heat rate in U6= 43.3 Kcal/Kwhr, % improvement = 2.06 %		

20	Break up of Improvement in turbine cycle heat rate	
	RH temp 568°C instead of 540°C	11.5 Kcal/Kwhr
	New HP turbine module	14 Kcal/Kwhr
	New IP turbine module	2 Kcal/Kwhr
	New blade profile	3 Kcal/Kwhr
	10% RH pressure drop	7.2 Kcal/Kwhr
	7 feed water heaters instaead of 6	5.6 Kcal/Kwhr
	Total	43.3 Kcal/Kwhr
21	Station transformer	
	Rating	4 X 1phase, 40/3 MVA 220 / 6.9 / 6.9 KV
	Cooling	ON
	Taps	OLTC 10% in steps of 1.25%
22	Bus duct	
		21KV isolated phase aluminium generator bus ducts, 7.2 KV segregated phase coppor bus ducts.
23	Coppor conducted cables	
		Fire resistant , Instrumentation cables 350 KM , PVC aux cables 270 Km, XLPE 6.6 KV cables 30Km, PVC control cables 430Km, Heat resistant cable 90 Km
24	ESP	
	Type	5 streams each with 4 fields rigid frame
	Tonnage	4200 T
	Electrode material	Corton steel
	Flue gas flow	943 M3/Sec
	Collection efficiency	99.5 % plus
25	Ash handling System	
	Bottom Ash	20%
	Collection capacity	205 T/Hr
	Operation	Intermittent, Jet pump sluice ash to disposal area.
	Fly Ash	80%
	Collection capacity	160 T/Hr
	Operation	Continuous