

420 MW Combined Cycle Power Plant

1 No. - 420 MW SIEMENS ELECTRIC (2009/10), Combined Cycle Complete PowerPlant, having the Following Technical Specifications:

PLANT DETAILS:

420 MW combined cycle plant the plant is based on Siemens V94.2 gas turbines.

The plant was installed in 2006, natural gas was available only from March 2009. The following are the commissioning dates of various equipment.

- GT # 1A - 30 March 2009
- GT #1B - 10 March 2009
- Open Cycle declared on 04 June 2009
- STG was commissioned on 22 June 2010
- Combined Cycle declared on 30 June 2010

The plant running hours as following:

GT # 1A = 32,361 EOH
GT # 1B = 22,913 EOH
STG = 19,460 EOH

STEAM TURBINE:

The operating hours of the steam turbine is 17900 hours.

GAS TURBINES:

Dehumidifier is built in feature of V94.2.

TECHNICAL SPECIFICATIONS:

As follows:

Gas Turbine Generator	Electrosila		2
Steam Turbine	LMZ	K166/107, 158MW	1
Steam Turbine Generator	Electrosila	15.85kv, 200MW	1
Heat Recovery Boiler	L&T	HP 222tph @107bar, MP 38tph @ 22bar and LP 19tph @4.5bar	2
Generator Transformers	Crompton Greaves	400 kv / 15.75 kv	2
Auxiliary Transformers	Crompton Greaves	6.6 kv / 415 v	2
HP / IP/ LP Boiler	Nasosenergomash/	270m ³ /hr	3
Feedwater Pumps	Nasosenergomash/	65m ³ /hr	2
	Kirloskar	25m ³ /hr	2
CEP	Nasosenergomash	245tph	2
DM Plant	Doshi Ion Exchange		1
CW Pumps	Kirloskar		3
CW Pump Motors	WEG		3
Cooling Tower	Paharpur	16 cells	1
Emergency Diesel Generator	Cummins	1250kva	1

PHOTOGRAPHS:

Gas Turbine GT# 1B





Inlet Filter House of GT # 1A and 1B



Exhaust Duct



Gas Conditioning Skid



Gas Turbine Generator & Auxiliaries



Steam Turbine & Generator



Steam Turbine Auxiliaries

BALANCE OF PLANT



HRSG



Corrosion on structures of HRSG # 1A and 1B



Condition of HP Boiler Feed Pumps



Condition of IP Boiler Feed Pumps

**BFW Pumps
Cooling Tower**

Cooling tower is of concrete structure



Cooling Tower



Cooling Water Pumps

DM Plant & Dozing System



DM Water Plant



tanks for DM plant



Dozing Skids



Transformer



HT Switchgear



Switch yard Control



Battery Bank for GTG



Battery



Top enclosure of DG Set

CONTROL SYSTEM & DCS PANELS

Control Room













