

60 MW GE LM6000 PC Gas Turbine Power Plant

The power plant consists of 50 MW GE LM6000 PC gas turbine, Year: 2011, 7000 hrs since new, 3000 rpm, 50 HZ, 13 MW Siemens SST 300 steam turbine with 5000 hours. Plant was commissioned and put into operation in 2012.

Brief Description (refer to full description below)

- Siemens T3000 Main DCS
- Siemens 65 MVA & 18 MVA Transformers Sub Station
- Siemens HV System
- Siemens MV System
- Siemens LV System
- Siemens & ABB Control Equipment
- Atlas Copco Air Compressors
- 1000m³ Raw & 200 m³ Demi Water Tank Demi Water Systems
- AEG-Artronic UPS & Rectifiers
- Flow Serve Control valves
- Farris Safety Valves
- ABB & Siemens High Pressure Pumps
- ABB & Siemens Low Pressure Pumps
- This is a complete 60 MW GE LM6000 PC Sprint Gas Turbine Power Plant with all auxiliary equipment. The plant has been maintained by OEM and is in excellent condition.

GE LM6000 PC Sprint Gas Turbine

GAS TURBINE (GTG)

Gas Turbine Type:	LM6000-PC-NGW 627
Manufacturer :	GENERAL ELECTRIC
Inlet Temperature:	15°C
Height:	9.72 m
Nominal Active Power:	50,000 kW
Fuel Type:	Natural Gas
Turbine Exhaust Outlet Temperature:	451°C
Exhaust Outlet Pressure:	140 mm H ₂ O
Compressor Levels:	LPC: 5 HPC : 14
Speed (Cycle):	3600
Turbine Levels: LPT:	5 HPT: 2
Production Date:	2011

GEARBOX

Manufacturer:	FLENDER
Model Nr:	410131435
Serial Nr:	11311
Cycle Rate:	1,209:1
Inlet Cycle Number:	3627
Cycle Number:	3000
Service Factor:	1.15 (API)

GENERATOR

Manufacturer:	MEIDEN
Unit Power:	64500 KVA
Cycle:	3000
Running Voltage:	11500 V
Running Current:	3238 A
Power Factor:	%80
Phase:	3 phase
Frequency:	50 Hz
Excitation Voltage:	315 V
Field Voltage:	516 A
Production Date:	2011
Weight:	76000 kg
Generator Type:	800LL09 EK-AFT
Model:	800LL09
Serial No:	4A5160R1
Running Condition:	Continuously
Standard:	IEC 60034
Environment Temp:	15°C
Running Height:	400 m
Cooling:	15°C with Air
Rotor Insulation Class:	F
Stator Insulation Class:	F
Protection Class:	IP20
Phase Sequence:	U-V-W

WARNING GENERATOR

Manufacturer:	MEIDEN
DC Outlet Current:	485 A
DC Outlet Voltage:	325 V
Cycle(Speed):	3000
Field Current:	9,1 A

Field Voltage:	105 V
Protection Class:	IP20
Production Date:	2011
Model No:	800LL09 EK-AA
Serial No:	4A5162R1
Running Type:	Continuously
Standard:	IEC 60034
Environment Temp:	15°C
Running Height:	< 1000 m
Arm. Insulation Class:	F
Field Insulation Class:	F

PMG (Permanent Magnet Generator)

Cycle:	3000
Phase Nr:	1
Frequency:	200 Hz
Voltage:	172 V
Current:	14 A
Model No:	800LL09 EK-AFP
Serial No:	4A5162R1

GOVERNOR

Manufacturer:	WOODWARD
Contract No:	8200-177
Serial No:	17171051 1010

SST3000 Steam Turbine STEAM TURBINE (STG)

Model:	SST 300
Manufacturer:	SIEMENS
Outlet Power:	13350
HP Nominal Inlet Pressure:	52 bar
HP Nominal Inlet Temperature:	424 °C
LP Nominal Inlet Pressure:	6 bar
LP Nominal Inlet Temperature:	225 °C
Nominal Power:	12 000 k
Exhaust Outlet Temp:	80 °C
Exhaust Outlet Pressure:	0,070 bar a
Cycle:	7059 rpm
Product Date:	2012

GEARBOX

Manufacturer:	RENK
Type:	TB-630
Reference No:	894262
Power:	14100 KW
Turnover Rate:	4,719
Inlet Cycle:	7078.1
Outlet Cycle:	1500
Service Factor:	1.15 (API)

GENERATOR

Manufacturer:	SIEMENS
Power:	15706 KVA
Cycle:	1500
Voltage:	11500 V
Current:	789 A
Power Factor%:	85
Phase:	3
Frequency:	50 Hz
Excitation Voltage:	136 V
Field Current:	484 A
Product Date:	2012
Generator Type:	1DU1744-8AF02-Z
Serial No:	FQ179269
Running Condition:	Continuously
Standard:	IEC 60034
Environment Temp:	15°C
Cooling:	Water Cooling
Insulation Class:	F
Phase Must:	U-V-W

CONDENSER

Serial No:	17708
Weight:	34500 Kg
Code:	MAGIO AC 010
Field Surface:	1218 m2
Model:	Surface Condenser
Test pressure	(Shell Side): 0/5 bar (Tube side): 1,5 /8.8 bar

Capacity (Shell Side): 54000 l
(Tube side) : 12100 l
Product Date: 2012

BT TURNING GEAR MOTOR

Manufacturer: AKH
Model: HEF200LG
Type: 5197012/001
Serial No: IMV1/B5
Insulation Class: F
Protection Class: IP55
Voltage: 400/690 V
Frequency: 50 Hz
Power: 30 kW
Cycle: 2950
Current: 51.7 A
Cos F: 0.91

ST LUBE OIL PUMP (AC)

Manufacturer: SIEMENS
Model: MAV5AA510
Type: 5197012/001
Serial No: IMV1/B5
Insulation Class: F
Protection Class: IP55
Voltage: 400/690 V
Frequency: 50 Hz
Power: 30 kW
Cycle: 2950
Current: 51.7 A
Cos F0 91

ST LUBE OIL PUMP (DC)

Manufacturer: WINKELMANN
Standard: EN60034 / EN60079
Type: GNFZE 132 / 2
Product Date: 2011
Protection Class: IP55
Voltage: 110 VDC

Current:	56 A
Power:	5.1 kW
Environment Temp:	20 / 50 °C
Insulation Class:	H / F

ST COOLING CIRCULATION PUMP

Manufacturer:	SIEMENS
Model:	UD1206
Type:	5197012/001
Serial No:	IMV1/B5
Insulation Class:	F
Protection Class:	IP55
Voltage:	400/690 V
Current:	55/32 A
Frequency:	50 Hz
Power:	30 kW
Cycle:	1475
Cos F:	0.85

ST OIL TANK VACUUM FAN

Manufacturer:	GARDINER DENVER
Model:	G-BH12BH1500
Type:	7AH16
Serial No:	BN10129624014
Insulation Class:	F
Protection Class:	IP55
Voltage:	240 V
Current:	5,7 A
Frequency:	50 Hz
Power:	1,3 kW
Cycle:	2800
Cos F:	0.85

ST GLAND CONDENSER VACUUM MOTOR

Manufacturer:	WEG
Frequency:	50 Hz
Power:	3 KW
Voltage:	220/380 V
Current:	10 /5.77 A
Cycle:	2910

CosQ: 0.86

ST CONDENS PUMP

Manufacturer (Pump): SIEMENS
Model: IL66120
Type: 4MA61-2
Serial No: UCI203/100238601
Frequency: 50 Hz
Power: 26.7 kW
Voltage: 400/690 V
Current: 65/37.5 A
Cycle: 1475
Cos F: 0.85

ONCE THROUGH STEAM GENERATOR IST OTSG

Manufacturer: Innovative Steam Technologies (IST)
Heat Load: 50000 kW
Total Capacity: 44395 kg/s
Running Pressure: 55.5 Bar
Water Inlet Temperature: 40 °C
Steam Temperature: 426 °C
Flue Gas Temperature: 122 °C
HP Capacity: 52 Bar / 424 °C / 11.96 kg/s
LP Capacity: 6 Bar / 225 °C / 3.82 kg/s

SWITCHGEAR, MV PLANT and ETL TRANSFORMER (TR 1)

Manufacturer: SIEMENS
Type: Outdoor Type
Serial No: 110153B/01
Standard: IEC 60296
Product Date : 2011
Frequency: 50 Hz

Cooling Type:	ONAN/ONAF
Nominal Voltage:	154000 / 11500 V
Connection Group:	YNd11
Nominal Power:	14000/18000 kVA
Short Circuit Voltage %:	13.5
Nominal Cur (154 kV):	52.49 A / 67.48 A
Nominal Cur (11,5 kV):	702,86 A / 903,68 A
Temperature Increase:	55 K /60 K
Tap Changer Type:	ON-LOAD MR V III 200 Y-76KV-10193G

TRANSFORMER (TR 2)

Manufacturer:	SIEMENS
Type:	Outdoor Type
Serial No:	110153A/01
Standard:	IEC 60296
Product Date :	2011
Frequency:	50 Hz
Cooling Type:	ONAN/ONAF
Nominal Voltage:	154000 / 11500 V
Connection Group:	YNd11
Nominal Power:	52000 / 65000 kVA
Short Circuit Voltage %:	13.5
Nominal Cur (11,5 kV):	2610,63 / 3263,28 A
Temperature Increase:	60/55°K
Tap Changer Type:	ON-LOAD MR V III 350 Y-76Kv-10193g

SERVICE TRANSFORMER (TR 3)

Type: Outdoor	Type
Serial No:	67054
Standard:	TS 267 EN 60076-1
Product Date:	2011
Nominal Power (kVA):	3150
Nominal Voltage (V):	11500 / 400
Nominal Current (A):	158,144 / 4546,63
Free Current (%):	0.84
Nominal Insulation (HV):	10443 (60 s)
Nominal Insulation (LV):	8673 (60 s)
Frequency:	50 Hz
Connection Group:	Dyn 11
Short Circuit Voltage (%):	6
Free Turn Rate:	11.5 / 0.4 kV
Service:	Continuously

Short Circuit Time (Max):	60 s
Oil Weight:	2140 kg
Total Weight:	9100 kg

GT GENERATOR FEEDER CELL

(with car, cutter, current and voltage transformer cell)

Manufacturer :	SIEMENS
Type:	NX AIR P
Serial/Order No:	7024000055
Voltage:	36 kV
Operating Voltage:	34.5 kV
Current:	1250 A
Frequency:	50 Hz
Short Circuit Current:	25 kA, 3 s
Blow Current:	62.5 kA
Product Date:	2012

GT INCOMING FEEDER CELL

(with car, cutter, current and voltage transformer cell)

Manufacturer :	SIEMENS
Type:	NX AIR P
Serial No:	7024000055
Voltage:	12 kV
Operating Voltage:	11.5 kV
Current:	4000 A
Frequency:	50 Hz
Short Circuit Current:	50 kA, 3 s
Blow Current:	80 kA
Product Date:	2012

SERVICE TRANSFORMER FEEDER CELL

(with car, cutter, current and voltage transformer cell)

Manufacturer :	SIEMENS
Type:	NX AIR P
Serial No:	7024000055
Voltage:	12 kV
Operating Voltage:	11.5 kV
Current:	1250 A
Frequency:	50 Hz
Short Circuit Current:	50 kA, 3 s

Blow Current : 80 kA
Product Date: 2012

ST SERVICE TRANSFORMER FEEDER CELL

(with car, cutter, current and voltage transformer cell)

Manufacturer : SIEMENS
Type: SIMOPRIME
Serial/Order No: NQ7024000054
Voltage: 12 kV
Operating Voltage: 11.5 kV
Current : 2820 A
Frequency: 50 Hz
Short Circuit Current: 25 kA, 3 s
Blow Current: 63 kA
Product Date: 2011