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THE FOLLOWING HARD COAL FIRED POWER PLANT IS AVAILABLE FOR SALE WITH IMMEDIATE DELIVERY:

1 No. – 70 MW European Manufacturer make, Hard Coal Fired Power Plant having the following technical specifications:

PHOTO :



This power plant with one line 60 MW started its commercial operation in 1967. The plant design was for base load with local lignite fuel. In 1985, the steam turbine was equipped with a 0 - 100 % extraction for 114 °C / 80 °C district heating for up to 20 MWth. In 1997, the power plant was modified and refurbished to use hard coal fuel, the power output increased from 60 to approx. 70 MW.

System efficiency of power generation was measured in 1999 with 33,39 %.

Owner did a remaining life time assessment with the result of > 10 years without major investment but permanent maintenance and component control. Detailed revision reports are available. Plant was shut down on 24.04.2008 based on the commissioning of a new 400 MWel Gas Turbine Combined Cycle and is hold in cold reserve. Total operating hours were 231.000 with OEM recommended maintenance/repair/overhaul.

Coal transport system with covered conveyor belts from rail car unloading via intermediate storage to boiler is available.

Technical data

Boiler

Manufacturer	:	European manufacturer (Modification and refurbishment in 1997)
Thermal cycle type	:	Forced circulation, two pass design.
Desing	:	Hanging in heavy steel construction
Max. hight above ground	:	44 m
Max. continuous rating	:	240 t/h
Max. pressure rating	:	110 bar
Live steam conditions	:	90 bar, 530° C
Min. Boiler load	:	50 % operational
Fuel	:	Hard Coal
Lower Heating value	:	25.500 to 31.500 kJ/kg
Average Water content	:	6 to 10 %
Sulphur content	:	0,4 %
Ash	:	5 to 14 %
Volatiles	:	25 to 40 %
SiO ₂ in ash	:	32 to 60 %
Hardgrove	:	45 to 60
Firing	:	Tangential coal dust firing on 3 levels each 4 burners
Ignition	:	Natural Gas and HFO burners
Casing	:	Bricklined walls
Slag removal	:	Wet
Air preheating	:	2 x LJUNGSTROEM type
Fresh air blower	:	2
ID fan	:	1
Flue gas quantity	:	310.000 Nm ³ /h dry
Flue gas temperature	:	95 °C
Boiler efficiency measured	:	92,44 %

Coal Feeding

Underground silo with chain conveyor:	300 t/h
Belt conveyor to day bin	: 130 t/h
Chain conveyors to feed	: 2 x 130 t/h

Coal Mills

Manufacturing	:	1997
Manufacturer	:	European manufacturer
Type	:	Bowl Mill SM 14/9
Number of Mills	:	3
Rated capacity	:	9,2 t/h each
Coal mill motors	:	160 kW each, 5 kV
Motor Rpm	:	985

Coal Mill Air Blower

Rated Air Volume	:	8,6 m ³ /s
Rpm	:	1.480
Power	:	132 kW

Dust control

Manufacturing	:	1985
System Electric	:	Precipitator
Arrangement	:	Double 2 Zone
Active area	:	5.400 m ²
Filtering	:	99,81 %
Voltage	:	2 x 96 kV
Ash extraction	:	pneumatic
Dust in flue gas	:	< 30 mg/m ³

Desulphurisation

Manufacturing	:	1993
System	:	Rotating spray absorber with injection and wet sorption
Additive for desulphurisation	:	Limestone
SO ₂ in raw gas	:	Design max. 4.000 mg/m ³
SO ₂ cleaning efficiency	:	> 90 %
Flue gas temperature into stack	:	85 – 90 °C

Steam turbine

Manufacturer	:	European manufacturer
Casing	:	1 x HP, 1 x LP double flow
Max. continuous rating	:	Approx. 70 MW
District heating rating	:	57 MW
Live steam conditions	:	89 bar, 525 OC
Vacuum at 50 MW and 20 °C Water:	:	0,047 bara

Condenser

Cooling surface	:	3.270 m ²
Cooling water flow	:	7.500 m ³ /h
Tube material	:	70 % Cu, 29 % Zn, 1 % Sn
Number of tubes	:	6.400 22/24 mm
Length of tubes	:	6.500 mm

Feed pumps

System	:	2 x 50 % electric driven, 6 stages, variable RPM by VOITH hydraulic coupling.
Manufacturer of Pumps	:	KSB
Rating	:	276 t/h
Pressure	:	128 bar
Manufacturer of feed pump motors:	:	ABB
Rated power	:	1.500 kWe each, 5 kV

Synchronous Generator

Manufacturer	:	European manufacturer
Generator capacity	:	75 MVA
Voltage	:	10,6 kV +/- 5 %
Power factor	:	0.8
Speed	:	3 000 rpm
Exciter	:	250 V, 1.450 A
Cooling	:	H2

Step-Up Transformer

Manufacturer	:	European manufacturer
Rated power	:	75.000 kVA
Voltage	:	10,5 / 117 kV

Consumption Transformer

Manufacturer	:	European manufacturer
Rated power	:	8.000 kVA
Voltage	:	10,5 / 5 kV

Process Control System

Installed in steps	:	1993 – 1997
Manufacturer	:	SIEMENS
Type	:	Teleperm M

Operating System

Installed	:	2003
Manufacturer	:	ETM
Type	:	PVSS

Auxiliaries

All auxiliaries for safe operation of the plant are available, including turbine and generator control, fuel system, cooling water system, deionisation plant, etc. and a remarkable lot of spare parts are available.

Documentation

Complete documentation, operation manuals, maintenance reports, log books. etc. is available in the plant.