

HEAT RECOVERY
BIOMASS
PRIMARY FUELS
SOLID RESIDUES
LIQUID & GASEOUS RESIDUES

CHP PLANT TIEFSTACK HAMBURG, GERMANY



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Energy Source	GT Exhaust Gas
Number of Lines	2
GT-Exhaust Gas Flow	172 kg/s
GT-Exhaust Gas Temperature	455 °C
GT-Electrical Output	51.9 MW
ST-Electrical Output	40 MW
Steam Capacity	112 t/h
Steam Temperature	400 °C
Steam Pressure	41 bar
Feedwater Temperature	105 / 165 °C
FG Temp. Boiler Outlet	80 / 200 °C
RTI Aux. Firing System	40 MW
Fuel for Auxiliary Firing	Natural Gas
Type of Boiler	Natural Circulation
Year of Commissioning	2007

THE TASK

Vattenfall Europe is the location owner/operator of the heat power station Tiefstack in Hamburg. The existing power plants were extended by the inclusion of two new combined gas and steam turbine plants which were integrated into the existing district heating power station as a modernised plant in the sense of the Act on the Co-generation of Power and Heat.

The plants consist of two separate gas turbines with downstream waste-heat recovery boilers, the live steam of which is fed to a steam turbine for the generation of electricity and district heating water.

To increase their own electricity share within the scope of a complete co-generation of power and heat the extension of the district heating power station will be implemented during the years 2006/2007.

THE SOLUTION

For the new plants, two gas turbines from Rolls Royce, Trend 60, with a nominal capacity of max. 58 MW each were selected.

The waste heat from the gas turbine is utilised for each line separately in a downstream heat recovery boiler for the generation of high-pressure steam and district heating water.

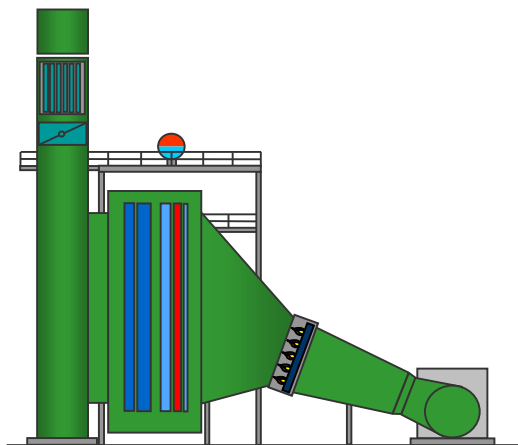
An auxiliary firing system for the fuel natural gas is used in the GT combined operation to increase the capacity of the steam generating system and thus to increase the boiler efficiency.

SCOPE OF SUPPLY

- HRSG incl. District Heating System
- Firing System
- Flue Gas Duct
- Steel Structure Platforms, Stairs
- Aux. Equipment

ENGINEERING SERVICES

- Engineering
- Assembly
- Commissioning



Boiler Principle