

PLANT REFURBISHMENT BLOCK 8 EISENHÜTTENSTADT, GERMANY

UNIS Power has developed together with the customer and been finally awarded for so-called parallel fired boiler. The boiler will be operated as a combination of Heat Recovery Steam Generator behind existing gas turbine with conventional gas fired boiler while it will utilize off-gases from an existing technology process. It has been specifically fit-to –purposed designed for heating plant in Eisenhüttenstadt, Germany. The plant owned by VEO company is located in ArcelorMittal steel mill and supplies technology steam and electricity into metallurgical plants and also heat to the city's inhabitants.

The typical brown field project has several challenges due to installation into existing old historical boiler house and existing infrastructure with many layout constraints. For example the new parallel fired boiler and existing GT will be connected by internally insulated 30 m long flue gas duct system due to an old boiler left just at the position in between the new boiler and GT.

Horizontal water-cooled combustion chamber is installed up stream of conventional HRSG modules of the hybrid boiler with three burners capable to co-operate with GT operation or without in so called fresh air firing mode. Supplementary firing fuel is either hüttengas (mixture of blast furnace gas and converter gas), natural gas or their combinations depending on steel mill operation. The specific design is thus reflection of a different plant operation modes combination with the aim to bring the customer the most efficient life cycle operation.

The plant replaces three old boilers and will substantially improve environmental measures and total plant efficiency.



Existing heating plant

Client

DSD Power Technology GmbH / Vulkan Energiewirtschaft
Oderbrücke GmbH (VEO)

Year of Completion

2022

Design data

Parallel fired boiler

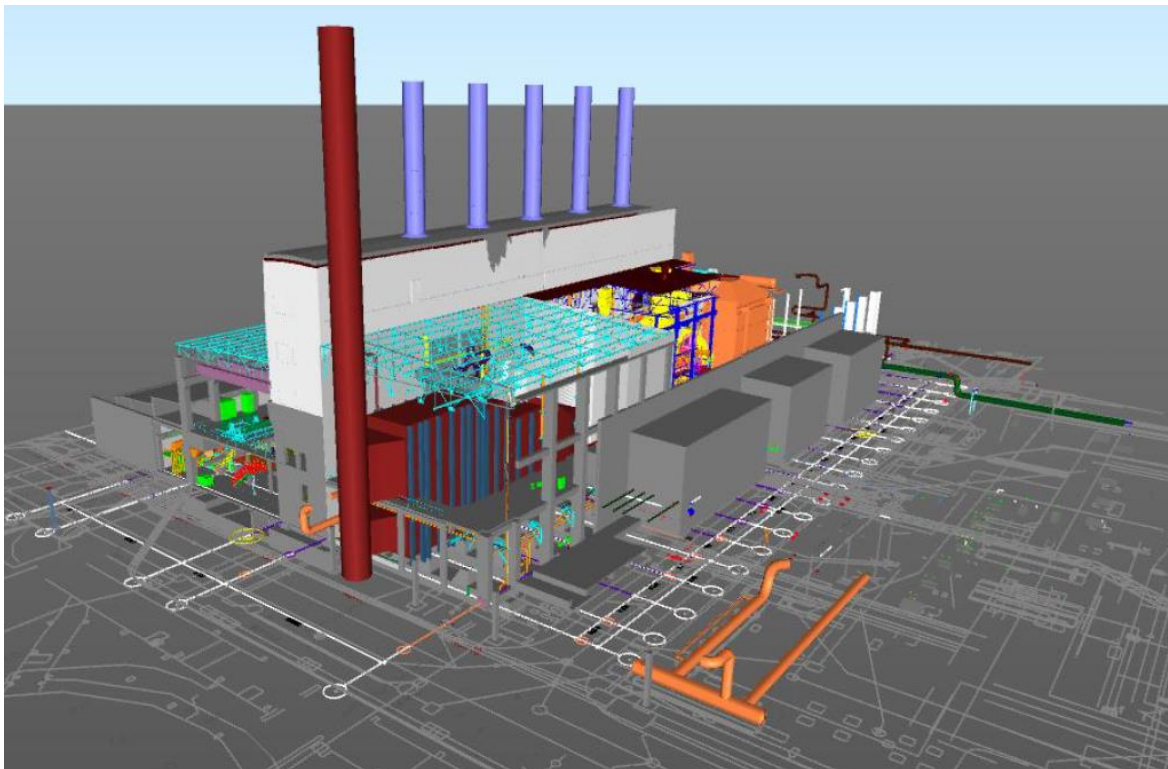
- 170 t/h (100 t/h at fresh air firing)
- 120 bar (a)
- 540 °C
- horizontal design with integrated water-cooled furnace
- supplementary firing (80 MWth)

UNIS Power scope of works

Design, manufacturing, delivery, site advisory services and commissioning of the hybrid boiler including supplementary firing system, hüttengas preheating system, air fan, feed water system, flue gas recirculation fan and other supporting systems.



Special hybrid burners has been developed with partner company



Plant 3D model