

Efficient fluidized bed power plant for refuse derived fuel WtE Infracorv, Germany

Infracorv, located in Industriepark Höchst outside Frankfurt, Germany, is one of the world's largest fluidized bed power plant. It comprises three lines of fluidized bed incinerators for the efficient and environmental friendly combustion of refuse derived fuel (RDF) for the generation of electricity, process steam and district heating.

Background

Ebara Corporation, Japan, acted as general contractor for the plant and supplied three fluidized bed combustors to the end customer Infracorv GmbH. ABB supplied the total electrical and automation equipment, including system engineering, installation and commissioning. The ABB solution is a state-of-the-art, totally integrated full scope ICE (Instrumentation, Control, Electrical) solution, offering a high plant availability and an excellent price-performance ratio. The Infracorv plant operates in cogeneration mode and produces approximately 70 MW of power and 250 tons of steam per hour.



The generated steam is used for heating processes in the Höchst facility. ABB's innovative methodology of precisely estimating the calorific value of the RDF helps the end customer to guarantee a stable heat input to the fluidized bed combustors.

ABB solution

- Control system 800xA
- Emission monitoring system (CEMS)
- Net calorific value estimation
- Boiler protection
- MV equipment
- MNSiS system for low voltage MCC applications
- Transformers (step-up and distribution)
- Frequency converters (with low harmonic kit)
- Emergency diesel
- Uninterruptible power supply
- Video supervision system
- Cabling
- Planning, execution, commissioning, service, remote support



Benefits

- Full-scope, totally integrated solution, one single point of contact
- High degree of standardization prepared for later integration of CMMS system
- Modern, consistent control and visualization methods
- Individually tailored operating stations
- Maximum reliability and availability
- Uninterrupted operation during installation and commissioning
- Optimal thermal utilization of waste
- Highest environmental standards and lowest emissions
- TÜV certified solutions for emission monitoring
- Complete portfolio of lifecycle services
- Reduced power losses with ABB transformers
- Reduced energy consumption with ABB variable speed drives

Plant data

Operator	Infraserv Hoechst GmbH
Commissioning	2010
Incineration lines	3
Combustion capacity	675,000 t/a
Steam	250 t/h
Electricity	70 MWth

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