

### AVE Wels – Waste Incineration System

**LOCATION:** Wels, Austria

**SYSTEM/TECHNOLOGY:** PS416 with Sucusoft S40 communication with PLS via Profibus-DP

**SERVICES:** Commissioning, Project management, Documentation, Basic-engineering and pre-engineering, Detail engineering, Installation supervision

**INDUSTRY BRANCH/TYPE OF PLANT:** Power Generation, Waste incineration systems

**CLIENT:** AVE Austria

**PROJECT SIZE:** EUR 200,000

#### TASK

- Combustion power controls (FLR) with "INP FUZZY CONTROL" for biomass and waste
- Infeed grate, boiler 1
- INSPECT video camera integration
- Training of the plant personnel
- Service and support
- Increase in the waste throughput by 10%
- Significant increase in availability
- Compliance with Federal Pollution Control Act (BImSchG) emissions values
- Low operating times of the backup burners
- Low steam fluctuations with regard to the set point specification  $\pm 3.5\%$
- Reduction in ignition losses  $< 3\%$
- Stabilization of the temperature ratio with regard to material adhesions and encrustation

#### DESCRIPTION OF DELIVERIES AND ACTIVITIES OF "INP FUZZY CONTROL" COMBUSTION POWER CONTROLS

- Process engineering concept on the basis of current process data and auditing of the plant operators
- Process optimization by modelling and simulation
- Improvement in highly-sensitive process sequences
- Specifications for modified operating concepts
- Use of fuel for energy
- Increase in performance
- Open and transparent control concept on the basis of multi-variable characteristic map control
- Stabilization of the steam output and oxygen content in the flue gas

#### POINTS OF CONTACT



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## INP Reference

- Optimization of thermal combustion processes
- Saving operating substances (reduction agent)
- Use and reduction in emission limit values

### TARGETS/KEY FIGURES OF THE "INP FUZZY CONTROL" COMBUSTION POWER CONTROLS

- Significant reduction in fluctuation range in all load cases
- Largely constant flue gas volume
- Significant reduction in CO peaks
- Smoothly running combustion process
- Reduction in strain on the involved and down-circuit units
- Reduction in the message sequence procedure
- Saving of service products in the de-dusting system and flue gas purification
- Increase in gross heat output and throughput rate
- Stabilization of the firing chamber temperature and residual O<sub>2</sub> concentration in the flue gas
- Reduction in emissions of carbon monoxide compared to the current operating method
- Homogenization of steam quantity production (see created analysis of 7 %)