

EUcontrol

Intelligent optimization of fossil-fired steam generators

The overall performance and availability of a fossil-fired thermal power plant is predominantly affected by the steam generating unit. Even though conventional plant DCS/PLC control ensures sufficiently safe and reliable operation, it does not rigorously optimize the boiler control settings or take care of special combustion problems. Not to mention that much of the information gathered by modern IT systems and advanced monitoring equipment remains untapped. Facing growing technical, environmental and commercial challenges, plant operators can avoid substantial investments by unearthing these "hidden reserves".

Solution

EUcontrol extracts available system information and uses it for intelligent control and optimization objectives: Increasing combustion efficiency, lowering emissions and reducing slagging/fouling tendencies in fossil-fired steam generators. The architecture is modular and allows seamless integration of disparate data sources. Different optimization criteria are looked after simultaneously for a definable set of constraints (multi-criteria optimization).

EUcontrol gathers information about the combustion process from different sources and models the process via system identification. From these models the optimal settings of the manipulated variables - dampers, hopper speeds, overfire air, excess oxygen - are determined and fed back into the plant DCS/PLC system. *EUcontrol* can be easily customized to the specific requirements of any given steam generating unit.

Specification

- Operating modes: Advisory mode (open loop) and Automatic mode (closed loop)
- Optimization: Multi-criteria optimization with user-definable cost function
- Interfaces: configurable, e.g. via OPC to DCS, or others upon request

Benefits

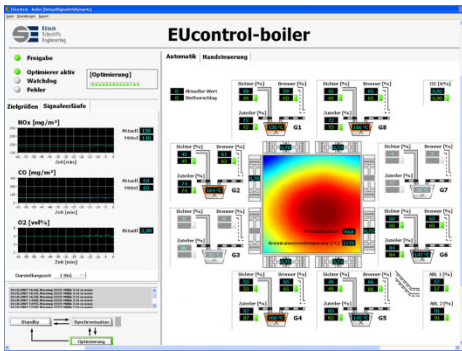
- Reduced emissions (NOx, CO), slagging and limiting Lol
- Improved boiler efficiency, availability and process quality
- Limited wear & tear and reducing thermal stress
- Best available cost-value ratio
- Improved handling of differing coal qualities

Contact

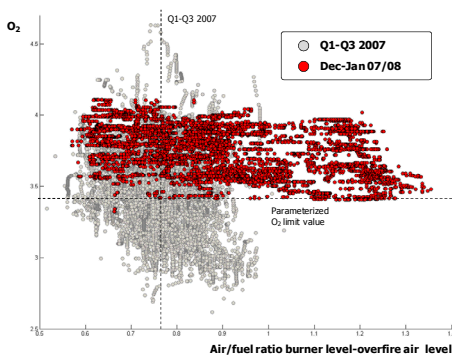
Direct: +49 (0)241 963-3151

Email: info@eutech.de

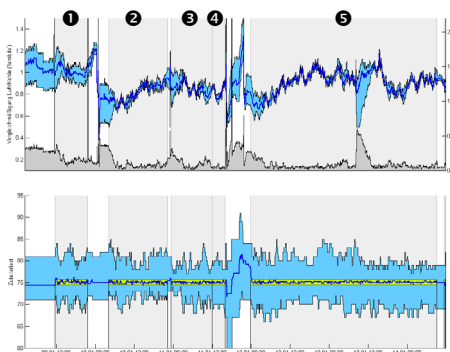
Internet: www.eutech-scientific.de



EUcontrol user interface



Optimization strategy



Process stabilization