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Fuel Flexibility and Fuel Change in Coal Power Plants

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Keywords: *fuel flexibility, fuel change, bi-fuel, coal-fired power plant, coal-combustion*

Abstract

A fuel change is a challenge affecting several components of a power plant that need to be assessed in order to continue operating efficiently and reliably, such as

Fuel:

- Transport and storage time of coal, danger of spontaneous combustion
- Pile management, temperature monitoring, and compaction

Grinding/Milling:

- Grind drying, retrofit options
- Ex-protection of the mills, inertisation concept during start-up and shut-down
- Pyrite management, geometry of the primary air inlet at the mill

Firing/Combustion:

- Minimum burner and combustion gas velocities, ignitability, heat release
- Fouling and slagging, resulting combustion temperatures changes
- Possibilities for conversion of burners with CFD analysis of the combustion chamber

Flue gas cleaning

Based on the experience of RWE as one of the largest generation companies in Europe with the largest lignite power plant fleet, we can share our know how in adapting the power plant to the changed conditions. The major focus of the presentation will be on boiler & combustion highlighting side-effects on other power plant components.