Abstract

Excessive ash deposits on a coal-fired boiler’s heat transfer surfaces will reduce its efficiency, and in extreme cases a boiler can be shut down by ash-related problems. Ash deposits are known as slagging and fouling deposits according to their location within the boiler, and have the most serious impact on boiler operation in terms of cost. It has been estimated that slagging incidents cost the global utility industry several billion dollars annually in reduced power generation and equipment maintenance.

This report sets out to consider how the understanding of the slagging and fouling process has developed, how changes in the utility sector have impacted on the importance and likelihood of ash deposition incidents, and how problems may be predicted and tackled on a practical level. Some important factors which impact on the topic are considered in this review including:

- Power generation sector deregulation;
- Technological developments;
- Environmental protection technologies;
- New technologies;
- Cofiring with biomass;
- Increased international coal trading.
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