GDF SUEZ is now ENGIE

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Paiton - Heat Rate Audit
18 till 21 August, 2015

Herman Vaelen

General conclusions

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- Heat rate calculations
  - The calculated heat rates as determined by Paiton according to the standards correspond closely to what is obtained with Thermoflow
  - The Thermoflow model is not fine-tuned and is therefore expected to show deviations in any case
  - The current calculation methods applied by Paiton are sufficient for performance monitoring
- Cost savings potential with current design
  - Calculating with $70/ton of coal and 4000 equivalent full-load hours, the savings potential equals **$6.66 million/year**.
  - Most of this savings potential can likely be recovered by focusing on condenser degradation, combustion imbalance, automation and controls, and air preheater leakage. The installation of additional measurements is recommended, such as CO and oxygen

General conclusions

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- Additional possible improvements
  - By adapting steam piping and using cold reheat steam for sootblowing and auxiliary steam, additional savings of **$350 000/year** are possible
  - Installing and integrating the EU Flame system as part of plant control will enable optimal combustion control on the long term
  - An Intelligent sootblowing system will increase effectiveness of sootblowing: only blowing when and where necessary to keep the cleanliness factors between narrow boundaries. This is also related to steam temperature and heat distribution in the boiler.

Document Details

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