

Performance increase in a Waste to Energy plant

Case study: How the BioNERGA optimization project was implemented and the results of it

Introduction

Bionerga, Houthalen is a Belgian Waste-to-Energy plant, built in 1984, burning household waste on two lines each with an 6 tons/hour capacity and equipped with Volund grates combined with rotary kiln.



Looking for optimization possibilities

In 2007 BioNERGA ordered a feasibility study with the purpose of revealing unused optimization potentials. The result was a report describing parts of the process that could benefit from automated FuzEvent control. The thorough inspection highlighted a number of areas interesting for improvement and a FuzEvent project was initiated and has controlled all major combustion control loops ever since.

The project

An important thing to understand is that the FuzEvent system is not replacing the operators but assisting them in performing better than average. The system takes advantage of the overview and patience of a machine and eliminates the negative human factors such as being tired, losing focus....

Even though the FuzEvent control is based on the operator's knowledge of the specific process, it reacts faster and more precise than the operator which results in an increased stability of the operation.

Dublix Engineering A/S

April 2007	Feasibility study provided by Dublix engineers.
July 2007	Order for a FuzEvent optimization project signed.
Dec. 2007	FuzEvent controlling waste feed, primary air and secondary air in operation.
May 2008	FuzEvent lime reduction features for the Flue Gas Cleaning system implemented.
Sept. 2008	Service contract signed.

- *The FuzEvent has up-time >95% in automatic controls of the most important combustion parameters*
- *The steam flow setpoint was increased by more than 2% which has given significant higher waste treatment capacity.*
- *The long term cooperation with Dublix has been splendid and is covered by 20-25 hour annual service including one onsite visit.*
- *Increased stability has resulted in lowered use of consumables (lime) in the flue gas cleaning*
- *The system has successfully been running with high stability for many years*
- *The operators don't like to work without FuzEvent anymore.*

Site Manager Maarten Meersschaert