MEASUREMENT & ANALYTICS

Bollnäs Energi AB in Bollnäs, Sweden has successfully installed ABB's ACF5000 Analyzer CEMS systems in its incinerators

Bollnäs Energi AB in Sweden turns to ABB to protect its air quality and improve waste management by making a good long-term investment in ABB's ACF5000 Analyzer CEMS system.

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01 Pre-treated crushed waste going into Bollnäs Energi's incinerators

Background
The city of Bollnäs, Sweden relies on monitoring equipment from ABB, the global market leader for continuous emission monitoring systems (CEMS), to keep tabs on its incinerators's emissions. One of the first analyzers of its kind to be installed in Sweden helps managers optimize processes too.

The 35-year-old incinerators in the Swedish city of Bollnäs burn about 60,000 metric tons of waste annually, at temperatures starting at around 950 degrees Celsius. This helps keep household garbage and other waste out of landfills.

Since 1975 the municipality of Bollnäs has invested in an extensive district heating network. As a type of heating, district heating is almost unmatched, with extremely high operational reliability.

With Bollnäs' investment of more than half a billion Swedish krona in new production capacity over the last five years, they are building an even stronger foundation for the future. Long experience in a highly consolidated team gives a good reason to continue the expansion efforts.

Measurement made easy

Bollnäs' main objective of establishing co-generation has been to obtain an oil-free energy production. The new Säverstaverket (Säversta works) gives them good opportunities to succeed. Updated boiler and heat exchanger infrastructure provide unique conditions for producing both electricity and district heating in a closed system. Reduced emissions are one of many positive effects in the new Säversta-verket, but it also gives us significantly greater overall capacity, which makes us less vulnerable at peak loads and difficult strains.

Bollnäs' new ACF5000 system, now in its fourth generation after ABB introduced it more than two decades ago, is significantly more sensitive and can accomplish the simultaneous measurement of 15 gas components, including H_2O, CO_2, CO, NO, SO_2, NH_3, HCl, HF, CH_4 and O_2.

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01 Left to right: Mr Fredrik Englund, Assistant Production Manager, Bollnäs Energi; Mr Frank Dönsberg, Service Technician and Mr Kenth Björkqvist, Sales, both ABB Measurement & Analytics
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02 Bollnäs Energi incinerator in Bollnäs, Sweden

What are the main benefits with ABB and the ACF5000 Analyzer CEMS system?
We ask Mr Fredrik Englund, Assistant Production Manager:
“We are handling 60,000 tons of waste per year and all the garbage comes from the three adjacent counties of Gästrikland, Hälsingland and Jämtland and it is being transported by truck to the incinerators”.

”The ACF5000 Analyzer CEMS system was installed in November 2016. To date it has been working very well and we are very satisfied with the product performance”.
”The main benefits we’ve seen with ACF5000 is the reliability and overall stability including the very stable simultaneous measurements of 15 gas components.”

“The good stability means we have no deviations and no drift with ACF5000”. The CEMS system measures with the same accuracy every time.
“Also, the function being able to remedy remote measurements is really good”.

Regarding ABB service it is working just fine. ABB’s service staff takes care of everything and we expect they do what they are supposed to do, every time”.
“And we also have good experience and good references from ABB’s ACF-NT analyzer, the precursor of ACF5000”.

The level of maintenance with ACF5000 is also much lower than before with the old system. That is great.”

“We feel very secure with ABB’s long life ACF5000 Analyzer CEMS systems. The stability and reliability of the systems make us proclaim ’Install and Forget’, which is excellent”, summarizes Mr Fredrik Englund.

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"We feel very secure with ABB's long life ACF5000 Analyzer CEMS systems. The stability and reliability of the systems make us proclaim 'Install and Forget', which is excellent"

Fredrik Englund, Assistant Production Manager, Bollnäs Energi AB

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01 Operator room at Bollnäs Energi AB, Sweden. Claes Malm, Process technician.

Today, Bollnäs Energi supplies more than 1700 properties with district heating in both Bollnäs, Arbrå and Kilafors via 90 km of culvert network in Bollnäs, 15 km in Arbrå (from Arbrå Värmeverk plant) and less than 10 km in Kilafors (from Kilafors Värmeverk plant). In the boilers in Arbrå and Kilafors, mostly bark and shavings are cooked. All three heating plants are monitored from the control room at the Säverstaverket in Bollnäs.

“There may seem to be a lot of things to keep track of on these screens, but most of them are done automatically and if it gets wrong somewhere, it will be alarmed instantly”, says Claes Malm.

ABB’s 800xA control system is very efficient and reliable making it possible to monitor all three plants from one single operator room.

ABB Mesurement & Analytics has supplied the following systems to Bollnäs Energi incinerator in Bollnäs, Sweden:
ABB’s ACF5000 Analyzer CEMS system is very sensitive and can accomplish the simultaneous measurement of 15 gas components, including H_2O, CO_2, CO, NO, SO_2, NH_3, HCl, HF, CH_4 and O_2.

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ABB AB
Measurement & Analytics
Pressductorgränd 4
S-721 59 Västerås, Sweden

abb.com/analytical

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