

Protecting the customer's investment

System 800xA for Power Generation has a unique ability to integrate ABB and third-party control equipment into a new state-of-the-art automation system, thereby protecting the customer's previous investments. Nuon's showpiece coal gasification plant at Buggenum in the Netherlands is a case in point.



The Willem-Alexander power plant is Nuon's showcase power generation facility and the first in the world to gasify biomass as well as coal on a large scale – a process that has reduced plant CO₂ emissions by 22 percent or 300,000 tons a year.

The plant has a net generating capacity of 253 MW and consists of one gasification line, one gas turbine with a heat recovery steam generator, and one downstream steam turbine.

Commissioned in 1993, Buggenum is equipped with an ABB Contronic E automation system and Contronic E Communication (CE-K) operating system. Several ancillary systems and pilot plants have been subsequently integrated. A high-profile carbon capture plant is currently under construction at the site.

Migrating to System 800xA for Power Generation

For this technically advanced and strategically important site, Nuon decided to replace the existing operating and monitoring systems with a future-proof System 800xA Operations solution.

The Contronic E process control system will remain in service, since ABB can assure Nuon with adequate support in the coming years. This will avoid a lengthy and costly shutdown that would otherwise be needed to install and commission an entirely new control system.

Contronic E will be connected with the new System 800xA Operations system with the help of 15 gateway modules (CCO20). As a result, the lifecycle of the plant can be extended without changing the automation concept, and renewal of the control level can be implemented in steps.

The CE-K replacement will be performed during a scheduled overhaul in September 2010.

Improving operator performance

The new control room will consist of six highly ergonomic operator workplaces, two shift supervisor workplaces and a configuration and engineering area. It will be refurbished and equipped with state-of-the-art large-screen displays and two System 800xA Extended Operator Workplace solutions.

The existing ABB Power Generation Information Manager (PGIM) system will also be integrated with System 800xA. This will provide operators, maintenance staff and management with fast and direct access to relevant plant and process data, thereby facilitating correct decision-making and enabling the speedy analysis of process disturbances.

ABB will commission the new operating system – consisting of around 11,000 I/O signals – during a scheduled shutdown of 28 days.