DCS from power plant engineers ...
...in more than 3,000 units around the globe
Biomass Power Plants Kaidi, China

**Initial situation and objectives**
- For the 16 newly constructed biomass power plants, Wuhan Kaidi needed a reliable supplier for the DCS for 18 units. As the biomass power plants are mostly built in rural regions, on-site service for these locations is inconvenient and costly. Therefore Kaidi needed a reliable control system that can also be accessed remotely.

**Solution**
- Installation of SPPA-T3000 control system in all power plants
- Operation via an intuitively structured interface from a central room at Kaidi
- Software upgrades can also be implemented remotely

**Benefits**
- Central control and monitoring of isolated small biomass power plants
- Reliable state-of-the-art control system with remote access
- High quality operator control due to easy user-interface with multiple functionality and uniform control systems across several plants

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**As our new biomass power plants are built in rural areas, it is important for us that they run with a reliable control system and that we can access data from all plants at our central control room at Kaidi. SPPA-T3000 Control System fulfills all these requirements.**

Zheng Tao, I&C Director
Wuhan Kaidi Electric Co. Ltd.
Geothermal Plant Hellisheidi, Iceland

Initial situation and objectives
- New control system required for new units for one of the largest Geothermal Plants in the world, that are compatible with the existing PCS7 system. The new control system should be future-proof and able to run on hardware-independent software.

Solution
- Installation of Siemens market leading DCS SPPA-T3000 control system
- Allows applications to be executed and delivered virtually without operating system restrictions or hardware platform compatibility issues
- Communication to other control systems possible

Benefits
- Lasting DCS that never goes obsolete during power plant lifetime due to the hardware-independence of the software
- High programming flexibility thanks to online configurations and the drag and drop system

"We are happy with its functionality, programming flexibility and smooth implementation in the construction phase."

Ingólfur Hrólfsson, Head of New Power Projects
Orkuveita Reykjavíkur
Steam Power Plant Pątnów II, Poland

Initial situation and objectives
- Creation of an overall concept which would allow the unit to be operated fully automatically, including the associated ancillary facilities and flue gas cleaning plant, but also to incorporate external systems manufactured by other suppliers. The control system should enable the plant to be operated economically with a long durability and guarantee maximum availability for all load scenarios.

Solution
- Automation of the unit and auxiliary systems by implementing SPPA-T3000 control system
- Modern I&C system, which monitors and optimizes the use of fuel
- Operator control and monitoring system for decentralized process control and archiving of data

Benefits
- Maximum plant availability thanks to automated procedures and integration of all technological components
- Increased economic efficiency thanks to the optimized use of fuel and extended durability

"When building our latest power plant, Pątnów II, we wanted to make sure that the unit would operate on a fully automatic basis by using state-of-the-art technology. Thanks to the SPPA-T3000 control system, we now have a power plant that offers maximum availability from a minimized resource input."

A. Grudzień, Power Plant Manager, ZE PAK SA
Initial situation and objectives
- A supplier and manufacturer of electrical and control systems with experience in waste incineration plants was needed for the new plant in Harlingen. The specific requirement was to offer a solution that could also be integrated into the existing control system of the power generation plant in the salt production facility.

Solution
- SPPA-T3000 control system offers full integration via a multi-unit concept for both the waste incineration plant and the power generation plant of the salt production facility.
- Service from a single source was the key for a successful and most cost-effective project from engineering, installation and commissioning to maintenance.

Benefits
- Comprehensive, most cost-effective solution
- Full integration into existing control system through a multi-unit concept
- High availability due to optimized interface, process and system redundancy and a full service package

We are very pleased with the whole project – a comprehensive and cost-effective solution tailored to our plant. In particular the multi-unit concept and the Siemens policy ‘SPPA-T3000 never goes obsolete’ were convincing.

Seerp Bosch, Power Plant Director
REC B.V.
Biomass heat and power plant Sandreuth, Germany

N-ERGIE Kraftwerke GmbH

High availability for the Sandreuth biomass heat and power plant, thanks to modern Siemens solutions

"For us, being able to obtain the complete electrical and I&C package for our biomass heating power plant from a single source was exactly the right solution."

Norbert Egner, Manager Electricals and Controls
N-ERGIE Kraftwerke GmbH

Initial situation and objectives
- The objectives of the project included the generation of 35 million kWh of green electricity per annum and the integration of the plant into the existing infrastructure of the power plant complex by usage of a state-of-the-art instrumentation, controls and electrical engineering solution

Solution
- Installation of Siemens electrical solutions for the complete electrical scope, adoption to the existing infrastructure
- SPPA-T3000 unit control system allows monitoring and optimization of the plant’s operation from various workstations

Benefits
- High availability thanks to reliable, cutting-edge instrumentation, controls and electrical engineering supplied from a single source
- Operation of the biomass heating plant via on-site workstations and in parallel with the control room of the existing power plant
- Significant savings in auxiliary power consumption achieved by use of frequency converters on drives

For us, being able to obtain the complete electrical and I&C package for our biomass heating power plant from a single source was exactly the right solution.

Norbert Egner, Manager Electricals and Controls
N-ERGIE Kraftwerke GmbH
Waste-to-Energy Plant Langmosseberg, Finland

Initial situation and objectives
- The WtE-plant is of unique design, having also a natural gas-fired gas turbine and HRSG for superheating delivered Valmet Power. The low temperature steam produced in the grate-fired boilers delivered by Hitachi Zosen Inova improves electrical efficiency

Solution
- Complete DCS solution for the entire WtE-plant including integrated fail-safe system
- Integration of gas and steam turbine control system, various black box systems as well as the entire electrical systems
- Key components for the plant’s electrical system as Medium voltage & Generator circuit breaker

Benefits
- State-of-the-art DCS with uniform user interface to control and monitor the entire WtE facility
Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens’ products and solutions only form one element of such a concept.

Customer is responsible to prevent unauthorized access to its plants, systems, machines and networks. Systems, machines and components should only be connected to the enterprise network or the internet if and to the extent necessary and with appropriate security measures (e.g. use of firewalls and network segmentation) in place.

Additionally, Siemens’ guidance on appropriate security measures should be taken into account. For more information about industrial security with regard to SPPA-T3000, please visit the Siemens Customer Portal. Due to the character of the information provided, the Customer Portal is exclusive to registered Siemens customers using SPPA-T3000. If you are a SPPA-T3000 user, but not registered yet, please approach your local Siemens partner or apply for registration by using the “Register” function on the Customer Portal website: http://www.siemens.com/cp4ic.

Siemens’ products and solutions undergo continuous development to make them more secure. Siemens strongly recommends to apply product updates as soon as available and to always use the latest product versions. Use of product versions that are no longer supported, and failure to apply latest updates may increase customer’s exposure to cyber threats.

To stay informed about product updates with regard to SPPA-T3000 please refer to the above mentioned Customer Portal, with regard to other Siemens systems please subscribe to the Siemens Industrial Security RSS Feed under http://www.siemens.com/industrialsecurity.