Spotlight on Symphony Plus

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Projects

ABB has been awarded a contract by Saigon Ban Mai Commercial Company Limited to supply a Symphony™ Plus total plant automation system for the 66 MW Vinh Son hydropower plant, Vietnam. The plant consists of two 33 MW units and is operated by Vinh Son-Song Hinh Hydropower, one of the country’s largest power companies.

ABB will replace an obsolete ABB/Jeumont Cegelec control system with a state-of-the-art Symphony Plus control system based on the latest high-performance HPC800 controller. ABB is also responsible for design, engineering, supply, installation and commissioning.

Utilizing best-in-class technology, the solution will seamlessly integrate all the control subsystems and control functions into a centralized plant control center. The subsystems and functions integrated include the turbine, generator, power transformer and unit auxiliaries, plant control and common plant auxiliaries, high voltage switchyard, spillway, intake and other hydraulic systems; as well as joint control, cascade control, flood and flow control, plant frequency control, and reactive and active power control. The unit control center provides superior control strategies and intuitive operator interface for reliable and consistent operation.

ABB will also supply an integrated historian for reliable total plant diagnostics and operations optimization, as well as business data storage and archiving for the power plant.

The operational benefits of the solution for the end customer include advanced information analysis, greater plant design flexibility, improved process control and asset reliability, and improved operation and maintenance efficiency. The retrofit will take place during planned production shutdowns, and will be completed in 2015.

The Vinh Tan power generation complex, located on Vietnam’s south coast some 250 km from Ho Chi Minh City, is set to play a key role in meeting the country’s growing demand for electricity. The complex is being developed in three phases and will have a total capacity of 4,400 MW.

Phase 2 is currently being constructed by Shanghai Electric Corporation (SEC), the engineering, procurement and construction (EPC) contractor for the project. The plant will consist of two 622 MW supercritical coal-fired units with Foster-Wheeler “W” flame technology boilers. The first unit is scheduled to start commercial operation by the end of 2013, and the second unit in 2014.

ABB has been selected by SEC to automate the two supercritical units using the latest Symphony Plus technology based on BRC410 rack controllers and I/Os. The solution will control the plant’s boilers, turbines and generators, and include a modulating control system, sequence control system, data acquisition system, feed water pump turbine control, and steam turbine control. Each unit will have more than 9,900 I/O points.

ABB will also provide a performance management system using S+ Operations’ integrated Optimax® PlantPerformance package. The package includes real-time database platform, performance calculation, and ‘what-if’ analysis to guide operators and engineers in operation and maintenance.

Vinh Tan 2 is located in the city of Vinh Tan in Binh Thuan province. It is owned by Vietnam Electricity (EVN), the largest power company in Vietnam and one of the top-ten corporations by revenues in the country.

ABB has been awarded a contract by China Resources Power Holdings to automate a new 700 MW supercritical coal-fired power plant in the Xiaoting Industrial Park in Yichang City, Hubei province, China.

The plant will supply heat and power to the production and manufacturing facilities at the park, many of which are in the chemical industry. Surplus power will be delivered to the Hubei power grid. The plant will replace a number of small obsolete power plants that were inefficient and heavy polluters. Production is scheduled to start at the end of 2013.

ABB will provide a Symphony™ Plus total plant automation system based on the high-performance HPC800 DIN-rail controller for the two 350 MW units. The control functions cover the systems for data acquisition, modular control, sequence control, furnace safety supervision, digital electro-hydraulic control, feed-water pump turbine control, electrical control, and deaerification control by selective catalytic reduction. There are more than 7,200 I/O points per unit. ABB is also responsible for design, engineering, commissioning and testing.

By integrating boiler and turbine control the solution will improve plant efficiency and reliability, operation and maintenance.

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Projects

Vinh Son hydropower plant, Vietnam

Xiaoting supercritical power plant, China

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Projects
Symphony Plus total plant automation. The power of a well-orchestrated performance.

Symphony Plus is the new generation of ABB’s total plant automation for the power and water industries. Designed to maximize plant efficiency and reliability through automation, integration and optimization of the entire plant, Symphony Plus offers a simple, scalable, seamless and secure solution. Tune to Symphony Plus and experience the power of a well-orchestrated performance. [www.abb.com/powergeneration](http://www.abb.com/powergeneration)