Success story

Evolving Infi 90 to state-of-the-art Symphony Plus systems in China

ABB has a huge installed base of Infi 90 and Symphony Harmony control systems in China. Two companies that recently benefited from upgrading their aging Infi 90 power plant control systems to state-of-the-art Symphony Plus systems are Huaneng Group and Shandong Zhonghua Power.

Originally introduced in 1980 as Network 90, the Symphony™ family of plant automation systems has progressed through several evolutionary stages: INFI 90™, INFI 90™ Open, Symphony Harmony and now – the most advanced total plant automation system on the market – Symphony Plus. As a result of ABB's life cycle policy of 'Evolution without obsolescence,' this family of systems now represents one of the largest installed bases of distributed control systems in the world.

Many of these systems are installed in power, water and process industry plants in China. Two power generation companies that recently decided to upgrade their Infi 90 power plant control systems to Symphony Plus come from different ends of the corporate spectrum.

Huaneng Group

For Huaneng Group’s 1,200 MW coal-fired power plant at Hegang in Heilongjiang province, ABB recently upgraded the 15 year-old Infi 90 distributed control system at one of the plant’s three units.

In the unit’s old control system, the turbine was controlled by a separate system, and important functionalities such as bypass, the electrical control system and thermal signals were not integrated with the DCS. The customer required this to be rectified with an advanced distributed control system that would control all areas of the unit, including the turbine, and integrate all plant signals into a unified system.

Whereas Huaneng Group operates 85 thermal and hydro power plants in China and is one of the country’s largest electric utilities, Shandong Zhonghua Power runs three power plants and is considerably smaller. Irrespective of their size, both companies are benefitting hugely from their recent upgrades to Symphony Plus.
ABB proposed and installed a Symphony Plus solution based on its high-performance BRC 410 controller, intuitive and easy-to-use S+ Operations human machine interface, and S+ Engineering’s Composer suite of engineering tools.

Thanks to the backward compatibility of the Symphony family, all the customer’s original control strategies could be retained, simply by transferring the configuration directly into the new controllers. This greatly reduced the project duration to just 30 days and significantly lowered the customer’s investment and training costs.

**Shandong Zhonghua Power**

Although Shandong Zhonghua Power Company (SZPC) operates only three plants, it is jointly owned by two giants of the Chinese power sector: China Guodian Corporation and Hong Kong-based China Light and Power. Unit 2 at the company’s Liaocheng Power Station in Shandong province has been operating with Infi 90 since 2002.

Even though the control system had been operating reliably and satisfactorily throughout its lifetime, SZPC wanted to be certain that the unit’s control system would continue to operate with the same high level of reliability for another decade. SZPC was also keen to reap the full benefits of a state-of-the-art plant automation system by upgrading to Symphony Plus.

ABB proposed a Symphony Plus solution that would retain as much of the existing Infi 90 hardware and data as possible. The solution consists of BRC 410 controllers, S+ Operations HMI, and S+ Engineering’s Composer engineering tools. The backward compatibility of the Infi 90-Symphony family enabled ABB to transfer all the original control strategies and graphics to the new controllers and retain all the existing control cabinets and cables without change.

This delivered a raft of significant benefits to the customer, including speedy project delivery within a scheduled plant shutdown, reduced project costs and training expense, and improved operator efficiency thanks to the highly integrated control environment.

Much impressed by the results of the upgrade and ABB’s smooth and speedy project execution, SZPC recently awarded ABB a second contract to upgrade unit 1 to Symphony Plus.

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