



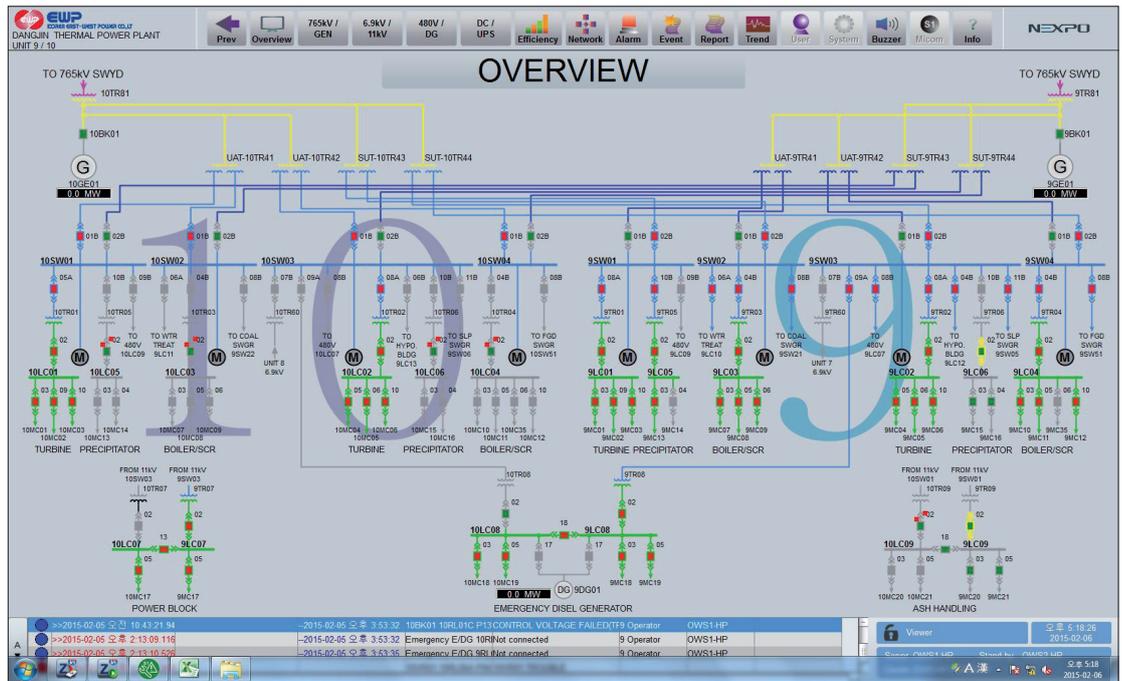
*An electric partnership: COPA-DATA and NEXPO*

# Korea East-West Power Company Installs zenon

The Dangjin Thermal Power Plant is located in the north-westerly province of Chungcheongnamdo in Korea. It is an established plant with eight active coal-fired units with 500MW. In 2011, work began to scope two new power plant units. These units – Dangjin 9 & 10 – will be Korea's first 1,000MW USC coal-fired power plants.

The Dangjin Thermal Power Plant in Chungcheongnamdo is operated by Korea East-West Power Company Ltd (EWP). From the start, it was clear that the extension of the Dangjin Thermal Power Plant by building units 9 and 10 would require world-class engineering technologies and next-generation power-plant design in order to meet the environmental and economic objectives and deliver high-efficiency operation. Korean Sys-

tem Integrator, NEXPO, based in Seongnam-Si, has a proven record of delivering successful automation and engineering projects in the Korean energy sector and, as a result, began bidding to be involved in the project in 2011. NEXPO was awarded the contract for supplying the Electrical equipment Control and Monitoring System (ECMS) for the thermal plant in November 2012.



*zenon provides a clear visual overview of the entire operation throughout the two new buildings (Units 9 & 10).*

## A NEED FOR ADVANCED SOFTWARE

Although NEXPO has delivered successful projects for the five Korean GENCOs since 2003, with two strong references delivering ECMS systems in similar ‘combined cycle power plants’, the project team at NEXPO felt that for this project a more advanced software was needed. Park Mun-Hwan, Engineering Department Leader at NEXPO, explains the situation: “In previous projects we had designed a solution using a VAMP protection relay with our own SCADA system. During the commissioning of these projects we had encountered significant hurdles and limitations with that software and the team felt they needed to look again at the market to find a more advanced technical solution. We wanted to find a solution that would make engineering easier and present a better overall solution for the control and monitoring of the plant.” After assessing the various technologies available to them, the NEXPO team decided that the zenon SCADA software from Austrian software manufacturer COPA-DATA would best meet the project requirements.

## RELIABLE OPERATION AND CONTROL

Choe, Hyeon-Hui, the project manager at NEXPO with responsibility for the two Dangjin 1000MW thermal power plant projects, says zenon’s ease of engineering was a key advantage: “zenon is an impressive tool. The use of parameters instead of

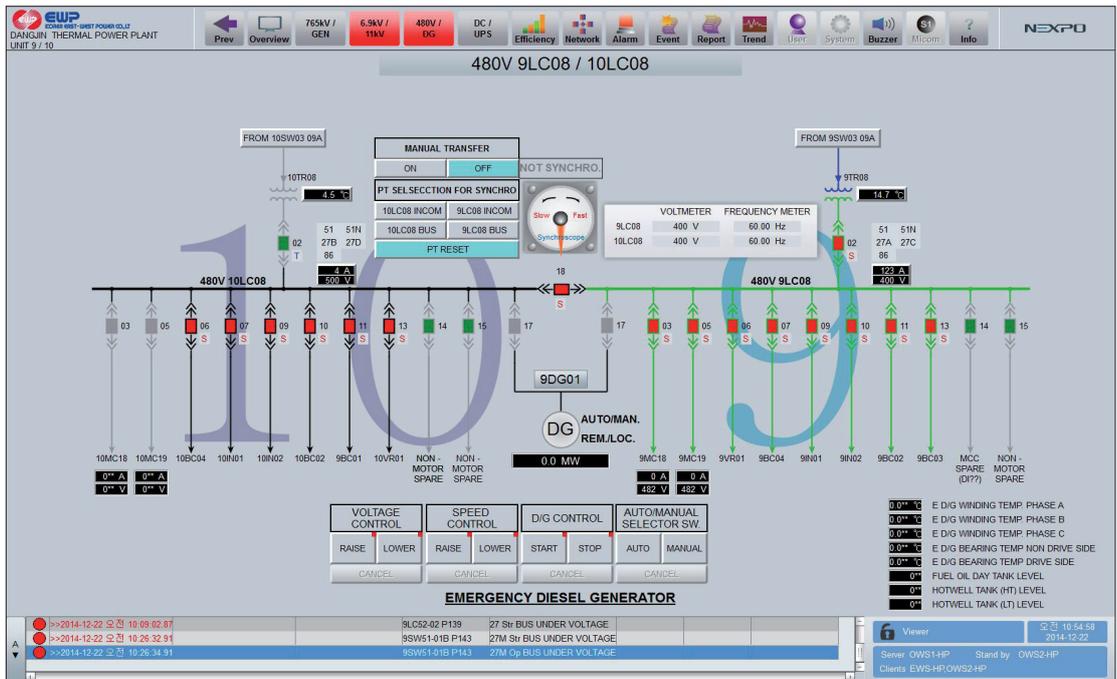
programming and the huge library of pre-configured tools designed for use in the energy industry made it a very compelling solution. Staff at Dangjin Thermal Power Plant were also very impressed with the graphical capabilities; zenon makes it very easy to produce ergonomic user interfaces.”

It was important that the system deployed would:

- ▶ Improve the balance control, especially for such a large power plant
- ▶ Create cost savings by reducing operating manpower
- ▶ Reduce – or eliminate – the opportunities for human error
- ▶ Create optimum energy efficiency through effective protection and power control
- ▶ Limit any power failure spread to a minimum
- ▶ Reduce fault analysis time by delivering clear tools and analysis.

## STATE-OF-THE-ART SOFTWARE

Choe, Hyeon-Hui: “zenon delivered everything we asked and more. It is a better quality system than any we have used before. By using zenon, we were able to ensure the easy operation and maintenance of the system, easy fault analysis, a stable communication network and reliable redundancy very simply. In addition, the excellent technical support – in particular, the excellent communication with COPA-DATA Korea – has really



Color-coding rapidly communicates equipment states and operators can drill down to access more detailed information.

impressed us. zenon offers state-of-the-art software backed up by a great team.” The scope of the project included the control and monitoring of all the facilities and devices within the BOP system, including the IEDs, electrical equipment, IED controller, generator, transformer, capacitor bank and protection controls. This meant that any system had to adhere to the IEC 61850 standard.

### STATE-OF-THE-ART SERVICE

Park Mun-Hwan describes how COPA-DATA helped the NEXPO team ensure compliance with the IEC 61850 standard. “COPA-DATA sent out a zenon Energy Edition expert from its headquarters in Salzburg to support us on the project, so we had significant support ensuring our engineering was IEC 61850 compliant. I think this experience has been indicative of the support and service we have received from COPA-DATA at all levels.” Kim Jung-Bae, CEO at NEXPO, concurs: “We’re now coming to the final stages of this huge project – a milestone for Korean energy production. For NEXPO, the project has also been a milestone – we have found a very impressive software solution in zenon and an impressive partner in COPA-DATA Korea. I expect this will be just the beginning of a very impressive partnership between NEXPO and COPA-DATA in the Korean Energy market.”

### KOREA EWP DANGJIN THERMAL POWER PLANT 2 x 1000MW UNITS (UNITS 9 & 10)

- ▶ Rapid and flexible project engineering
- ▶ Intuitive and ergonomic graphical user interface
- ▶ Simple system operation and maintenance
- ▶ zenon Report Generator for powerful reporting functionality
- ▶ IEC 61850 compliance
- ▶ Simple-to-configure and reliable redundancy
- ▶ Remote monitoring and control
- ▶ Optimum reliability and security