ABB provides collaborative control room center for smart city approach

Early engagement with ABB during the design of the new control center has made it possible to consolidated three control rooms, spread across various municipal facilities, into one purpose-built collaboration space housed within the main administration building.

Energy supplier Borås Energi och Miljö (BEM) is building a combined heat and power (CHP) plant at Borås, Sweden. Located around the city are power, waste-to-water treatment, water purification, bio gas and district heating plants, each of which had their own control room.

Moving to one collaborative control center, shortening the communication chain and reducing the time and costs of travel to individual locations. It also provides a common hub for maintenance planning, helping the company move from reactive to predictive maintenance. The solution enables BEM to optimize its process operations and redeploy operators on other tasks in Solbacken.

Consolidating three different control rooms into one single future proof collaboration environment helps Swedish energy provider realize its smart city ambitions through quicker information exchange between its facilities.

The collaborative control center features ABB Ability™ System 800xA Distributed Control System (DCS) and Intelligent Extended Operator Workplaces (EOW). The combination brings the flexibility needed to adopt to future digital trends, while ensuring operators stay focused on their tasks.

The DCS collects operational data from all the individual municipal plants, together with that from the company’s own IT systems. It is turned into useable information and relayed, around-the-clock to the operators located in Solbacken. This provides a safer and efficient coordination of the communities’ entire digital infrastructure and directly improves output and profitability. This approach is the basis for ABB Ability™ Collaborative Operations – a remote operations and maintenance model that helps power generation companies harness the potential of digitalization.
“Faced with rapid technology development, we needed to abandon traditional ways of planning control rooms and create a future proof platform,” says Pierre Schäring, Control Room Designer of the BEM project.

“The early conceptual design study helped the entire project to see the future in a common way. This also gave an understanding of what could be achieved in the process of change that the whole company was facing when the project first started.”

“The move from traditional computerized control rooms into one common digital collaboration environment, makes the entire BEM organization more efficient and proactive,” says Göran Carlsson, Technical Manager at BEM.

“The 24/7 collaboration center is located in the center of the plant, which gives them quicker access to make faster decisions during normal or abnormal situations. So, during an incident, the room can transform into a crisis center with instant access to all relevant predefined functions for the respective roles.”

During the design phase, ABB and BEM held workshops to engage with the stakeholders to evolve the digital infrastructure needed to coordinate the separate sites into one collaborative environment. It was during the conceptual design study that ABB identified that it would be more efficient to add an extra level to the administration block, rather than construct a separate building, thereby saving substantial costs.

For operators to be effective, BEM recognized the importance of human factors and the need to make the work environment conducive to efficiency and wellbeing. As such, the collaboration environment is completely modernized, considering ergonomics to maximize operator effectiveness.

“The value of being able to present optimized and aggregated information, combined with a fully integrated operator effectiveness solution, poses huge potential for business transformation,” says Jörgen Karlsson, Sales Manager at Power Generation & Water at ABB. “We partner with our customers to best meet their needs, delivering sustainable progress for power generation operators and company.”