ABB is delivering a new distributed control system for the desalination plant at the Dubai Aluminium (DUBAL) smelter complex in Dubai. The solution is one of several that ABB has recently provided for this vast power, water and production complex, widely considered the industrial flagship of Dubai.

DUBAL operates one of the largest single-site aluminum production complexes in the world.

Built on a 480 hectare site, the state-of-the-art smelter complex comprises 1,573 reduction cells arranged in seven potlines, a 2,350 megawatt power plant, a desalination plant that produces 113.5 million liters of distilled and potable water a day, and various other facilities including a carbon plant, casting houses and port. The smelter produces more than 1 million tonnes of molten aluminum a year.

ABB has a large installed base of control systems at the complex, and has been a supplier of choice throughout DUBAL’s 34-year history. In fact, ABB’s Procontrol P14 and Advant systems are at the heart of the site’s power generation and desalination processes. Between them, the two automation platforms control most of the gas and steam turbines and boilers at the power plant, as well as the steam turbines and pumps at the desalination plant.

Continuous evolution is the hallmark of an ABB control system – it protects the customer’s investments in hardware, software and staff expertise over the life cycle of the plant.

In the past few years, DUBAL has awarded ABB several contracts to upgrade or maintain the Procontrol and Advant control systems that monitor, control and optimize the performance of the steam turbines, gas turbines and boilers at the DUBAL power plant.

After experiencing the performance of the upgrades and ABB’s project execution capability and commitment, DUBAL decided to replace the existing third-party distributed control system at the site’s desalination plant with ABB’s Procontrol P14.
In switching to Procontrol P14, DUBAL is set to gain a raft of operational and cost benefits. Procontrol P14 is renowned among operators for its ease of navigation. It has one of the fastest response times of any distributed control system on the market and one of the best track records in mean time between failures (MTBF).

This results in faster operator decision-making, improved plant availability and minimal maintenance and spare part costs – all of which are key DUBAL requirements.

ABB is responsible for the design, engineering, integration testing, installation and commissioning of the solution. ABB has already installed Procontrol P14 at two of the desalination plant’s six units, and is on schedule to complete the entire project by March 2014.

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