

# PROJECT NARRATIVE



## System Description

**Company (Owner) :** Sharjah Electricity and Water Authority (SEWA)

**Plant Name:** Layyah Power & Desalination Station Units 5 & 6

**Emerson Product:** Ovation , PlantWeb

**Location:** United Arab Emirates (U.A.E.)

**Plant Size:** total plant is 8 units, 1400 MW baseload

**Boiler/Plant Type:** Desalination

**Application:** BLR, BMS, STC, boiler protection, and desalination process

**Contract Initiation:** June 2006

**Project Completion:** June 2007

**Total I/O Points:** ~13,000



Photo courtesy of [www.sidem-desalination.com](http://www.sidem-desalination.com)

## **SHARJAH ELECTRICITY AND WATER AUTHORITY (SEWA) Layyah Power & Desalination Station Located in the United Arab Emirates (U.A.E)**

Emerson Process Management won a contract to apply the company's PlantWeb™ digital plant architecture to modernize Units 5 and 6 of the Layyah Power & Desalination Station located in the United Arab Emirates (U.A.E). The 8-unit, 1,400-MW baseload plant, which is vital to the region's growing water and energy needs, is owned by Sharjah Electricity and Water Authority (SEWA). SEWA is the only power producer in the Sharjah Emirate, and is the third-largest utility company in the United Arab Emirates.

The project was a cooperative effort between Emerson and Danway L.L.C, a subsidiary of Emirates Holdings. An Emerson sales representative for U.A.E. Danway was responsible for overall project coordination as well as procurement of critical field devices, while Emerson's Power & Water Solutions industry center managed project implementation including engineering, field installation, startup, commissioning and training.

Emerson installed its PlantWeb digital plant architecture with the company's Ovation™ expert control system and intelligent field instruments and valves. All existing instrumentation was replaced with Emerson's intelligent field devices, including Rosemount® pressure and temperature transmitters, Fisher® valves and Fisher FIELDVUE® digital valve controllers, and Rosemount Analytical liquid and gas analyzers.

Emerson's comprehensive PlantWeb digital automation solution for Layyah also included the AMS Suite: Intelligent Device Manager which streamlines device configuration, enabling savings and increased efficiency of plant startup. The AMS Device Manager supports proactive maintenance by providing online access to instrument and valve process information, and diagnostic status information. It also delivers predictive health information and corrective guidelines as needed to plant personnel, and automatically documents all field device maintenance information. The predictive intelligence of



“Emerson’s experience in the Middle East and the recognized capability of PlantWeb technology allowed us to offer a complete instrumentation, automation and control solution,” said Bob Yeager, President, Power & Water Solutions for Emerson Process Management. “SEWA’s adoption of this digital automation architecture demonstrates the growing recognition of the economic and operational advantages offered by these technologies.”

Emerson’s AMS Suite helps SEWA not only optimize the Layyah plant operations and maintenance activities, but avoid costly unplanned outages.

The two power units modernized in this project, Units 5 and 6, are each coupled to a 5 MGD desalination train. In addition to providing power for the high-energy desalination process, the units also provide electricity to the grid. For this project, the Ovation system controls and monitors the boilers, turbines, burner management systems, boiler protection systems, and desalination units. The Ovation system also interfaces to the existing SCADA system. In all, the Ovation system manages approximately 13,000 I/O points across the two units.