

# PROJECT NARRATIVE



## System Description

**Owner:** Harbin Water Supply and Drain Company

**Plant Name:** New Water Treatment Plant and Reservoir

**Product Type:** Ovation, PlantWeb

**Plant size (MGD):** 119 MGD water treatment plant and 94 billion gallon reservoir complex

**Application:** WAT, SCADA

**Completion Date:** August 2006

### Summary of Major Systems –

- 2 Redundant Fast Ethernet Network
- 5 Redundant controllers
- 1 Redundant SCADA Server
- 48 Laptop PC's
- 24 Operator Workstations
- 2 Remote Terminal Units
- 142 Foundation Fieldbus devices including Rosemount Transmitters and Analytical instruments
- ~ 8,000 I/O points



## **HARBIN WATER SUPPLY AND DRAIN COMPANY** ***New Water Treatment Plant and Reservoir*** ***Located in the City of Harbin, Heilongjiang province, China***

Harbin Water Supply and Drain Company selected Emerson Process Management to install its PlantWeb™ digital plant architecture with the Ovation™ expert control system in China's first integrated water/wastewater project. The project includes automation of a new water treatment plant and reservoir complex serving Harbin City.

China's seventh-largest city and capital of Heilongjiang Province, Harbin has 3 million residents and produces 940,000 tons of wastewater per day. As part of a plan to meet this ever-growing demand, the Municipal Authority of Harbin is building the new 119 million gallons-per-day (450,000-cubic-meters-per-day) water treatment plant, a new 94 billion gallon (356-million-cubic-meter) reservoir complex, and expanding and rehabilitating its existing water distribution network by installing 110 miles (175 km) of pipeline.

At Harbin, PlantWeb with the Ovation expert control system, Foundation™ fieldbus intelligent field devices, and SCADA (Supervisory Control and Data Acquisition) system with integrated AMS Suite: Intelligent Device Manager, will provide continuous monitoring and control of the new plant and reservoir complex, as well as monitoring and control of 14 existing remote wastewater plants and pump stations that are part of the wastewater collection system.

In total, Emerson's Ovation system will monitor and control roughly 8,000 I/O points. Emerson will install two redundant networks, five redundant controllers, one redundant SCADA server, 48 laptop PCs, 24 operator stations, two remote terminal units and 142 Foundation fieldbus intelligent devices including Rosemount® transmitters and Rosemount Analytical instruments. The project is expected to be completed in August 2006.

Besides providing superior control of processes, installation of the Ovation system will also enhance operational efficiency and

flexibility by enabling operators to monitor both the water and wastewater processes from a single location – a new central control center to be located at the municipal authority’s headquarters.

Emerson offered a comprehensive and scaleable control solution that will allow Harbin to fully and efficiently integrate and optimize their new assets, like the plant and reservoir, as well as existing plants and pump stations. In addition to delivering control and valuable operational insight throughout their expanding water system, the Ovation system will be able to grow to meet future needs.



Ovation is an automation solution that optimizes the operations and economics of water and wastewater operations. Some of the largest cities in the country – including Detroit, San Diego and Sacramento – as well as smaller municipalities, rely on Ovation to help ensure cleaner, safer water supplies, reduce environmental hazards and realize significant operational cost savings. Ovation makes it possible to seamlessly integrate information not only at the plant level but also on a district-wide basis, resulting in additional measurable benefits.