



A Yokogawa Commitment to Industry

**vigilance**<sup>™</sup>

## **SUCCESS STORY**

# **Mongolia's Power Plant Modernization Project Ulaanbaatar the 4th Thermal Power Station**

**Location:** Ulaanbaatar, Mongolia

**Order Date:** February 1997

**Completion:** December 1998

**Industry:** Power

The 4<sup>th</sup> Thermal Power Plant is owned and operated by the Mongolian government. Its eight coal-fired boilers have a combined power output of 540MW, making it the country's largest power station. It provides approximately 70% of the power and 60% of the heat for Mongolia's capital city, Ulaanbaatar.

This plant was jointly constructed by the former Soviet Union (USSR) and Mongolia, and entered operation in 1983. With the dissolution of the USSR in 1991, the supply of spare parts was halted and equipment failures became more frequent. The Japanese government consequently extended grants and soft loans to upgrade the plant's facilities in two phases. Work on phase one commenced in 1996 and Yokogawa received the order to replace the control systems, field sensors and control valves for boilers number 1 through 4 with the microXL control system, YS100 single-loop controllers and other Yokogawa products.

The plant site was very remote with poor transport and infrastructure, and an extremely harsh environment in winter. In addition, much of the documentation for the original construction work was not available. Furthermore, the customer requested that the original controls be replaced with panel board controls. Yokogawa rose to these challenges and assumed overall responsibility for the replacement project, working in close cooperation with the customers to carry out system design/engineering, configuration, project management, commissioning services, and operator training. The project scope covered the customers' needs over the entire project life cycle and was key to the project's success. The owner was very satisfied with Yokogawa's commitment to the project, and Yokogawa's performance surpassed their expectations.

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**System:** microXL, YS100(micro processor based single-loop controller), FA-M3(PLC)  
**Scope:** System Design/Engineering, Configuration,  
Project management, Commissioning Services,  
Supplying Field Equipment, Maintenance Contract