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## **SUCCESS STORY**

# **Liddell Power Station revamped successfully Macquarie Generation**

**Location:** Muswellbrook, NSW, Australia

**Order Date:** November 2000

**Completion:** 2004

**Industry:** Power

Macquarie Generation's Liddell Power Station is located near Muswellbrook, NSW, approximately 200km north of Sydney in the Hunter Valley. It comprises four coal-fired boiler steam turbine generator sets, each unit of 500MW capacity.

The project consisted of the replacement of all existing process controls and monitoring and protection systems on each unit as well as the common station plant equipment. In addition, a substantial part of the field devices were replaced or new loops installed. Complete design and installation services were also included in the scope, and were provided by Yokogawa Australia in conjunction with alliance partner Downer-RML. An Exaquantum Process Information Management System was installed to handle the normal data history, comprising 20,000 tags per unit plus an additional 20,000 tags for the system common components, making a total of 100,000 tags for the complete system.

The first unit controls were implemented in the new control system in 2002, followed by the common station plant controls. Thereafter, each subsequent unit will be installed progressively, culminating in final completion in 2004.

The entire project is being conducted under an alliance contract, with the alliance partners comprising Macquarie Generation, Yokogawa Australia, and Downer-RML as the installation contractor. The alliance arrangement includes the concept of a target price which is the estimated cost price for completing the work, and which is agreed to by all partners after the completion of the up-front engineering specification. Payment is made by Macquarie to the alliance partners on the basis of how close the final cost is to the target price, and whether a set of Key Performance Indicators are met or exceeded.

The CENTUM CS 3000 distributed control system controls all aspects of the project, including all associated plant units. Yokogawa's Sydney and Melbourne offices joined forces on the pursuit of the project with the engineering being performed by the Sydney office.

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<b>System:</b>	<b>CENTUM CS 3000</b>
<b>Total I/O:</b>	<b>approximately 30,000</b>
<b>System Configuration:</b>	<b>12x HIS, 20x Screens, 2x EWS</b>
<b>Other:</b>	<b>Exaquantum Information Management system</b>
<b>Scope:</b>	<b>System, project management, design, configuration engineering, installation, commissioning services</b>

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