

UNITROL® 6800

Successfully commissioned at AGL Loy Yang



AGL Loy Yang – One of Australia's largest steam turbines with a heart of UNITROL® 6800

Customer need

During the Australian summer of 2012 the first UNITROL® 6800 static excitation system (SES) was successfully commissioned at the AGL Loy Yang power plant with support from the ABB local engineering center (LEC) in Australia. Altogether the customer ordered two UNITROL® 6800 SES for the retrofit of unit 1 and unit 3. There is a total of four UNITROL with the SES of unit 2 and unit 4 using UNITROL® 5000.

While this is not the first steam turbine application for UNITROL® 6800, every new reference is of major importance, as it reinforces the high level of trust that customers have towards ABB's excitation solutions and local service.

AGL Loy Yang power plant was originally constructed during the 1980s. With 2,100 megawatt (MW) capacity, AGL Loy Yang delivers more than 30 percent of all electricity produced in Victoria. The plant operator, AGL Loy Yang, started introducing life-time extension measures. Retrofit of the exci-

tation systems is part of these measures. The client selected ABB excitation systems. ABB already has an established reputation together with solid references in Australia. In order to cope with the plant's space limitations, AGL Loy Yang, ABB Australia and ABB Switzerland implemented a feasibility study and optimized the SES retrofit solution.

ABB's solution and customer benefit

The UNITROL® 6800 have the following features:

- Totally segregated control channels
- Redundant power supplies
- Withdrawable converter bridge
- Customised enclosure and cooling system for the converter bridge
- Detached automated voltage regulator (AVR)

Segregated control redundancy of the control system and thyristor bridges means that maintenance can be carried out on a single channel or bridge at a time, without having to shut-down the entire system.

All systems have built-in power stabilizers, which ensures the stability of the grid. By following the stringent requirements of the Australia Energy Market Operator (AEMO), Australia's network regulator, AGL Loy Yang and ABB were able to commission the units and successfully reconnect them to the network. The commissioning took only 24 hours by utilising two teams with two commissioning engineers in each team.

The second unit was delivered, installed and commissioned in October 2013. This order is the result of a good working relationship together with the customer, close collaboration and mutual support between ABB offices in Australia and Switzerland. ABB Australia was responsible for the electrical engineering, local project management, installation, integration engineering, design report, commissioning and compliance testing.

AGL Loy Yang is Australia's largest electricity and gas retailer. With this important milestone, it demonstrates, that AGL Loy Yang can rely on ABB and UNITROL® for a long-term partnership.



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