

Melbourne Water Upper Yarra Tributaries



CLIENT

Melbourne Water

LOCATIONS

Melbourne

Upper Yarra region, Victoria

CORE CAPABILITIES

- Automation
- Control systems
- Electrical engineering
- Detailed design of hardware and software
- Factory acceptance testing
- Site commissioning
- Site management
- Occupational health and safety management

TECHNOLOGIES

- Remote Telemetry Systems (RTU) with DNP3 communications
- Off-grid solar power system
- Siemens S7-1200 programmable logic controls
- Communications linking to a Supervisory Control And Data Acquisition (SCADA) system on a virtual private network over 4G infrastructure
- Instrumentation and field equipment
- Closed circuit video for remote monitoring

PROJECT SUMMARY

The Yarra River is a treasured Victorian landmark and the lifeblood of Melbourne. The famous river has its source in the Yarra Ranges National Park on the slopes of the Great Dividing Range, and feeds the Yarra catchment, which provides approximately 70% of Melbourne's drinking water. Classified as a Victorian Heritage River in part of its upper section, it has vital importance for recreation, conservation, leisure, culture, heritage, and water supply.

The Upper Yarra system includes various tributaries, which require close monitoring by the manager Melbourne Water, to preserve its pristine value.

SCOPE OF WORK

Synertec was engaged to deliver the project to design, supply, and commission an automatic control system, integrated with local infrastructure, to control and provide real time data from the tributaries in the Upper Yarra region.

Melbourne Water's objectives for the project were:

- To automate the weirs to allow increased water supply to the reservoir and reduce the labour required for regular site attendance
- Allow remote operation and monitoring of the sites

SYNERTEC'S SOLUTION

Synertec's expert automation engineers developed a solution involving the design, supply, and commissioning of an automated control system incorporating programmable logic controls, along with electrical design and installation.

The Synertec team managed all site work including inductions for the electrical subcontractors.

Work items included:

- Design and supply of off-grid solar photovoltaic power system
- Design and supply of programmable logic control system with remote integration of a Supervisory Control And Data Acquisition (SCADA) system
- Design and supply of communication system
- Design and supply of water quality instrumentation
- Design and supply of water control gate (penstock) actuators for flow control
- Management of site construction, permit system, and all health, safety, and environmental compliance requirements.