



Alinta Enterprise SCADA System

**Sector of activity :**

Energy Control Systems

**Client :**

TUSC Computer Systems Pty Ltd.

**Year of completion :**

Ongoing

**Financing :**

Client

**Mandate :**

To upgrade the SCADA/DMS System in Victoria, Australia to the GENE platform, and to provide GENE SCADA software for a new SCADA/GAS System in New South Wales, Australia.

The two systems will operate as an Enterprise SCADA System, monitoring and controlling the customer's natural gas distribution network in NSW and sophisticated electricity distribution system in Victoria. Each system will back up the other system in the case of a disaster.

The scope of work includes delivery of GENE software customized to Alinta requirements, as well as support services for acceptance testing, installation, and commissioning.

**Description :**

Alinta is a leading Australian energy infrastructure company with operations and investments that span five states of Australia and New Zealand. Alinta manages, operates or owns a diversified portfolio of energy assets worth A\$14 billion.

For this project, SNC-Lavalin Energy Control Systems is responsible for the supply of the SCADA and DMS software, as well as support services.

The prime contractor, TUSC Computer Systems Pty Ltd, is responsible for the supply of the gas applications and system hardware. TUSC, a subdivision of Ericsson Australia, is an independent software services company specializing in service management solutions.

The SCADA systems are based on a distributed client/server architecture designed to internationally recognized standards. Commercial off-the-shelf equipment is used throughout the system, which provides simplified maintenance and system expansion.

Each system includes redundant Dell PowerEdge servers, Dell Precision workstations, communication equipment, and peripheral equipment connected to a redundant local area network. The SCADA systems are fully redundant for high availability, and provide automatic fail-over features.

The SCADA and DMS software is based on the GENE product developed by SNC-Lavalin Energy Control Systems, and the gas applications will be fully integrated with the SCADA system.

The database is maintained in an Oracle RDBMS stored on a fault-tolerant storage area network (SAN) using RAID disks, and is complemented by a set of memory-resident real-time databases

that are replicated to all of the servers and workstations on the local area network for optimal performance. The system includes redundant front-end processors supporting the Conitel, DNP3, and Modbus protocols.

The system includes sophisticated natural gas distribution applications including linepack calculations, flow and volume calculations using AGA formulas (AGA 3, AGA7, AGA 8, NX-19, etc.), gas contract monitoring, and system survival time.

The system also includes sophisticated DMS applications including connectivity analysis, distribution power flow, load forecasting, distribution system optimizer, and contingency load transfer.

**Services provided :**

A contract to provide customized SCADA and DMS software, as well as support services for acceptance testing, installation, and commissioning.



## SNC • LAVALIN

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**SNC-LAVALIN ENERGY CONTROL SYSTEMS INC.** SNC-Lavalin is Canada's largest engineering and construction firm. SNC-Lavalin Energy Control Systems has nearly 40 years experience, with systems installed on six continents. Our SCADA, Distribution Management System (DMS), Energy Management System (EMS) and Generation Management System (GMS) products are being used by some of the world's largest utilities. We also offer SCADA systems to monitor and control water distribution networks and natural gas distribution systems.