

CASE STUDY: Montague Cold store Truganina



Contrast Electrics P/L was awarded the contract for the engineering design, manufacturing and installation of a fully automated control system and electrical hardware for Montague Cold storage & Logistics centre Truganina. The Montague facility holds 30,000 pallets at -22Deg.C The project delivery time was 12 weeks.

All major components for this project were manufactured at Contrast Electrics P/L workshop in Laverton Nth. Contrast Electrics Delivered the system on time and to the complete satisfaction of the Customer.

Project requirements.

Design, build and install 2500A Form 4 MCC.

Installation of wiring and controls for the following plant.

4 of Grasso compressors

All compressors, condensers & evaporators are controlled by variable Speed drives.

Pumped liquid ammonia system.

2 of BAC Condensers.

1 of Ammonia / glycol flooded plate heat exchanger with duty standby recirculation pumps.

Glycol under floor heating loop.

Duty and standby automated pump system.

4 of twin evaporator penthouse units in freezer each with variable speed drive control for evaporator fans.

4 of ceiling hung evaporators in annex / chiller.

Mechanical ventilation and fresh air system for plant room & MCC room.

Ammonia gas detection system.

Allen Bradley PLC system comprising of 7 separate processors with over 300 Digital & analog I/O.

Adroit SCADA system.

Engineering and programming solution.

Design complete electrical and automation system,

Instrumentation control loops design and calibration

Produce Electrical Schematics with Auto Cad Electrical.

Program PLC system.

Program Adroit SCADA system.

On site commissioning.







Energy Efficiency

Despite the repeal of the Australian carbon tax, direct electricity and supply charges are a cold store's highest individual cost. Apart from 250mm thick PIR panels, LED lighting with movement sensor activation and strict freezer door control, the compressors, condenser and penthouse evaporator fans have all been fitted with variable speed drives. A prominent member of the RWTA's (Refrigerated Warehouse and Transport Association) energy efficiency committee, Glenn has strenuously promoted the use of energy saving technology. Although still in a start-up phase, energy usage is 50% less when compared to other cold stores in the Montague Group. Average energy usage is a fantastic 1.3KWhrs per M3 per month.

