

# Auscott Limited Hay Cotton Gin Overview

## Case Study



### PROJECT AT A GLANCE

**Location**

Hay, South Western NSW

**Client**

Auscott Limited

**Client Industry**

Agriculture

**Client Contact Details**

Name: Jamie Condon

Title: Corporate Electrical Manager

Phone: (02) 6799 1488

Email: jcondon@auscott.com.au

**Duration of Project**

10 months



Auscott Limited was founded in 1963 by the J.G. Boswell Company of California. A privately owned organisation, J.G. Boswell is America's largest cotton producer. An experienced company with over 50 years in Australian agriculture, Auscott Limited is a supplier of cotton, grain and related processing, marketing and shipping services to both domestic and international customers.

In late 2013, Auscott Limited approached Schneider Electric to discuss the energy distribution and automation requirements for a cotton gin to be built in Hay, South Western NSW. A site visit to Auscott's Narrabri facility was staged in December 2013. Schneider Electric was represented by a team comprising commercial and technical personnel. Auscott was represented by Corporate Electrical Manager, Jamie Condon. The Narrabri facility was inspected during end-of-season shutdown and each stage of the ginning process was reviewed in detail.

The Narrabri site meeting was staged to familiarise Schneider Electric's offer team with a typical Auscott cotton gin. The site visit consisted of a one-day briefing, which comprised a facility tour, explanation of process and a whiteboard discussion to define scope.

Subsequent to the site visit, a briefing, attended by Jamie Condon, was held at Schneider Electric's head office at Macquarie Park, Sydney. At this point, Schneider Electric presented initial findings and canvassed several technical innovations and options that fitted with Auscott's initial brief.

The project comprises design, build, supply and commissioning of power distribution equipment, automation, CCTV and lighting. Additional services have also been discussed, including energy-efficiency programmes and information systems such as the Weather Watch suite. Prior to 2013, Schneider Electric supplied loose equipment and other services to Auscott Limited.



### Scope of project

It included the design, manufacture, supply, delivery and installation of low voltage switchboards, PLC automation system, drives and CCTV. Additional services incorporated into the project include lighting throughout the plant (provided via a recommended wholesaler) and WeatherSentry weather warning system. Potential, future services and products include energy management audits and systems, and sensors as the outcome of a safety audit.

### Specific areas of the project the firm was involved in

The project comprises design, manufacturing, supply and supervision of installation (with the exception of low voltage switchgear, which will require complete installation by Schneider Electric).

The project is to be undertaken in three distinct phases:

1. Design
2. Supply
3. Installation and commission

#### **Phase one: design.**

Schneider Electric was tasked with the development of specifications unique to the greenfield facility at Hay. The design phase was required to ensure agreement between Auscott Limited and Schneider Electric on the full scope and capability for the LV distribution and automation required to provide optimal operating conditions at the Hay facility.

#### **Phase two: supply.**

#### **Phase three: installation and commission.**

### Scope of work: automation.

The scope of works includes the provision of engineering services for the design, configuration, testing and commission of the following systems:

The process control system consists of the following sub-systems:

- PLC system
- SCADA system
- PCS network hardware
- Interfaces to external systems

### Scope of work: drives.

This covers the scope of works for all the variable speed drives (VSDs) and soft starters (S/S) above 11kW, which are not included in the Okken Switchboard for the control of 415V AC, three-phase, 50Hz motors. These systems include the following sub-systems:

- ATS48 soft starters
- ATV61 water-cooled drives for variable torque applications
- ATV71 water-cooled drives for constant torque applications
- Air to water heat exchanger units for cooling
- Harmonic and dv/dt mitigation in terms of appropriate inductive impedances

### Scope of work: low voltage power distribution.

The low voltage power distribution consists of the following sub-systems:

- LV switchboards
- LV distribution boards
- LV incoming power monitoring system
- LV power factor correction and active harmonic filtering



### Scope of work: CCTV.

Supply, installation, engineering and commissioning of:

- SMS controllers and enclosures
- System keypads
- Host computers and software
- Peripheral devices such as reed switches, REX buttons, break glasses, duress buttons, push-buttons, sonalerts, etc.
- Intruder detection PIRs
- Batteries and power supplies
- Network switches
- Network video recorder
- Staff training
- CCTV cameras

### Scope of work: lighting.

Third-party (wholesale distributor and electrical contractor) supply, installation, engineering and commissioning of:

- EXIT LED Universal
- EM4 14 EMGDOL Twin Dolly 2 X 1.8W LED Surface Mount, Non-Maintained Emergency
- EM5 11 EMG Emergency Recessed
- FL1 6 VL64ED400 400W HID Metal Halide Hazardous Fixture
- FL2 12 CLI2040 2000W Surface-Mounted Area Flood
- FL3 20 FL100LED 100W LED Flood Lights
- HB16 90 HB250IA Highbay Induction 250W Aluminum Reflector
- LB3 30 LB400MH Lowbay 400W Metal Halide E40
- T16 14 SMD228M4 Surface Mount Wide Diffused 2 X 28W KW/2 Reflector
- WDB6 18 WDB128 Diffused Batten T5 Wide Body
- WP8 80 WP236NEL Weatherproof IP65 T8 2 X 36W Electronic
- WP8E 20 WP236NELEM Weatherproof IP65 T8 2 X 36W Electronic Emergency

### Scope of work: Telvent WeatherSentry system.

WeatherSentry Online Platinum Public Safety Edition

Baseline inclusions:

- Alert manager
- Consulting forum
- Slide show
- Roaming alerting
- Smartphone
- 160km radius lighting warnings
- Traffic layers
- Custom map layers
- Baseline license

### Names of the personnel and the roles they undertook on the project

Opportunity Leader: Matthew Taylor

Submission Manager: Murray Walsh

Solution Engineer Overall Project and Automation:  
Andrew Douglas

Solution Engineer LV: Boris Fuchs

Pre-Sales Engineer Drives: Paul Stride

Business Development Manager CCTV and Security:  
John Dooley

Business Development Manager LV and MV Review:  
Joe Riitano

Business Development Manager Lighting:  
Justin Lowry

Business Development Manager Telvent  
(WeatherSentry): Nathan Graham

Business Development Manager Energy  
Management Solutions:  
Catherine Moriarty

Estimating Engineer LV: Dean Seccombe

Estimating Engineer Automation: Jason Whelan



### Project outcomes

At the stage of developing this case study, the design phase had been completed and a purchase order issued by Auscott for the supply and installation stages.

Orders have been placed for long-lead time engineered drives and LV switchboards. A project director has been appointed by lead BU, Industry, and project teams have been selected.

Project management plan, charter and handover documentation has been developed in collaboration with engineering teams and a change management system is in place.

The project is on track and due for commissioning/site testing in March 2015.

### Project overview/lessons learned

Apart from load listings, no original specifications were available from Auscott Limited, therefore Schneider Electric proposed a design phase to enable development of specifications unique to the development of the facility at Hay. The design phase was required to ensure agreement between Auscott Limited and Schneider Electric on the full scope and capability for the LV distribution and automation required for optimal operating conditions at the Hay facility.

Key to the development of a true solution project across multiple Schneider Electric business units was the early engagement with the client. Each major package offered was represented by a solution engineer. Communication was centralised and focused on solving engineering issues unique to Auscott's requirement.

Schneider Electric's EcoStruxure approach enabled collaboration across each business unit to ensure integration of each technology into the final proposal offered to Auscott Limited. CPP processes underpinned the approach, which linked estimates and technologies into a seamless, all-of-project programme.

The manufacture and supply phases represent a complex interface with multiple engineering offices and factories (Australia, Indonesia, China and Austria). The nature of the project means that there will be a large number of ongoing design changes presenting challenges in terms of coordination, management and implementation of changes.

Risk mitigation – early detection and mitigation of potential risk through a formal RFI and variation management regime agreed with the client. Regular and consistent communications with the client via a structured programme managed by the project director.

