Defence

RAAF
Runway Lighiting

Client RAAF

Location Various across Australia

Value $4.8 Million

Duration 2005 - 2008

Project Overview

SAGE Automation has helped to light the way home for pilots in the Royal Australian Air Force, by upgrading the runway lighting systems at six key Defence sites.

These sites include:

- Williamtown, NSW
- Richmond, NSW
- Tindal, NT
- Edinburgh, SA
- Townsville, QLD
- Amberley, QLD

The lighting control systems designed by SAGE have multiple levels of protection, including cut outs and safety alarms, as well as built in redundancy which allows the lighting system to be controlled from the equipment rooms if the link to the control tower ever fails.

Project Details

The work carried out at Williamtown, which is home to many of Australia's premier F/A-18 Hornet fighter aircraft, was the largest of the six projects and was worth some $1.2 million.

The task at Williamtown involves all the lights used to help pilots to land and take off. These include the runway and taxiway lights, as well as the distance-to-run markers, the illuminated wind direction indicators, and the Precision Approach Position Indicators which are lights that change colour to tell pilots whether they are at the right height and distance to land on the runway.

All of these different groups of lights are controlled through two dedicated airport lighting equipment rooms. This will allow the air traffic controllers to easily direct which lights are on and at what intensity.

There's a level of automation as well. For example, if you switch on some lights others will automatically dim.

The work at the other air bases is very similar to that being conducted at Williamtown, but only involved two lighting equipment rooms at Amberley and one for the Richmond, Tindal and Townsville sites. For the Tindal project SAGE worked with strategic project partner Nilsen.

The contract for Edinburgh was considerably smaller, covering the design and construction of one control panel for the Precision Approach Position Indicators.

The Precision Approach Position Indicators change colour to tell pilots the height and distance to the runway

Capabilities Demonstrated

- PLC and SCADA design, programming, debugging and networking
- Project management, engineering and procurement
- Risk management and mitigation
- CAD drawing design and version control
- Panel wiring
- Remote electrical installation of low – medium voltage systems
- Control safety Interlocking both mechanical and through software programming bases on inputs from safeguard relays
- Factory Acceptance Testing (FAT)
- Site Mobilisation and Commissioning
- Documentation and change management associated with the control system, including a Maintenance Manual and Operational Manual containing a functional description and electrical drawing
- Training