

2020 / Case Study

Safely Connecting Rural Western Australia for RFDS

Beacon, WA, Australia



*"We Believe Technology
Improves Navigation."*

“The amazing support from the sales and engineering team of Avlite was outstanding. We are always proud to partner with Avlite on a project.”

Aaron Veaney

Aerodrome Electrical Consultant, Aerodrome Management Services

Product Overview

Application: Aerodrome

Date: 2019

Products:

- AV-70-RF (Runway, Threshold, Holding Point, Taxiway Edge)
- AV-IWI Solar
- PALC
- Solar Supply

Safely Connecting Rural Western Australia for RFDS

Industry

Local Government

Location

Beacon, WA, Australia

Founded In

1923

Background

Beacon is located over 300km northeast from Perth WA, with a travel time by road taking almost four hours. It is a Wheatbelt region with agriculture being one of the major occupations in the area. Due to its remote location, access to an aerodrome is vital.

The Beacon Aerodrome is used by the Royal Flying Doctor Service (RFDS). They now recommend modern runways have lighting and the ability to be serviced 24 hours a day, seven days a week.

The Shire of Mt Marshall and Aerodrome Management Services maintain the Beacon Aerodrome. The 1500 metre gravel rural airstrip provides access to the entire shire, with approximately 615 people living in the 10,134 square kilometre area.

In 2018, the shire enquired about lighting the Beacon Aerodrome due to requests and recommendations from the RFDS. Finding a solution to light the airfield was critical to add night aircraft capacity. The Aerodrome also had to remain cost-effective, requiring no intrusive groundworks or wiring.

The Challenge

The connected solution had to cater for remote medevac emergencies and other airfield landings with minimal maintenance by the council. Pilot Activation Lighting Controls with backup remote control were essential in enabling activation by pilots on



approach. It also added the ability to light the airfield from ground level, facilitating safe landing.

We also had to design an airfield that was in line with Royal Flying Doctor Service guidelines for medical operations. The Avlite lights needed to be easy to install, run independently, with minimal setup time.

Solution

Avlite Systems partner, Aerodrome Management Services, upgraded the remote Beacon Airstrip to the RFDS standards. Our years of collaboration with the RFDS, and their approval of our easy to install solar lighting systems, meant we were the preferred choice.

The RFDS and Avlite have been partnered for over 15 years. \$10 of every AV-70 sold in Australia is donated to provide better medical care across rural communities.

In total, forty-eight AV-70 solar lights were used in white, green, red-green and amber variants. The solar-powered AV-70 is a field-proven aviation light that offers enormous benefits over the traditional battery and hard-wired aviation lights, including low maintenance and no underground wiring.

These completely self-contained LED lights are designed to suit a range of aviation and general applications including an emergency airstrip, caution, taxiway, and threshold lighting. Users can wirelessly control on and off functions, adjust light intensities or switch between visual and IR (when fitted) operational modes remotely.

A solar LED Illuminated Wind Direction Indicator (IWI) was also installed at Beacon Aerodrome. The IWI provides a visual indication of wind direction and velocity at a set location on the rural airfield.

The installed unit is equipped with solar LED lighting with up to 100,000-hour life with minimal maintenance required. The LED light uses nearly 90% less power than halogen lamps and also comes with a LED obstruction light. A centre mounted braked winch allows one-person maintenance. The nylon sock is treated for rot, mildew and water repellence.

A customised solar Pilot Activated Lighting Control (PALC) unit was also installed at Beacon Aerodrome to allow pilots to operate the airfield at any time. The PALC system uses the VHF Radio Air Band and is commonplace on non-towered or infrequently used airfields where it is not economical to provide staff or keep the airfield always lit during night hours.

Pilots are also able to turn on the lighting system when required leading to significant savings in energy. Avlite's PALC system is unique in it can be set up to be run using solar, meaning no underground wiring is needed.

Additional on the ground control is supplied via our AV-Mesh RF Handheld Remote Control (AV-ALS-RC). Avlite's radio-controlled airport lighting platform is designed



to offer airports, defence, and aid agencies complete flexibility and enormous advantages over traditional airport fixtures.

The system is operated by a wireless handheld controller that enables personnel to remotely activate and set specific characteristics of lights within their airfield. It is available in 2.4GHz with 128bit security encryption with other custom variants available on request. It can switch between infrared and visible lights or turn all lights on.

You can allocate lights into 'light groups' and remotely control each group or set units to synchronised flashing. This is all operated through the controller with a straightforward menu that makes the radio-controlled airfield lighting system very easy to operate.

Outcome

The response time of the RFDS is now vastly improved due to the new airfield runway lighting. The RFDS and Ambulance Service said they were extremely happy with the new system. The Shire of Mt Marshall is now medically connected to the benefit of hundreds of lives who now can get urgent, life-saving attention when required.

This project was installed successfully, on time and under budget. The Beacon community went over and above to assist with meals, accommodation and supplies during the installation.

Contact Us!

Avlite's airfield solutions are easy-to-install and scalable. We have a solution for every budget.



Sealite & Avlite Head Office

11 Industrial Drive,
Somerville Vic 3912
Australia
T: +61 (0)3 5977 6128
F: +61 (0)3 5977 6124

Sealite & Avlite U.S

61 Business Park Drive
Tilton, New Hampshire 03276
USA
T: +1 (603) 737 1311
F: +1 (603) 737 1320

Sealite & Avlite Asia

8 Wilkie Road, #03-01
Wilkie Edge, 228095
Singapore
T: +65 9119 8770

Visit our Websites

www.avlite.com
www.star2m.com



*"We Believe Technology
Improves Navigation."*