



aviationrenewables

# PROJECT REPORT



**LOCATION** Eastern Africa

**DATE** July 2017

**CLIENT** Undisclosed

**EQUIPMENT** Solar LED Wind Cones  
Solar LED Runway Lighting System  
Solar Powered Pilot Activated Lighting System

**APPLICATION** Autonomous Solar LED Runway Lighting for IR and 24/7 Operations with Pilot Activation

## SYNOPSIS

Aviation Renewables supplied, installed, trained and commissioned a Solar LED airfield lighting system in Eastern Africa. The system features Solar LED Wind Cones operating with a solar LED runway lighting system via a hand held radio controller and pilot activated lighting system. Located in an austere location requiring highly coordinated transport logistics, Aviation Renewables traveled to the remote location to complete the project within 8 days.



## CHALLENGE

An existing 2500m runway in a remote desert location required the capability to operate 24/7. With no electricity available at the remote airfield, the LED runway lighting system needed to be completely off-grid with the ability to operate maintenance free. With the airport occasionally used for covert operations, the airport required a solar LED airfield lighting system that could be configured to emit infrared LED outputs, only visible when using Night Vision Goggles. The customer worked with Aviation Renewables to develop a cost-effective and fully compliant solar LED airfield lighting system that met all the requirements of the project. As an additional challenge, the austere and remote location presented considerable logistical difficulties, with long distances of overland travel for the equipment and installation team.

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## SOLUTION



Aviation Renewables designed a system using self-contained solar powered LED runway and threshold lights with a solar LED wind cone featuring an internally mounted luminaire. The entire system is activated by a solar-powered Pilot Activated Lighting Controller, compliant to FAA L854 specifications. When the lights are activated by the airport ground crew, a handheld radio controller operating on the 2.4Ghz world wide frequency was provided to activate the on/off, intensity and diagnostic functions during take off, landing and taxi or apron operations.

Once on site, the installation went very smoothly with the surveying, excavation and installation completed in 4 days. Once installation was complete, 4 additional days were spent commissioning the system and training ground staff on the operation, maintenance and troubleshooting of the solar LED airfield lighting system.



With proper use, the solar LED runway lights are anticipated to operate for 5-7 years with zero maintenance, at which point the battery will need to be replaced. With timely battery replacements, the anticipated service life for the system is 15-20 years.

