



aviationrenewables

PROJECT REPORT

LED APRON LIGHTING OPERATING AT CARIBBEAN INTERNATIONAL AIRPORT



LOCATION Bahamas

DATE 2019

CLIENT Lynden Pindling International Airport

EQUIPMENT LED Apron Floodlighting

APPLICATION Apron Floodlighting compliance to ICAO Annex 14 5.3.23 / IES RP37-15 standards

SYNOPSIS

Aviation Renewables completed a high mast LED Apron Floodlighting retrofit project at Lynden Pindling International Airport in Nassau, Bahamas. The new LED apron lighting system offers exceptional savings in electricity, maintenance and equipment costs with a 10-year warranty on performance, parts and labour.

CHALLENGE

Lynden Pindling International Airport, located in Nassau, Bahamas is a large international airport and is the primary gateway to the country. As a 24/7 airport with a large terminal serving both domestic and international flights, the airport uses high mast lighting to illuminate dozens of aircraft stands during the night. Electricity in the Bahamas is quite expensive due to the need to import diesel fuel to power the nation's electrical grid. As a result, the existing HPS lighting fixtures were costly to operate and maintain. The airport sought assistance from Aviation Renewables to design a solution that would decrease operating costs, reduce their carbon footprint, and increase the safety of operations by providing superior illumination that meets or exceeds ICAO requirements.



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SOLUTION



Aviation Renewables conducted a thorough site visit and in-depth energy analysis with its manufacturing partner Musco Lighting. A customized retro-fit solution was designed to utilize the existing poles that were still in good condition and to save cost. The new LED apron lighting is mounted on new crossbars that contain all the wiring internally, reducing damage caused by the salt-laden air and tropical UV rays. New enclosures on the pole base contain the LED drivers, making the retro-fit process quick and easy. The remote enclosures allow the likely failure points to be mounted at an easily accessed location. This, combined with the durability of the LED fixtures, mean the pole-tops never need to be serviced or accessed in routine maintenance and troubleshooting; a significant savings in time, parts and staff-training cost.

The airport was eager to complete the installation prior to the holiday rush. With a team of local electrical contractors, the previous HPS Apron Lighting was decommissioned, and the new LED Apron Lighting was installed without impacting ongoing airport operations. The entire process, including commissioning, was completed in 2 weeks.



A customized dimming system is incorporated into the system that adds further savings. The dimming system allows each pole to be grouped into 'zones' and/or controlled individually. During slower periods of the night, the lights are scheduled to dim down to 50% intensity to save on electricity costs.

The entire system is backed by a 10-year, 100% warranty, meaning there are no costs to the airport (other than electricity) for 10 years after installation. With a large network of technical representatives strategically placed worldwide, any issues that happen during the warranty period can be dealt with swiftly, regardless of the remoteness of the location.



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SAVINGS

The calculated Return on Investment for this project through energy savings alone will be achieved within two years with USD 1.65 million in financial savings. With dimming levels estimated at 75% usage rate during night time operations, more than 2,702 tons of carbon saved over the next ten years. The entire system is backed by a 10-year, 100% warranty consisting of parts, labour and light levels, meaning there are no costs to the airport (other than electricity) for 10 years after installation. With a large network of technical representatives strategically placed worldwide, any issues that happen during the warranty period can be dealt with swiftly, regardless of the remoteness of the location.



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