

Case Study

U.S. Virgin Islands







At a glance



- MODERN, UTILITY-GRADE TECHNOLOGY REPLACED AGING INFRASTRUCTURE TO HELP IMPROVE EFFICIENCY AND RELIABILITY
- REDUCED EMISSIONS
 VS. SMALLER, HIGH-SPEED DIESEL
 RECIPROCATING ENGINES
- ONLY POWER SOURCE ON THE ISLAND THAT REMAINED ONLINE THROUGH HURRICANE MARIA IN 2017

Challenges

- SEAMLESS INTEGRATION WITH EXISTING INFRASTRUCTURE
- COMPACT SITE LOCATION, REPURPOSED EXISTING EXHAUST STACKS
- GROWING GENERATING CAPACITY NEEDS
- VERY DYNAMIC GRID CONDITIONS

Background

Power generation in the U.S. Virgin Islands has been challenging due to aging infrastructure that has resulted in reduced efficiency, increasing emissions levels and more frequent maintenance. These issues in turn have caused more downtime and higher cost of electricity for local ratepayers. As the Virgin Islands Water and Power Authority (WAPA) explored options for integrating alternative fuels and more environmentally friendly energy sources, it also sought more modern infrastructure to help reverse the trend of its aging facilities.

Solution

In 2013, WAPA contracted APR Energy for a temporary power solution based upon a GE TM2500 mobile gas turbine on the island of St. Thomas. The turbine was selected for its superior fuel-efficiency and emissions reduction technology, helping WAPA enhance performance, improve reliability and receive incremental savings through maintenance avoidance. The turbine's small footprint also enabled APR Energy to install and integrate it directly into WAPA's existing power plant. In 2016, WAPA expanded its contract with APR Energy by adding two similar mobile gas turbines. In total, APR Energy's three units in St. Thomas deliver up to 70MW to the local power grid.

Outcome

APR Energy's technology has proved to be superior in reliability when power was needed most. When Hurricane Maria hit the islands in 2017, APR Energy was one of the only power sources on the island that remained online, injecting critical power into the grid. As a reliable supplier, we complement WAPA's power generation on a consistent basis.

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