

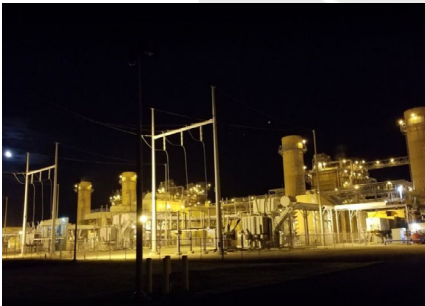


*St. Petersburg, Florida, USA*

## Facility Summary

4 X 1 Combined Cycle Unit  
F-Class Gas Turbines  
1,133 MW

## Bartow Power Plant



## BARTOW PLANT — INSTRUMENTATION REVIEW & VIBRATION ANALYSIS

The Bartow Plant includes a 1,133-megawatt, four-on-one combined-cycle unit, with four (4) gas turbines and one (1) steam turbine.

### Project Issues

During commissioning vibrations in the STG limited the facility output. Replacement of the LP turbine rotor and modification of the last stage blade profile were conducted to remediate the vibrational limitations.

Additionally, during routine performance assessments, the client's performance team noted conflicts in critical parameters.

### McHale Contracted Tasks

Testing and Assessment of STG LP Blade modifications and their impact to synchronous vibrations throughout the operational range of the STG.

Instrument calibration and onsite auditing of vital plant measurements.

### Problem Resolution

STG testing was conducted with an independent BVM (Blade Vibration Monitor) to verify blade modifications were sufficient to allow the facility to operate without vibration limitations.

Critical instruments were removed from service during an outage and calibrated onsite using McHale technicians with NIST traceable standards. Additional passive auditing is planned to be conducted to evaluate flow measurements and instruments directly impacting facility performance. If errors are found, a plan for remediation will be developed.

### Work Outcome

The onsite calibrations have been completed, and the remaining scope of testing was completed in February 2020.