Oil Operator in Middle East

Oil & Gas

The Challenge

This oil and gas industry customer has been producing oil in the Middle East for over 30 years. Experiencing steady increases in both production and reserves for the last several years, they are now the largest independent oil producer in the country they serve. One of the company's major operations was struggling to maintain reliable power with its existing diesel genset. In addition, the site was out of compliance for government regulations of emissions.

The customer partnered with Capstone's Middle East distributor, PipeLine Supply Company to design a stand-alone on-site power solution that offers both higher power availability and lower emissions came. The new system is the first application of its kind in the country in which it was installed.

The Solution

Commissioned in March 2018, the new system features three C65 microturbines, which provide prime power for site operations. The turbines are fueled by high pressure gas from the site's reject nitrogen, which otherwise would have been flared off as waste gas. The microturbines are set to operate on load following mode to deliver power for a load that is continually fluctuating.

"The microturbine package has clearly demonstrated the key benefits Capstone systems are known for: high reliability and availability, very low maintenance, and clean emissions, among others. Further, the system has enabled a reduction in the client's carbon footprint due to notable reduction in the harmful exhaust gas emissions that comply with local emission standards."

— Shanly George, General Manager
PipeLine Supply Company

Power Profile

Customer
Major Oil Operator

Location
Middle East

Commissioned
March 2018

Fuel
High Pressure Natural Gas

Technologies
- 3 C65 Microturbines

Capstone Green Energy Distributor
Pipeline Supply Company

Three C65 Capstone microturbines provide prime power for the remote oil and gas site. The microturbines have run continuously for more than 24,000 hours, providing 95% uptime.

This installation was also one of the first sites in the region to implement harsh environment, high dust filters that proved to be an effective solution to preventing any kind of sand/dust from entering the system.

The microturbines are covered under Capstone's 5-year Factory Protection Plan (FPP), which ensures complete transparency on the maintenance cost and provides peace of mind for the customer.

The units are remotely monitored by Capstone's partner, PipeLine Supply Company, which pro-actively takes measures to ensure maximum uptime.

The Results

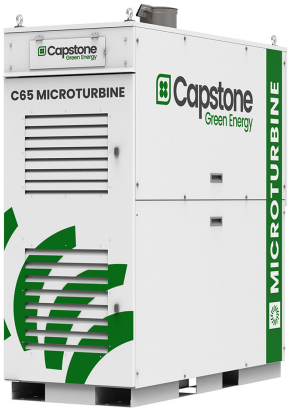
To date, the system has run continuously for more than 24,000 hours, providing more than 95% uptime even during the harsh weather conditions that the site experiences.

The use of waste gas not only provides low cost power generation and reduces the site's overall diesel consumption, it reduces emissions levels dramatically. As a result, the new emissions levels were found to be both within local and government regulations.

Further, the microturbines, which have only one moving part and use no consumables or lubricants, are a low maintenance solution, which is a key benefit given the site's harsh environment. The routine maintenance required on the installed machines have been as low as once a year. This is in stark contrast to the diesel generator systems used earlier at this location, which needed to be brought down almost every 2-3 weeks for carrying out routine maintenance works.

The 5-year FPP has provided the client with prompt service to address normal as well as abnormal situations. This was enabled by local availability of spare parts and Capstone-certified engineers. The FPP has also provided complete transparency of maintenance costs for the client.

Capstone C65 Microturbine



A C65 Microturbine provides up to 65 kW of electrical power while the UL-Certified C65 ICHP provides up to an additional 150 kW of thermal power for CHP and CCHP applications.

Call us (toll free) 1.866.422.7786 | Tel: 1.818.734.5300 | www.capstonegreenenergy.com

Capstone Green Energy