

C200S ICHP MICROTURBINE FOR ANTARCTIC BASE



Capstone Turbine Corporation has secured a follow-on order for a C200 Signature Series ICHP microturbine with a 20-year Factory Protection Plan (FPP) from the National Science Foundation (NSF).

This is part of a multi-phase modernisation of the McMurdo research station with the goal of increasing energy and operational efficiency. The order was secured by Arctic Energy, Capstone's exclusive distributor in Alaska (www.arcticenergyalaska.com).

The C200S ICHP microturbine will be delivered in 2020, and is expected to be commissioned in February 2021.

The station serves scientists supported by the USAP and federal mission agencies such as National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA).

McMurdo station is the largest community in Antarctica, capable of supporting up to 1,258 residents, and serves as one of three United States Antarctic science facilities.

"Recorded temperature extremes have been as low as minus 50° Centigrade at McMurdo, which is why their engineers continue to specify Capstone as their energy solution of choice," said Darren Jamison, Capstone's president and CEO.

"The reliability of Capstone's clean and green solutions in some of the most remote and harsh environments in the world makes Capstone a leading solution for customers with highly critical loads and limited infrastructure. The lack of lube oil, grease, and coolants is a huge advantage for the Capstone technology, whether it is One Vanderbilt in the middle of Manhattan or McMurdo station in Antarctica."

Plans to modernize the 100-building facility began in 2013 with an increased focus on reducing energy costs and carbon emissions. Capstone's innovative technology was selected for its ultra-low emissions, low maintenance, and high reliability.

"This project will add to the resiliency of the existing medium voltage microgrid ring that powers McMurdo Station as they begin to utilise more distributed generation at the site," stated Greg Porter, President of Arctic Energy. "The forward-thinking approach to the NSF's upgrade of this science station is impressive in scope, and we are proud to partner with the foundation as they begin to utilise more distributed generation at this site," concludes Greg Porter.

Capstone's innovative technology was selected for its ultra-low emissions, low maintenance, and high reliability. Its microturbine will run on a special jet fuel blend called AN8, unique to the Antarctic and Arctic.

The new combined heat and power (CHP) system is scheduled to operate 24/7/365 in grid connect mode and projected to maximise local heat recovery usage and ensure power and heat availability for several of the



buildings at the research facility.

Capstone offers a comprehensive product line-up, providing scalable systems focusing on 30 kW to 10 MWs that operate on a variety of gaseous or liquid fuels.

So far, the company has shipped over 9,000 units to 73 countries and has saved customers an estimated US\$253 million in annual energy costs and 350,000 tons of carbon.

(13,200 lbs); Dual Mode – 6,700 kg (14,700 lbs)

Net Heat Rate LHV: 10.9 MJ/kWh (10,300 BTU/kWh)

Exhaust Temperature: 280°C (535°F)

Exhaust Gas Flow: 1.3 kg/s (2.9 lbm/s)

Compatible Fuels: Pipeline Natural Gas

www.capstoneturbine.com

Technical Specifications

Rating: 200 kw Electrical

Electrical Efficiency LHV: 33%

Combined Heat And Power

Efficiency: Up to 90%

Voltage: 400-480 VAC

Frequency: 50/60 Hz, Grid Connect

Electrical Service: 3-Phase, 4-Wire Wye

Width: 3.0 m (117 in)

Depth: 2.5 m (100 in)

Height: 3.8 m (148 in)

Weight: Grid Connect – 6,000 kg

