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Capstone Microturbines power US Shale gas production

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US manufacturer Capstone Turbine Corporation will supply six turbines for shale gas treatment facilities of an undisclosed producer at its gas pipeline in West Virginia. Jim Crouse, Capstone's executive vice president, said "We normally provide turbines to power site load at the wellhead for processing equipment and treatment equipment."

Capstone turbines are currently already used for shale gas production at Marcellus, Utica and Eagle Ford shale plays and Crouse said this upstream segment "has had a significant impact on our business."

Producers have selected Capstone's microturbines because they can run on a wide variety of methane concentrations, Crouse said, adding the manufacturer observed a significant increase in demand in the Mid-Atlantic, Texas, Midwest and some in North Dakota, Canada.

The latest order for 6MW of Capstone C1000 Power Packages, its dual-mode microturbine, follows on a similar order for two C1000 Power Packages and two C600 Power Packages at the same company's propane stripping facilities.

After installing the turbines, the client can achieve a combined 9.2MW of power capacity in the West Virginia area.

Engineering for the lowest emissions

Under the order, Capstone will supply C1000 Power Packages with a capacity of 6MW, distributed at three separate locations. The customer selected the turbines because an extension of the regional power grid would have been too expensive and taken several months to install at the remote locations, Gas to Power Journal understands.

Capstone's micro-turbine distributor for the Mid-Atlantic and Southeastern US, E-Finity Distributed Generation, will design and install the turbines.

The installation will power propane stripping equipment at the sites. Each site will have a 900 horsepower refrigeration compressor and several large condenser fans.

"Customers appreciate the fact that our emissions are very low," Crouse said, outlining "Our products meet the emissions standards of the Californian Air Recourse Board, and those are the most stringent that we're aware of. Certainly from a permitting for power generation our product is the cleanest in the industry."

Shale gas production in West Virginia

The Marcellus Formation of rock that extends from Pennsylvania to West Virginia is rich with gas, containing an estimated 4,800x 10⁹ cubic metres of shale gas.

Natural gas production began in West Virginia and nearby counties in southern Pennsylvania in early 2012 and continued through July 2013, the EIA reports.

In September of last year US utility Dominion Transmission started up its Appalachian Gateway Project, with a 110 mile pipeline and four compressor stations that move the produced shale gas through the pipeline to centers of domestic gas consumption.