

Siemens H-class gas turbines achieve one million operating hours

The Siemens H-class turbine has been on the market for nearly a decade and has now achieved a significant milestone by exceeding one-million fired hours of commercial operation. With 70 turbines in operation on four continents and almost 100 machines sold, the SGT-8000H is the market leader in its class and delivers a top performance that's been setting benchmarks throughout the industry. Since its launch, the output rating of the Siemens SGT5-8000H gas turbine has grown from 375 megawatt (MW) to 450 MW, with improvements in efficiency to over 61 percent in combined cycle operation. With ongoing updates and the technology download from the HL-class gas turbines, Siemens will continue to enhance its H-class turbine and fleet.

The SGT-8000H turbine's high combined cycle efficiency in conjunction with its maturity and reliability is especially valuable in metropolitan areas and countries with rapidly growing energy requirements like Mexico, Egypt, and Malaysia. The SGT-8000H achieves low NOx emissions over a wide load range, and is also highly flexible, thanks to its load-following capability of 60 MW/minute (SGT6-8000H for 60Hz)/ 80 MW/minute (SGT5-8000H for 50Hz). This makes the turbine ideal for simple cycle peaking applications as well. These operational flexibility features help balance the grid, which is becoming a challenge due to the increasing share of volatile renewable sources. The turbine can be also used in a combined heat and power plant (CHP). An example is the CHP at the location Lausward in Germany. There the overall fuel efficiency of the natural gas used thus climbs up to 85 percent.

The H-class is used worldwide: for example, many turbines are installed in the U.S. and Southeast Asia. With their rapidly growing energy requirements in small geographic areas, the tiger economies (South Korea, Republic of China (Taiwan), Singapore and Hong Kong), in particular often opt for the H-class. South Korea alone is operating 15 of the SGT6-8000H gas turbines.

A significant increase of the SGT-8000H fleet size was achieved by the win of the largest single order in Siemens history. In 2015, the Egyptian Electricity Holding Co. (EEHC) ordered 24 H-class gas turbines. In just 27 months, the turbines were installed in combined cycle power plants (CCPPs) in Beni Suef, Burullus, and New Capital. Siemens also served as the general contractor (EPC).

In 2017, Siemens launched its HL-class gas turbine, which builds on the proven design and the operating experience of the Siemens H-class. With a series of new, but already tested technologies, like super-efficient internal cooling features for blades or vanes and an advanced combustion system, these large machines achieve a CCPP efficiency of more than 63 percent. The power output of the 50Hz version is 593 MW. The 60Hz version of the HL-class with 405 MW, the SGT6-9000HL, has already been sold twice. The first 50Hz machine, a SGT5-9000HL, will be installed in the United Kingdom. The machines are currently in manufacturing process.

This press release and press pictures are available at

www.siemens.com/press/PR2019020162PGEN

For further information on the Siemens H-class gas turbines, please see

www.siemens.com/SGT5-8000H or www.siemens.com/SGT6-8000H

For further information on the Siemens gas turbine portfolio, please see

www.siemens.com/gasturbines

For more information on the Siemens Power and Gas Division, please see

www.siemens.com/about/power-gas

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