

EDF Exhibit B.01

HL-class gas turbines

The next generation of advanced air-cooled gas turbines



The HL-class is paving the way to the next level of efficiency and performance. This evolutionary development step, derived from proven H-class technology, combines a series of new but already tested technologies. The result: A technology carrier to the next level with a combined cycle efficiency beyond 64%.

The HL-class consists of the **SGT5-9000HL engine for 50 Hz** and the **SGT6-9000HL for 60 Hz**.



Key technologies

- 1 Evolutionary 3D blading for higher aero-efficiency
- 2 Advanced combustion system for higher firing temperatures and more operational flexibility
- 3 Innovative multi-layer coating for better blade robustness and less cooling-air consumption
- 4 Ultra-efficient internal cooling features for blades and vanes for less cooling air consumption
- 5 Optimized sealings for minimized leakage air
- 6 Large free-standing turbine blade 4 for higher power output



SGT-9000HL series

Performance data for simple cycle operation

| | SGT5-9000HL | SGT6-9000HL |
|---------------------------|--|---|
| Power output | 593 MW | 440 MW |
| Fuel | Natural gas, LNG, distillate oil, other fuels on request | |
| Frequency | 50 Hz | 60 Hz |
| GT ramp-up | 85 MW/min | 85 MW/min |
| Gross efficiency | >43% | >43.2% |
| Heat rate | <8,375 kJ/kwh (<7937 Btu/kWh) | <8,333 kJ/kwh (<7898 Btu/kWh) |
| Turbine speed | 3,000 rpm | 3,600 rpm |
| Pressure ratio | 24.0 : 1 | >24.01 : 1 |
| Exhaust mass flow | 1,050 kg/s (2,315 lb/s) | 760 kg/s (1,676 lb/s) |
| Exhaust temperature | 670 °C (1,238 °F) | 675 °C (1,247 °F) |
| NO _x emissions | down to 2 ppm with SCR, down to 25 ppm without SCR | down to 2 ppm with SCR, down to 25 ppm without SCR |
| CO emissions | 10 ppm | 10 ppm |

Performance data for combined cycle operation

| | SGT5-9000HL | | SGT6-9000HL | |
|------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| | CC 1x1/1S | CC 2x1 | CC 1x1/1S | CC 2x1 |
| Frequency | 50 Hz | 50 Hz | 60 Hz | 60 Hz |
| Net plant output | 880 MW | 1,760 MW | 655 MW | 1,310 MW |
| Net plant efficiency | >64% | >64% | >64% | >64% |
| Plant turn down | <40% | <40% | <40% | <40% |
| Net heat rate | <5,625 kJ/kWh (<5331 Btu/kWh) | <5,625 kJ/kWh (<5331 Btu/kWh) | <5,625 kJ/kWh (<5331 Btu/kWh) | <5,625 kJ/kWh (<5331 Btu/kWh) |
| Number of gas turbines | 1 | 2 | 1 | 2 |
| Pressure/reheat | Triple/yes | Triple/yes | Triple/yes | Triple/yes |
| Steam temperature | >600 °C (>1,112 °F) |

Physical dimensions

| | SGT5-9000HL | SGT6-9000HL |
|------------------|---------------------------|-------------------------|
| Weight (approx.) | 497,000 kg (1,095,700 lb) | 305,000 kg (672,400 lb) |
| Length | 13.0 m (42.6 ft) | 10.8 m (35.4 ft) |
| Width | 5.3 m (17.4 ft) | 5.0 m (14.1 ft) |
| Height | 5.5 m (18.1 ft) | 4.3 m (14.1 ft) |

All ratings are gross values at ISO ambient conditions. Actual performance will vary with project-specific conditions and fuel.

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USA

For more information:

www.siemens-energy.com/gasturbines

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