



# 7F Power Plants

The demands of today's power generation industry are many: low cost of electricity, dispatch volatility, along with high efficiency, reliability, and asset availability. With more than 1,100 installed units producing 260 GW of power in 58 countries, GE's 7F gas turbine is a proven performer in all these areas. Among its features, the 7F provides 98.6 percent reliability, which enables five to six more days of operation per year than the industry average.

**198-243 MW** SIMPLE CYCLE OUTPUT  
**>60%** COMBINED CYCLE EFFICIENCY



### Capability

Field replaceable compressor blades reduce downtime and outage costs



### Versatility

Only F-class that burns Arabian Super Light; also offers 15% CO<sub>2</sub>, +20%/-10% Modified Wobbe Index, and 5% hydrogen



### Sustainability

Continually leading the way since being the first F-class to achieve 5 ppm NO<sub>x</sub> emissions



# 198-243 MW

SIMPLE CYCLE  
OUTPUT

>60% COMBINED CYCLE EFFICIENCY

		7F.04	7F.05
SC Plant Performance	SC Net Output (MW)	198	243
	SC Net Heat Rate (Btu/kWh, LHV)	8,840	8,570
	SC Net Heat Rate (kJ/kWh, LHV)	9,187	9,042
	SC Net Efficiency (% , LHV)	38.6%	39.8%
Gas Turbine Parameters	Compression Pressure Ratio (X:1)	16.7	18.6
	GT Generator Type (Cooling)	Hydrogen	Hydrogen
	Number of Combustor Cans	14	14
	Number of Compressor Stages	18	14
	Number of Turbine Stages	3	3
	Exhaust Temperature (°F)	1,151	1,189
	Exhaust Temperature (°C)	622	643
	Exhaust Energy (MM Btu/hr)	1,059	1,260
	Exhaust Energy (MM kJ/hr)	1,117	1,329
	GT Turndown Minimum Load (%)	49%	43%
	GT Ramp Rate (MW/min) <sup>1</sup>	30	40
	NO <sub>x</sub> (ppmvd) at Baseload (@15% O <sub>2</sub> )	9	12
	CO (ppm) at Min. Turndown w/o Abatement	9	9
	Wobbe Variation (%)	+/-7.5%	+/-7.5%
	Startup Time, Conventional/Peaking (Min.) <sup>2</sup>	21/11	21/11
1x1 CC Plant Performance	CC Net Output (MW)	305	376
	CC Net Heat Rate (Btu/kWh, LHV)	5,715	5,649
	CC Net Heat Rate (kJ/kWh, LHV)	6,030	5,960
	CC Net Efficiency (% , LHV)	59.7%	60.4%
	Plant Turndown – Minimum Load (%)	58%	46%
	Ramp Rate (MW/Minute) <sup>1</sup>	30	40
	Startup Time (RR Hot, Minutes) <sup>3</sup>	28	25
1x1 CC Power Plant Features	Bottoming Cycle Type	3PRH	3PRH
	HP Throttle Press. (psia/bar)	1,755/121	2,285/158
	HP Throttle Temp. (°F/°C)	1,085/585	1,085/585
	Reheat Temp. (°F/°C)	1,085/585	1,085/585
	ST Configuration (Type)	STF-D650	STF-D650
	GT Generator Type (Cooling)	Hydrogen	Hydrogen
	ST Generator Type (Cooling)	Air	Air
2x1 CC Plant Performance	CC Net Output (MW)	615	756
	CC Net Heat Rate (Btu/kWh, LHV)	5,676	5,649
	CC Net Heat Rate (kJ/kWh, LHV)	5,989	5,960
	CC Net Efficiency (% , LHV)	60.1%	60.4%
	Plant Turndown – Minimum Load (%)	27%	22%
	Ramp Rate (MW/Minute) <sup>1</sup>	60	80
2x1 CC Power Plant Features	Startup Time (RR Hot, Minutes) <sup>3</sup>	28	25
	Bottoming Cycle Type	3PRH	3PRH
2x1 CC Power Plant Features	HP Throttle Press. (psia/bar)	2,400/165	2,400/165
	HP Throttle Temp. (°F/°C)	1,085/585	1,085/585
	Reheat Temp. (°F/°C)	1,085/585	1,085/585
	ST Configuration (Type)	STF-D650	STF-D650
	GT Generator Type (Cooling)	Hydrogen	Hydrogen
	ST Generator Type (Cooling)	Hydrogen	Hydrogen

*The 7F.05 achieves a field-validated and customer-accepted 10-minute cold start to 200 MW on natural gas and liquid fuel.*



[gepower.com](http://gepower.com)

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1.) Ramp rates are Fast Ramp via AGC.  
 2.) Start times recognize purge credit. Turning gear to full speed, full load and synchronized to grid. Peaking maintenance factors may apply depending on the operating profile.  
 3.) Start times are based on rapid response technologies in hot start conditions with purge credit recognized. Simultaneous start sequence of gas turbine may apply depending on exact project configurations.  
 NOTE: All ratings are net plant, based on ISO conditions and natural gas fuel. Actual performance will vary with project-specific conditions and fuel. All performance figures based on Once-Through condenser with 1.2" Hga condenser pressure.  
 2PNRH = Two pressure, non-reheat; 3PRH = Three pressure, reheat.