GE Power

LM6000 POWER PLANTS (50/60 Hz)

Engineered to cost effectively cycle multiple times per day, our LM6000 aeroderivative gas turbine is fast and flexible, meeting dispatch profiles with proven reliability. With more than 1,200 units shipped and 33 million combined operating hours, the LM6000 family has more operating experience than any other aeroderivative gas turbine greater than 40 MW. It leads the field with greater than 99.8 percent reliability and 98.4 percent availability.

CAPABILITY

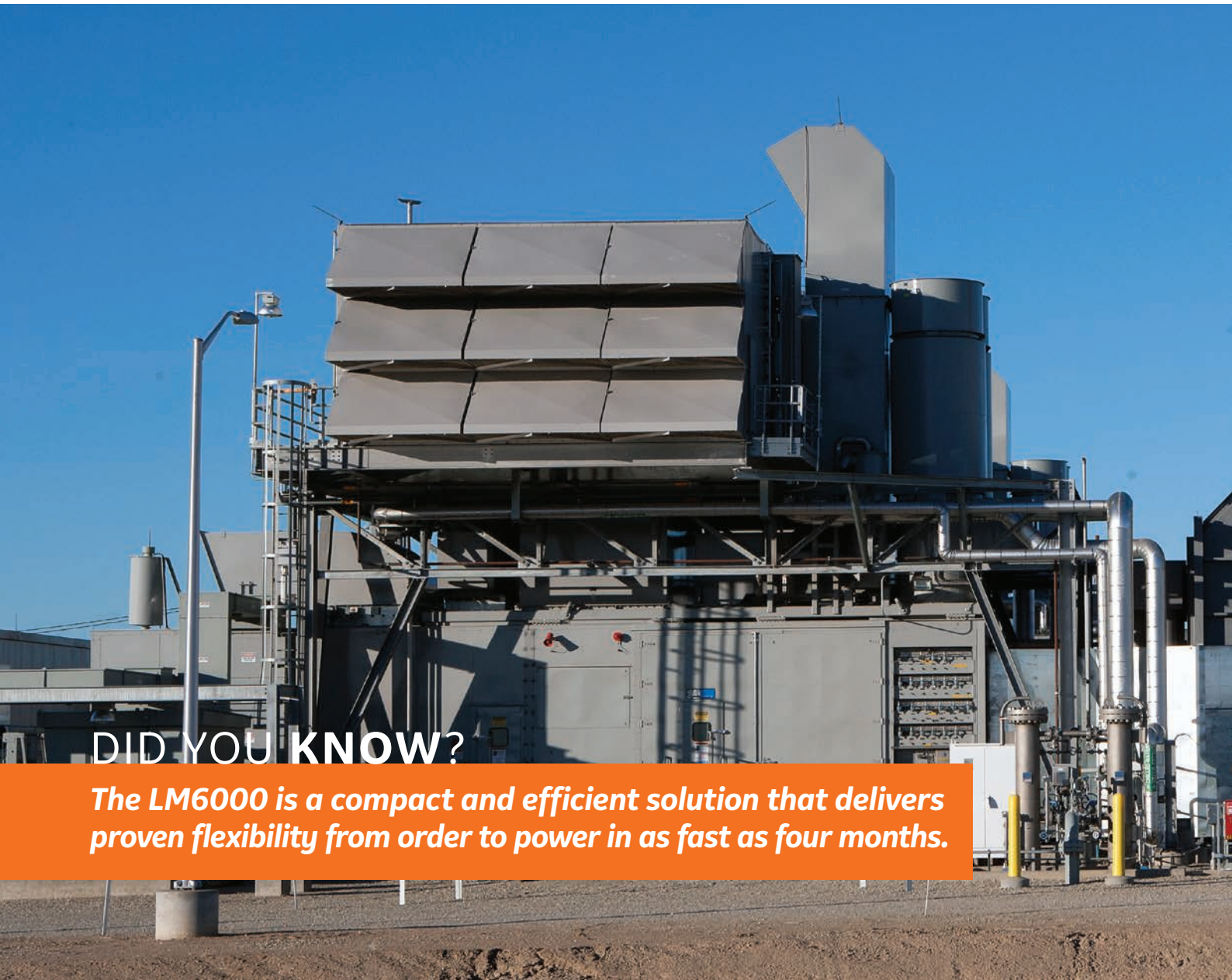
Achieves emissions standards while ramping at 50 MW/minute starting as low as 25% of full load

VERSATILITY

Meets various dispatch profiles with 5-minute start and can reach max power in less than 10 minutes

SUSTAINABILITY

Unique low emissions technology and fuel flexibility (ethane, propane, LPG) with standard combustor



DID YOU **KNOW**?

The LM6000 is a compact and efficient solution that delivers proven flexibility from order to power in as fast as four months.

45-59 MW SIMPLE CYCLE OUTPUT
>41% SIMPLE CYCLE EFFICIENCY

		LM6000 (52)	LM6000 (59)	LM6000 DLE (50)	LM6000 DLE (57)
Gas Turbine Rating	Frequency	50/60	50/60	50/60	50/60
	ISO Base Rating (MW)	46/52[2]	56/59[2]	45/50[2]	53/57[3]
	Gross Heat Rate (Btu/kWh, LHV)	8,458	8,524	8,097	8,175
	Gross Heat Rate (kJ/kWh, LHV)	8,924	8,993	8,543	8,625
	Gross Efficiency (%, LHV)	40.3%	40.0%	42.1%	41.7%
	Exhaust Temperature (°F)	824	879	861	932
	Exhaust Temperature (°C)	440	470	461	500
	Exhaust Energy (MM Btu/hr)	207	250	208	244
	Exhaust Energy (MM kJ/hr)	218	263	219	258
Gas Turbine Parameters	Compression Pressure Ratio (X:1)	29.6	33.5	29.8	32.1
	GT Generator Type (Cooling)	Air	Air	Air	Air
	Number of Compressor Stages	19	19	19	19
	Number of Turbine Stages	7	7	7	7
	GT Turndown Minimum Load (%)	25%	25%	50%	50%
	GT Ramp Rate (MW/min)	50	50	50	50
	NO_X (ppmvd) at Baseload (@15% O_2)	25	25	15	25
	CO (ppm) (@15% O_2)[1]	89/150	94/150	25/70	25/25
	Wobbe Variation (%)	+/-20%	+/-20%	+/-25%	+/-25%
	Startup Time (Hot, Minutes)	5	5	5	5
SC Plant Performance	SC Net Output (MW)	45/50[2]	55/57[2]	44/49[2]	51/55[3]
	SC Net Heat Rate (Btu/kWh, LHV)	8,651	8,692	8,281	8,346
	SC Net Heat Rate (kJ/kWh, LHV)	9,127	9,170	8,737	8,805
	SC Net Efficiency (%, LHV)	39.4%	39.3%	41.2%	40.9%
1x1 CC Plant Performance	CC Net Output (MW)	59/66[2]	73/76[2]	58/64[2]	70/74[3]
	CC Net Heat Rate (Btu/kWh, LHV)	6,573	6,535	6,179	6,105
	CC Net Heat Rate (kJ/kWh, LHV)	6,935	6,895	6,520	6,441
	CC Net Efficiency (%, LHV)	51.9%	52.2%	55.2%	55.9%
	Plant Turndown – Minimum Load (%)	19%	19%	37%	37%
	Ramp Rate (MW/min)	50	50	50	50
	Startup Time (Hot, Minutes)	30	30	30	30
1x1 CC Power Plant Features	Bottoming Cycle Type	2PNRH	2PNRH	2PNRH	2PNRH
	Condenser Type	Once-Through	Once-Through	Once-Through	Once-Through
	Condenser Pressure (in.Hga)	1.2	1.2	1.2	1.2
	HP Throttle Press. (psia/bar)	900/62.1	900/62.1	900/62.1	900/62.1
	HP Throttle Temp. (°F/°C)	788/420	843/450	827/442	897/481
	ST Configuration (Type)	–	–	–	–
	GT Generator Type (Cooling)	Air	Air	Air	Air
	ST Generator Type (Cooling)	Air	Air	Air	Air
2x1 CC Plant Performance	CC Net Output (MW)	118/133[2]	146/153[2]	117/129[2]	140/149[3]
	CC Net Heat Rate (Btu/kWh, LHV)	6,555	6,516	6,161	6,085
	CC Net Heat Rate (kJ/kWh, LHV)	6,916	6,874	6,500	6,420
	CC Net Efficiency (%, LHV)	52.1%	52.4%	55.4%	56.1%
	Plant Turndown – Minimum Load (%)	19%	19%	19%	18%
	Ramp Rate (MW/min)	100	100	100	100
	Startup Time (Hot, Minutes)	30	30	30	30
2x1 CC Power Plant Features	Bottoming Cycle Type	2PNRH	2PNRH	2PNRH	2PNRH
	Condensor Type	Once-Through	Once-Through	Once-Through	Once-Through
	Condenser Pressure (in.Hga)	1.2	1.2	1.2	1.2
	HP Throttle Press. (psia/bar)	900/62.1	900/62.1	900/62.1	900/62.1
	HP Throttle Temp. (°F/°C)	788/420	843/450	827/442	897/481
	ST Configuration (Type)	–	–	–	–
	GT Generator Type (Cooling)	Air	Air	Air	Air
	ST Generator Type (Cooling)	Air	Air	Air	Air

1.) At baseload/minimum turndown without abatement
2.) Output with SPRINT
3.) Sprint flow at 37 gpm

NOTE: Gas turbine ratings are at the generator terminals; 15°C (59°F), 60% relative humidity; unity power factor, natural gas, inlet, and exhaust losses excluded. Plant ratings are on a net plant basis; 15°C (59°F), 60% relative humidity; 0.8 power factor, natural gas, inlet, and exhaust losses included. Actual performance will vary with project-specific conditions and fuel. 2PNRH = Two pressure, non-reheat.

CUSTOMER HIGHLIGHT

" The LM6000 turbines have the capacity to produce power using natural gas or jet fuel. TANESCO decided to use this type of turbine that use[s] two types of energies to produce power to ensure there is an alternative source even at times when there is no gas from Mtwara."

— Felchesmi Mramba, Managing Director, TANESCO

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