



7EA SCOPE OF SUPPLY

Includes one complete combustion turbine generator unit with GE's standard equipment as well as special accessories and services detailed below.

- Lubricating oil system with water/oil coolers and stainless steel supply oil piping and carbon steel return oil piping common to the combustion turbine and generator
- Natural gas valve train and control package
- On and off line compressor water wash system
- 4,160V AC motor starting system
- Hydraulic ratchet rotor turning system arranged for automatic engagement and disengagement complete with a jog switch
- Inlet silencer, self-cleaning pulse type filters, ductwork expansion joints & supports
- Exhaust flange
- Enclosure with acoustic treatment and barrier walls along the GT exhaust plenum
- Control and protection system including provisions for interconnection to Purchaser's DCS system via an RS232C (Modbus)
- Vibration and temperature instrumentation and monitoring system including a Bentley-Nevada system for interfacing with the Purchaser's DCS
- Mark V turbine control system that includes one (1) local and one (1) remote Windows based interface system
- Inlet bleed heating system including the inlet duct bleed heat manifold and the GT air extraction piping system
- Air intake anti-icing provisions
- Coolers designed with 90-10 copper nickel tubes
- On base instruments include: platinum stator RTDs, oil & bearing thermocouples, flux probe and Bentley vibration probes
- All electrical equipment meets CSA codes
- Generator line side equipment located in a skid mounted enclosure complete with generator circuit breaker, draw-out voltage transformers, surge protection and one set of current transformers
- Generator neutral grounding equipment located in a skid mounted enclosure complete with four sets of current transformers
- Redundant generator protections (GE DGP and Multilin SR-489 relays)
- Generator control through the Mark V turbine control system includes: auto-synchronizing, metering, isochronous and droop control modes
- Space heater

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7EA FACT SHEET

Simple Cycle Performance	60Hz Power Generation	Mechanical Drive
Output	85.4 MW	115630 hp
Heat Rate	10420 Btu/kWh (10991 kJ/kWh)	9795 Btu/shp-hr
Pressure Ratio	12.6:1	11.9:1
Mass Flow	643 lb/sec (292 kg/sec)	659 lb/sec (299 kg/sec)
Turbine Speed	3600 rpm	3600 rpm
Exhaust	998°F (537°C)	998°F (537°C)
Model Designation	PG7121EA	M7121EA

Combined Cycle Performance	60Hz (S109EA)	60Hz (S207EA)
Net Plant Output	103.2 MW	263.6 MW
Heat Rate	6800 Btu/kWh (7175 kJ/kWh)	6700 Btu/kWh (7070 kJ/kWh)
Net Plant Efficiency	50.2%	50.9%
GT Number & Type	1 x MS7001EA	2 x MS7001EA

Generator

Manufacturer	Brush
Type	BDAX 8-365er (Brushless)
Excitation System	GE Ex2000 Terminal
Voltage	13.8 Kv, 2 Pole, 3 Phase, Wye Connection Frequency 60 Hertz
Power Factor	.85 Power Factor
Rated Output	86.53 Mw/101.8 Mva
Cooling	Air

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