

## Unit Design Data

### Gas Turbine or Jet Engine (Voluntary Reporting)

**(Note:** The NERC Board of Trustees approved the GADS Task Force report (dated [July 20, 2011](#)<sup>1</sup>, which states that design data collection outside the required nine fields is solely voluntary. However, the GADS staff encourages that reporters report and update GADS design data frequently. This action can be completed by sending in this form to [gads@nerc.net](mailto:gads@nerc.net). GADS staff encourages using the software for design entry and updating.

#### Instructions

Submit the data in this section once during the life of each gas turbine or jet engine unit. If a major change is made to a unit which significantly changes its characteristics, then resubmit this section with updated information.

For coded entries, enter a (9) to indicate an alternative other than those specified. Whenever you enter a (9), write the column number and the answer on the reverse side of the form.

If submitting a copy of the original form, make sure that it is legible.

Unit name:

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Location of unit (State):

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Energy Information Administration (EIA) Number:

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Regional Entity:

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Subregion:

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Data reporter:

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Telephone number:

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Date:

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**GENERAL DATA**

	Col. No.	
<input type="text"/> <input type="text"/> <input type="text"/>	01	Utility identification number
<input type="text"/> <input type="text"/> <input type="text"/>	04	Unit identification number
<input type="text" value="3"/> <input type="text" value="1"/>	07	Card code
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	09	Columns 09 through 12 are blank
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	13	Year unit first paralleled for load
<input type="text"/> <input type="text"/>	17	Month unit first paralleled for load
<input type="text"/> <input type="text"/>	19	Day unit first paralleled for load

**GAS TURBINE OR JET ENGINE DATA**

<input type="text"/>	21	Engine manufacturer – (1) Pratt & Whitney; (2) General Electric; (3) Westinghouse; (4) ABB Gas Turbine Power Division; (5) Rolls Royce; (6) Cooper Bessemer; (7) Worthington; (8) Allison; (9) Other
<input type="text"/>	21	Engine type – (1) Gas turbine single shaft; (2) Gas turbine split shaft; (3) Jet engine; (9) Other
<input type="text"/> <input type="text"/>	22	Engines, number per unit
<input type="text"/>	25	Expander turbines, number per unit if applicable
<input type="text"/>	26	Type expander, if applicable – (1) Single flow; (2) Double flow
<input type="text"/>	27	Cycle type – (1) Reheat; (2) Simple; (3) Regenerative; (4) Recuperative; (5) Intercooled; (6) Precooled; (7) Complex; (8) Compound; (9) Other
<input type="text"/>	28	Startup system – (1) Air; (2) Auxiliary motor; (3) Electric motor; (4) Natural gas; (5) Flow turbine; (6) Supercharging fan; (7) Hydraulic; (9) Other
<input type="text"/>	29	Startup type – (1) Automatic, on site; (2) Automatic, remote; (9) Other

**GAS TURBINE OR JET ENGINE DATA (Continued)**

<input type="checkbox"/> <input type="checkbox"/>	30	Type of Fuel(s) that will be used (see table of Fuel Codes, page E-124)
<input type="checkbox"/>	32	Enter (1) if sound attenuators located at inlet
<input type="checkbox"/>	33	Enter (1) if sound attenuators located at outlet
<input type="checkbox"/>	34	Enter (1) if sound attenuators located in building enclosures
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	35	Time for normal cold start to full load in seconds
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	38	Time for emergency cold start to full load in seconds
<input type="checkbox"/>	41	Black start capability – (1) Yes; (2) No
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	42	Columns 42 through 70 are blank
	71	Engine Model Number (MS 7001EA, W501AA, FT4A11, etc.)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

**POLLUTION CONTROL EQUIPMENT DATA**

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	01	Utility identification number
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	04	Unit identification number
<input type="checkbox"/> 3 <input type="checkbox"/> 2	07	Card code
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	09	Columns 09 through 21 are blank

**SELECTIVE NON-CATALYTIC REDUCTION SYSTEM (SNCR)**

- 22 SNCR reagent – (1) Ammonia; (2) Urea; (9) Other
- 23 SNCR injector type – (1) Wall nozzle; (2) Lance; (9) Other
- 24 SNCR injection equipment location – (1) Furnace; (2) Super-heater; (3) Economizer; (9) Other
- 25 Number of SNCR injectors
- 28 SNCR carrier gas type – (1) Steam; (2) Air; (9) Other
- 29 SNCR carrier gas total flow rate (thousands of lbs./hr.) i.e. 6,000,000 lbs./hr. enter 6000
- 34 SNCR carrier gas pressure at nozzle (psi)
- 38 SNCR carrier gas nozzle exit velocity (thousands of ft./sec.)

**SELECTIVE CATALYTIC REDUCTION SYSTEM (SCR)**

- 43 SCR reactor – (1) Separate; (2) In Duct
- 44 SCR reagent – (1) Ammonia; (2) Urea; (9) Other
- 45 SCR ammonia injection grid location – (1) Furnace; (2) Super-heater; (3) Economizer; (4) Zoned
- 46 SCR duct configuration – (1) Flow straighteners; (2) Turning vanes; (3) Dampers
- 47 SCR Catalyst Element Type (1) Plate; (2) Honeycomb; (9) Other
- 48 SCR catalyst support material – (1) Stainless steel; (2) Carbon steel; (9) Other
- 49 SCR catalytic material configuration – (1) Vertical; (2) Horizontal; (9) Other
- 50 SCR catalyst surface face area (thousands of square feet)
- 55 SCR catalyst volume (thousands of cubic feet)
- 60 Number of SCR catalytic layers

**SELECTIVE CATALYTIC REDUCTION SYSTEM (SCR) (Continued)**

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	62	SCR catalytic layer thickness (1/1000 inches)
<input type="checkbox"/>	65	SCR sootblower type – (1) Air; (2) Steam; (3) Both
<input type="checkbox"/> <input type="checkbox"/>	66	SCR sootblower manufacturer – (see table of Manufacturers – page E-125)

**CATALYTIC AIR HEATERS (CAH)**

<input type="checkbox"/>	68	CAH element type – (1) Laminar surface; (2) Turbulent surface; (9) Other
<input type="checkbox"/>	69	CAH catalyst material – (1) Titanium oxide; (2) Vanadium pentoxide; (3) Iron (II) oxide; (4) Molybdenum oxide; (9) Other
<input type="checkbox"/>	70	CAH catalyst support material – (1) Stainless steel; (2) Carbon steel; (9) Other
<input type="checkbox"/>	71	CAH catalyst material configuration – (1) Horizontal air shaft; (2) Vertical air shaft
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	72	CAH catalyst material total face area (thousands of square feet)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	75	CAH catalyst material open face area (thousands of square feet)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	78	CAH catalyst material layer thickness (1/1000 inches)

**GENERATOR DATA**

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	01	Utility identification number
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	04	Unit identification number
<input type="checkbox"/> 3 <input type="checkbox"/> 3	07	Card code
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	09	Columns 09 through 13 are blank
<input type="checkbox"/> <input type="checkbox"/>	14	Manufacturer (see table of Manufacturers, page E-123)
<input type="checkbox"/>	16	Type – (1) Three-phase, 60-cycle; (9) Other
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	13	Nameplate voltage to nearest one-tenth KV

**GENERATOR DATA (Continued)**

<input type="text"/>	21	Nameplate capability MVA, first shaft
<input type="text"/>	25	Speed in RPM, first shaft
<input type="text"/>	26	Nameplate capability MVA, second shaft if any
<input type="text"/>	33	Speed in RPM, second shaft if any
<input type="text"/>	37	Nameplate capability MVA, third shaft if any
<input type="text"/>	41	Speed in RPM, third shaft if any
<input type="text"/>	45	Nameplate power factor in percent
<input type="text"/>	47	Cooling medium, stator/rotor – (1) Air/air; (2) Hydrogen/ hydrogen; (3) Oil/hydrogen; (4) Water/hydrogen; (9) Other
<input type="text"/>	48	Cooling method, stator/rotor – (1) Intercooled/intercooled; (2) Conventional/conventional; (3) Intercooled/ conventional; (9) Other
<input type="text"/>	49	Hydrogen pressure in PSIG at nameplate, MVA, if applicable
<input type="text"/>	51	Number of exciters required by the unit for normal operation at rated output
<input type="text"/>	52	Type normal exciters – (1) Rotating DC generator; (2) Rotating alternator rectifier; (3) Static; (9) Other
<input type="text"/>	53	Type drive for normal exciters, if rotating – (1) Shaft direct; (2) Shaft gear; (3) Motor; (9) Other
<input type="text"/>	54	Number of spare exciters available to the unit
<input type="text"/>	55	Enter (1) if more than 50% of generator is outdoors

56 Unit Name (columns 56-80)

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[http://www.nerc.com/pa/RAPA/gads/MandatoryGADS/Revised\\_Final\\_Draft\\_GADSTF\\_Recommendation\\_Report.pdf](http://www.nerc.com/pa/RAPA/gads/MandatoryGADS/Revised_Final_Draft_GADSTF_Recommendation_Report.pdf)