

# Appendix E4: Unit Design Data – Internal Combustion / Reciprocating 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 internal combustion/reciprocating 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, a (9) is entered to indicate an alternative other than those specified. Whenever a (9) is entered, write the column number and the answer on the reverse side of the form.

If a copy of the original form is being submitted, 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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**Date Reporter**

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**Telephone Number**

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**Date**

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## General Data

	Col No.	Column Information
<hr/>	01	Utility Identification Number
<hr/>	04	Unit Identification Number
<hr/>	07	Card code
<hr/>	09	Columns 09 through 12 are blank
<hr/>	13	Year unit first paralleled for load
<hr/>	17	Month unit first paralleled for load

<sup>1</sup> [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)

19 Day unit first paralleled for load

### Internal Combustion/Reciprocating Engine Data

Col No.	Column Information
01	Utility Identification Number
04	Unit Identification Number
07	Card code
09	Columns 09 through 12 are blank
21	Diesel engine manufacturer – (1) General Motors; (2) General Electric; (3) Consolidated Diesel Electric; (4) Allis Chalmers; (5) Caterpillar Tractor; (6) Cummins; (7) Fairbanks Morse; (9) Other
22	Fuel, type – (1) No. 2 fuel oil; (2) Diesel oil; (3) JP 5 fuel; (4) Kerosene; (5) Heavy oil; (9) Other
23	Cylinders, number per engine
25	Cycle, type – (1) 2-stroke; (2) 4-stroke; (9) Other
26	Startup system, type – (1) Automatic, on site; (2) Automatic remote; (9) Other
27	Time for normal cold start to full load in seconds
30	Time for emergency cold start to full load in seconds
33	Coolant, type – (1) Water; (2) Oil; (3) Air; (9) Other
34	Columns 34 through 80 are blank

### Generator Data

Col No.	Column Information
01	Utility Identification Number
04	Unit Identification Number
07	Card code
09	Columns 09 through 12 are blank
14	Manufacturer – (see table of Manufacturers, page E-2)
16	Type – (1) Three-phase, 60-cycle; (9) Other
17	Nameplate voltage to nearest one-tenth KV
21	Nameplate capability MVA, first shaft
25	Speed in RPM, first shaft

Generator Data	
Col No.	Column Information
29	Nameplate capability MVA, second shaft if any
33	Speed in RPM, second shaft if any
37	Nameplate capability MVA, third shaft if any
41	Speed in RPM, third shaft if any
45	Nameplate power factor in percent
47	Cooling medium, stator/rotor – (1) Air/air; (2) Hydrogen/ hydrogen; (3) Oil/hydrogen; (4) Water/hydrogen; (9) Other
48	Cooling method, stator/rotor – (1) Intercooled/intercooled; (2) Conventional/conventional; (3) Intercooled/conventional; (9) Other
49	Hydrogen pressure in PSIG at nameplate MVA, if applicable
50	Number of exciters required by the unit for normal operation at rated output
51	Type normal exciters - (1) Rotating DC generator; (2) Rotating alternator rectifier; (3) Static; (9) Other
52	Type drive for normal exciters, if rotating – (1) Shaft direct; (2) Shaft gear; (3) Motor; (9) Other
53	Number of spare exciters available to the unit
54	Enter (1) if more than 50% of generator is outdoors
55	Name of Unit (Columns 55-80)