

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

50-259/260/296 January 24, 1978



Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Gentlemen:

QUESTIONNAIRE FOR NRC RELIABILITY STUDY OF STANDBY DIESEL GENERATOR
UNITS

In response to Karl R. Goller's letter dated December 15, 1977, on
this subject, we are enclosing the completed questionnaire.

A supplemental report will be submitted on those items for which we
could not readily obtain information.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

N. B. Hughes, Jr.
Manager of Power

Enclosure

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S. Are any foreign gases such as propane, freon, halon, carbon dioxide, etc. stored in the: Diesel Engine room?
Yes _____ No or adjacent buildings? Yes No _____

If yes, (other than hand portable fire extinguishers), then identify gases and give approximate tank size.

| Gases | Volume (Tons) |
|-----------------------------------|---------------|
| _____ | _____ |
| _____ | _____ |
| Liquid CO ₂ - U1 and 2 | 17 tons |
| Liquid CO ₂ - U3 | 6 tons |

T. Does control system automatically bypass, in emergency starting, any engine temporarily out of service for maintenance? Yes _____ No

If yes, then how many failures to bypass have occurred?

U. Does the control system automatically override the test mode under emergency conditions? Yes No _____

V. Have repetitive mechanical failures occurred in any component part or subsystem of the engine, generator, or switch gear, etc.?
Yes No _____

If yes, then which part or subsystem? Air start motor system

How many failures? UN

Give nature of failure. Foreign material in air start system gets in valves and air start motor vanes.

W. Would periodic (yearly or other) evaluation and/or testing by "outside experts" contribute significantly to the diesel-generator reliability? Yes _____ No

Give brief reasons for the answer. We have developed a good maintenance program with trained personnel. Vendors are contacted upon need basis.

- X. 1. Give the accumulated time-load operating record for each diesel-generator unit from installation to the present (Running Hours):

Preoperational test Date _____ Supplemental report if data exists.

| Engine Serial No. | Surv. Testing & Maintenance Hrs. No Load : Loaded | Emergency and Other Service Hrs. | Total Hours |
|----------------------|---------------------------------------------------------|----------------------------------------|----------------|
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2. Surveillance test load (percent of continuous rating) 75%

3. Give the projected or planned time-load operation for each diesel-generator unit during the next 12 months. - Approximate

| Surveillance & Maintenance Hrs. | Emergency and other Service Hrs. | Total Hours |
|------------------------------------|----------------------------------------|----------------|
| 13 | 5 | 18 |

4. Provide the following summary of the periodic surveillance testing experience:

- a. Starting date of surveillance testing (OL date) U1 and 2 - 1/28/73
 b. Periodic test interval U3 - 11/21/75
 c. Total number of surveillance tests performed U1 and 2 - 262
 d. Total number of test failures U3 - 113 (See Abnormal Occurrence Reports)
 failure to start 5 failure to accept load 0
 failure to carry load 0 failures due to operator error 0
 failure due to equipment not being operative during emergency
 conditions 0
- e. Supply a copy of the surveillance test procedures with this completed questionnaire. - (attached)