

YANKEE ATOMIC ELECTRIC COMPANY

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BYR 90-115

United States Nuclear Regulatory Commission
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Reference: (a) License No. DPR-3 (Docket No. 50-29)

Subject: Diesel Generator Testing

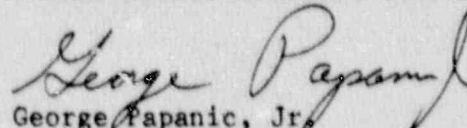
Dear Sir:

Yankee's test program for the replacement diesel generators at Yankee Nuclear Power Station is outlined in Attachment 1. This program is consistent with our commitments made during our discussions on August 17 and 20, 1990.

We trust that the program outlined in the attachment will be satisfactory; however, if you have any questions, please contact us.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY


George Papanic, Jr.
Senior Project Engineer
Licensing

GP/gms/WPP72/91

Attachment

cc: USNRC Region I
USNRC Resident Inspector, YNPS

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YNPS DIESEL GENERATOR TEST PLAN
FOR
QUALIFICATION AND PREOPERATIONAL TESTING
EDG UNIT NOS. 1, 2, AND 3

A. Factory Production Tests Performed on Unit Serial Nos. 36431-1, 2, and 3

The following testing was performed by the engine manufacturer at Detroit Diesel, Virginia:

- Engine Warm-Up
- 15 Minutes at 300 kW
- 15 Minutes at 450 kW
- 1 Hour at 600 kW

NOTE: EDG Nos. 1 and 2 accepted a single step load of 600 kW when applied subsequent to the above load runs.

B. Qualification Testing of Unit Serial No. 36431-1

Testing performed per YR-EDG-1, Revision 2, by Yankee Atomic at Power Products, Inc.:

1. Initial Production Test

- 1 Hour at 225 kW (50% of Continuous Rating)
- 1 Hour at 338 kW (75% of Continuous Rating)
- 2 Hours at 450 kW (100% of Continuous Rating)
- 1 Hour at 495 kW (110% of Continuous Rating)

2. Initial Type Tests

a. Load Capability Test

- 1 Hour at 450 kW (100% of Continuous Rating)
- 2 Hours at 600 kW (Short-Time Load Rating)
- 22 Hours at 450 kW (100% of Continuous Rating)

b. Load Rejection Test

- Perform 600 kW (Short-Time Load Rating) Load Rejection and Record Maximum Engine Speed

c. No-Load Test

- Operate Engine at No-Load and Apply 225 kW (50% of Continuous Rating) for 0.5 Hours

3. Start and Load Acceptance Test

From a diesel engine warm standby condition, a total of five start and single step loads of 427.5 to 450 kW (95% to 100% of continuous rating) will immediately be applied for one hour. Verify that the load is accepted and that the engine recovers. Record data.

C. YNPS Site Production Test of Unit Serial Nos. 36431-2 and 3

1. Initial Production Tests for Unit Serial Nos. 2 and 3

- 1 Hour at 225 kW (50% of Continuous Rating)
- 1 Hour at 338 kW (75% of Continuous Rating)
- 2 Hours at 450 kW (100% of Continuous Rating)
- 1 Hour at 495 kW (110% of Continuous Rating)

D. YNPS Site Start and Load Reliability Test for Unit Serial Nos. 36431-1, 2, and 3

1. From a diesel engine warm standby condition, a total of 30 start and single step loads of 427.5 to 450 kW (95% to 100% of continuous rating) will be immediately applied. Verify that the load is accepted and that the engine recovers. Record data.
2. From a diesel engine warm standby condition, a single start, single step load of 450 kW (100% of continuous load rating) will immediately be applied for one hour. Verify that the load is accepted and that the engine recovers. Record data.
3. From a diesel engine warm standby condition, a single start, single step load of 600 kW (100% of short-time load rating) will immediately be applied for one hour. Verify that the load is accepted and that the engine recovers. Record data.

E. OP-4209 Technical Specification Surveillance Test

For each unit, from a diesel engine warm standby condition, perform the once per 18-month Technical Specification required "Emergency Diesel Generator Test During Refueling Intervals," OP-4209. Each diesel generator will be monitored with instrumentation during the acceptance of actual plant loads. Data will be evaluated and utilized as a basis for final acceptance of each unit's performance capability.