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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251
 AUTH. NAME: WILLIAMS, J. W. AUTHOR AFFILIATION: Florida Power & Light Co.
 RECIP. NAME: EISENHUT, D. G. RECIPIENT AFFILIATION: Division of Licensing

SUBJECT: Forwards response to 840702 Generic Ltr 84-15 re improving & maintaining diesel generator reliability. Program developed to reduce rapid start testing of emergency diesel generators. Reliability of each diesel generator reported.

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 TITLE: OR Submittal: Fast Cold Starts of Diesel Generators GL-83-41 (GL-84-15)

NOTES: OL: 07/19/72 OL: 04/14/73 05000250 05000251

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	NRR/DST/GIB		2	2	NRR/DST/SPEB	11	1	1	
	REG. ETL	04	1	1	RES BARANOWSKI		1	1	
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Office of Nuclear Reactor Regulation
Attention: Mr. Darrell G. Eisenhut, Director
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

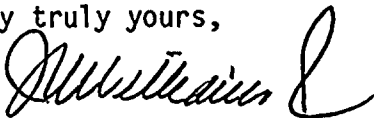
Dear Mr. Eisenhut:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Generic Letter 84-15

Your letter dated July 2, 1984 requested that we respond to three items concerning improving and maintaining diesel generator reliability. Please find attached our response.

In addition, we have reviewed the model Technical Specification change you have attached regarding reducing the number of cold starts. We agree with the intent of proposed change and we plan on submitting a proposed amendment to the Turkey Point Technical Specifications as soon as time permits.

Very truly yours,

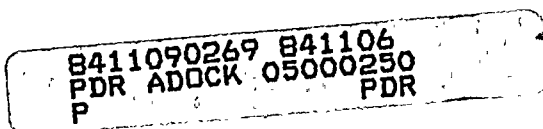


J. W. Williams, Jr.
Group Vice President
Nuclear Energy

JWW/JEM/js

Attachment

cc: J. P. O'Reilly, Region II
Harold F. Reis, Esquire
PNS-LI-84-390-2



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Response to Generic Letter 84-15

Reduction of Emergency Diesel Generator Cold Fast Start Surveillance Tests

Request Area 1:

1. Licensees are requested to describe their current programs to avoid cold fast start surveillance testing or their intended actions to reduce cold fast start surveillance testing for diesel generators.

Response 1:

No formal program existed to reduce rapid start testing of the Emergency Diesel Generators. An analysis of the rapid start tests since the beginning of 1982 has been performed. As a result of this analysis, FP&L developed a program containing the following aspects:

- a. An Operations Department maintenance coordinator has been assigned to coordinate the performance of periodic maintenance with scheduled engine operability tests.
- b. The method used to schedule Technical Specification operability tests will be changed to eliminate unnecessary periodic tests on the Emergency Diesel Generator. The present tracking system does not take credit for post maintenance operability checks performed during the surveillance interval. This results in unnecessary operability tests being performed.
- c. Engine operability tests are being performed at a 14 day interval. The review of the engine start data has indicated that the tests should be conducted on a 30 day interval, based on the number of engine failures observed in the previous 100 valid starts. The tracking program for engine starts did not take all valid starts into consideration. FP&L plans to install a start counter on each Emergency Diesel Generator to track all valid engine starts.

Area 2: Diesel Generator Reliability Data

Request 2:

- a. Licensees are requested to report the reliability of each diesel generator at their plant for its' last 20 and 100 demands. This should include the number of failures in the last 20 and 100 valid demands, indicating the time history of these failures.
- b. Licensees are requested to indicate whether they maintain a record which itemizes the demands and failures experienced by each diesel generator unit, in a manner outlined in Regulatory Guide 1.108 Position c.3.a for each diesel generator unit.

- c Licensees should also indicate whether a yearly data report is maintained for each diesel generator's reliability. Criteria for determining the reliability of diesel generators is as follows:
- a. Valid demands and failures are determined in accordance with the recommendations of Regulatory Guide 1.108 Position c.2.e.
 - b. The reliability of each diesel generator will be calculated based on the number of failures in the last 100 valid demands.

Response

2 a.:	<u>Failures Last 20 Starts</u>	<u>#Failures Last 100 Starts</u>	<u>Reliability</u>
"A" Emergency Diesel Generator	0	0	1.0
"B" Emergency Diesel Generator	0	3	.97

The time history for each Emergency Diesel Generator (EDG) for the last 20 and 100 valid demands and failures follows:

"A" EDG"

100th Start	March 5, 1983
20th Start	May 10, 1984
No failures in last 100 starts	
Data Date for last start	September 18, 1984

"B" EDG:

100th Start	March 11, 1983
One failure to start in required 15 seconds	November 17, 1983
One failure in the air start system	December 15, 1983
One failure of voltage regulator	May 5, 1984
20th start	May 9, 1984
No failures in last 20 starts	
Data date for last start	September 27, 1984

- 2 b. FP&L maintained a log that itemized Emergency Diesel Generator test starts and failures. However, the log did not include all valid starts. This resulted in an increased test frequency.
- 2 c. FP&L does not prepare a yearly data report for each Diesel Generator's reliability.

Area 3: Diesel Generator Reliability

Request

- 3a. Licensees are requested to describe their programs, if any, for attaining and maintaining a reliability goal for their diesel generators.
- 3b. Licensees are requested to comment on, and compare their existing program or any proposed program with the example performance specifications.

Response:

- 3a. The following steps have, or will be taken by FP&L to enhance the reliability of the Emergency Diesel Generators.
 - 1. A review of the diesel engine maintenance program has been conducted by FP&L Engineering and a consulting Technical Representative. As a result of this review, an expanded maintenance program is being implemented.
 - 2. A review of the engine operating procedures has been performed by Engineering and a consulting Technical Representative. One Operating Procedure has been eliminated as being detrimental to long term engine reliability. The data taking requirements for the remaining procedures have been substantially increased to improve performance monitoring of the engines.
 - 3. FP&L is evaluating additional instrumentation for the engines to improve performance monitoring.
 - 4. FP&L is evaluating the installation of an improved vibration damper and lube oil cooler on the engines.
 - 5. An evaluation of vendor proposed modifications to improve reliability is being performed by FP&L Engineering. The modifications include installation of a redundant air start system and high capacity turbo charger.
 - 6. FP&L plans to have a consulting Technical Representative monitor engine performance during future eight hour full load tests.
 - 7. FP&L Engineering will monitor engine performance by reviewing periodic operability test data.

8. FP&L will develop a trending program of key engine parameters to predict potential problems.

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