DAN WOOST

FPL
FLORIDA POWER & LIGHT COMPANY

MAY 7 1986
L-86-192

Dr. J. Nelson Grace
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
Suite 2900
101 Marietta Street, N.W.
Atlanta, Georgia 30323

Dear Dr. Grace:

Re: St. Lucie Unit 2
Docket No. 50-389
Special Report on Diesel Generator Failures

The attached Special Report is being submitted as required per our Technical Specifications.

Very truly yours,

C. O. Woody
Group Vice President
Nuclear Energy

COW/SAV:de

Attachment

cc: Document Control Desk, USNRC, Washington, D.C.
Harold F. Reis, Esquire
PNS-LI-86-145

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Re: St. Lucie Unit 2
Docket No. 50-389
L-86-192

SPECIAL REPORT
DIESEL GERNERATOR FAILURES

At 12:14 P.M., on March 12, 1986, the 2A Diesel Generator (D/G) was started for a required operability check as the 2B D/G was out of service due to maintenance. An alarm was received which indicated that one of the engines in the 2A D/G set had failed to start. The two D/G sets installed in Unit 2 are General Motors-EMD 645-E4 units, each consisting of a 16 cylinder and a 12-cylinder engine mounted in tandem and driving a single generator. Local observations indicated that the 12-cylinder engine was receiving insufficient fuel flow and the 16-cylinder engine was attempting to carry the electrical load alone. The 2A D/G was removed from service for repair at 12:22 P.M.

Troubleshooting resulted in the discovery of an insufficiently torqued nut in a friction clutch used to operate the mechanical engine governor during startup. The locknut allowed excessive slippage and prevented the speed setting motor from driving the governor to its mechanical upper limit as required. As a result, the 12-cylinder engine would not assume any load and thereby constituted a valid diesel failure. This was the second failure of a Unit 2 diesel within the last 100 valid starts. The surveillance frequency for the diesels was once every 14 days, which is in accordance with Regulatory Position C.2.d. of Reg. Guide 1.108.

The friction clutch for the engine governor was replaced and the 2A D/G was returned to service at 4:38 A.M. on March 13. Discussion with a service representative of Woodward Governor has indicated that this is the first known failure of this type. The friction clutches are supplied as assembled units and are not required to be disassembled and inspected as part of the vendor's recommended preventative maintenance program. The governor in question is a Woodward model EGP-B13P. Unit 2 remained at full power during the 16.1 hours the 2A D/G was out of service. A Plant Work Order was written at this time to check all other governors for similar problems. The work, for Unit 2, will be done during the current refueling outage.

On March 26, 1986, with Unit 2 at full power, the 2B D/G was run for an operability check prior to placing the 2A D/G out of service for maintenance. At 2:17 P.M., the 2B D/G tripped on high crankcase pressure. The trip was believed to be spurious, probably caused by oil splashing on the pressure switch diaphram due to a slightly higher than normal oil level. Since this diesel trip is bypassed on an emergency start, this is not considered a valid failure as described in Reg. Guide 1.108. The corrective action taken was to reduce the oil level.

At approximately 6:30 P.M. the 2B D/G was restarted locally to verify resolution of the problem. An engine fail-to-start alarm was received which indicated the 12-cylinder engine had not started. Investigation revealed an insufficiently torqued nut in the friction clutch similar to the failure observed previously in the 2A D/G. This failure constituted the third failure in the last 100 valid tests, changing the surveillance frequency for the Unit 2 diesels to once every seven (7) days. The friction clutch was repaired and the 2B D/G was successfully returned to service at 11:40 P.M. on March 26. The 2B D/G was out of service for approximately 9.3 hours.

As previously stated, the 16-cylinder engine governor on the Unit 2 diesels will be inspected for this failure during the current refueling outage. In addition, the governors on the Unit 1 diesels will be inspected as soon as possible. At present, the friction clutch failures are not believed to be indicative of a generic problem with the Woodward governors. The Unit 1 diesels have similar engine governors which have not experienced this problem in their 10 years of service life. If the inspections of the remaining governors reveal further failure, which may be indicative of a generic problem, a report will be submitted under 10 CFR 50.73(A)(2)(v).