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 PLUNKETT, T.F. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 EBNETER, S.D. Region 2 (Post 820201)

SUBJECT: Special rept: on 940702, re 3A Emergency Diesel Generator
 Failure. Caused by failure of speed switch module. Module
 replaced.

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10 CFR §50.36

Stewart D. Ebnetter
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta St., N.W., Suite 2900
Atlanta, GA 30323

Mr. Stewart D. Ebnetter:

Re: Turkey Point Unit 3
Docket No. 50-250
Special Report - 3A Emergency Diesel Generator Failure

In accordance with Technical Specifications 4.8.1.1.3, the attached Special Report details the 3A Emergency Diesel Generator failure of July 2, 1994.

Should there be any questions on this information please contact us.

Very truly yours,

T. F. Plunkett
Vice President
Turkey Point Plant

TFP/CLM/cm

Attachment

cc: USNRC, Document Control Desk, Washington D.C.
Thomas P. Johnson, Senior Resident Inspector, USNRC,
Turkey Point Plant

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SPECIAL REPORT

3A EMERGENCY DIESEL GENERATOR FAILURE

PURPOSE:

Technical Specification 4.8.1.1.3, requires the submittal of a special report to the NRC in the event of a diesel generator failure. The Technical Specification requires the report to include the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August, 1977.

BACKGROUND:

Florida Power and Light's (FPL) Turkey Point Nuclear Units 3 and 4 have two Emergency Diesel Generators (EDGs) for each unit. The Unit 3 EDGs were overhauled, and the Unit 4 EDGs installed, during the dual unit outage in 1990/1991.

EVENT:

On July 2, 1994, Units 3 and 4 were in Mode 1, at approximately 100% power. At about 2050 (8:50 P.M.), annunciator X1/2 locked in, cleared, then locked in again about 25 minutes later. This annunciator indicates a ground in the 3A DC Load Center (3D01 switchgear). The ground was determined to be from breaker 3D01-47, EDG 3A Flash & Control Power. The EDG Ready-to-Start light was never lost. The 3A EDG was taken out of service to troubleshoot the ground, and the ground was isolated to the diesel speed switch control module. The power supply to the speed switch had failed, and showed considerable discoloration of the protective coating on the circuit board.

The speed switch module was replaced. The EDG was tested satisfactorily, and returned to service as of 0000, July 4, 1994. The impact of the failed speed switch module on the operability of the EDG was evaluated. At 800 rpm, the speed switch module actuates relays which flash the diesel generator field, so with the speed switch module failed, the field may not have flashed. In addition, failure to sense EDG speed \geq 800 rpm within 15 seconds of an emergency start results in a generator lockout. Therefore the EDG was determined to have been inoperable from 2050 on July 2 until 0000 on July 4, 1994.

The following discussion addresses each of the areas listed in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August, 1977.

(1) DIESEL GENERATOR UNIT INVOLVED:

The 3A EDG failed.

(2) IDENTIFY THE FAILURE AS BEING THE N-TH FAILURE IN THE LAST 100 VALID TESTS:

The failure count for the Unit 3 EDGs was transvalued to zero at the end of the dual unit outage, concurrent with the implementation of Turkey Point's Revised Technical Specifications and the dual unit outage overhaul. This failure was the third failure of the 3A EDG since the count was rezeroed, but it is not considered a valid failure in accordance with Regulatory Guide 1.108, Revision 1, August, 1977.

(3) CAUSE OF FAILURE:

The cause of the 3A EDG failure was a failure of the power supply to the speed switch module. The cause of the failure of the power supply is unknown. The failed speed switch module is being returned to the vendor for root cause analysis, but the extent of the damage to the power supply is such that further analysis may not be feasible.

(4) CORRECTIVE MEASURES TAKEN:

1. The 3A EDG Speed Switch module was replaced.
2. The failed module is being returned to the vendor for root cause analysis.
3. The EDG was tested satisfactorily after the module was replaced.
4. The EDG has been tested satisfactorily several times since the module replacement.
5. If the vendor is able to determine any additional causes for the power supply failure (ambient temperature, electrolytic capacitor failure, etc.), recommended actions will be reviewed for implementation at that time.

(5) LENGTH OF TIME THE DIESEL GENERATOR WAS UNAVAILABLE:

The 3A EDG was unavailable for 27 hours, 10 minutes.

(6) DEFINITION OF CURRENT SURVEILLANCE TEST INTERVAL:

Unless a trigger value is exceeded (2 failures in the last 20 valid tests, or 5 failures in the last 100 valid tests), the normal surveillance frequency is every 31 days. As stated above this failure is not a valid failure of the 3A EDG in accordance with Regulatory Guide 1.108. Therefore, the normal 31 day surveillance interval remains in effect for the 3A EDG.

(7) VERIFICATION OF TEST INTERVAL IN CONFORMANCE WITH REGULATORY POSITION C.2.d:

The current test interval is in conformance with the requirements of Regulatory Position C.2.d of RG 1.108, and Turkey Point Technical Specifications Table 4.8-1.