

CATEGORY 1

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 FACIL:50-335 St. Lucie Plant, Unit 1, Florida Power & Light Co. 05000335
 50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co. 05000389

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RECIPIENT NAME **RECIPIENT AFFILIATION**
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SUBJECT: Responds to violations noted in insp repts 50-335/96-13 & 50-389/96-13. Corrective actions: reviewed & approved inclusion of key radiation monitors & reviewed 961022 NRC ltr & EPRI Technical Bulletin re reliability criteria.

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L-96-301
10 CFR 2.201

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Re: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Reply to a Notice of Violation
NRC Inspection Report 96-13

Florida Power and Light Company has reviewed the subject Notice of Violation and, pursuant to 10 CFR 2.201, the responses to the violations are attached.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'T. F. Plunkett'.

T. F. Plunkett
President
Nuclear Division

TFP/JAS/PTQ

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, USNRC Region II
Senior Resident Inspector, USNRC, St. Lucie Plant

9611190103 961113
PDR ADOCK 05000335
G PDR

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Violation A

10 CFR 50.65 (b) establishes the scoping criteria for selection of safety related and non-safety related structures, systems, or components to be included within the Maintenance Rule program. Scoping criteria shall include safety-related structures, systems, or components that are relied upon to remain functional during and following design basis events to ensure the integrity of the reactor coolant pressure boundary, the capability to shut down the reactor and maintain it in a safe shutdown condition, and the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the 10 CFR, Part 100 guidelines; and non-safety related structures, systems, or components that are relied upon to mitigate accidents or transients or are used in the plant emergency operating procedures, or whose failure could prevent safety-related structures, systems, and components from fulfilling their safety-related function, or whose failure could cause a reactor scram or actuation of a safety-related system.

St. Lucie Administrative Procedure, ADM-17.08, IMPLEMENTATION OF 10 CFR 50.65, THE MAINTENANCE RULE, Revision 7, implemented the requirements of 10 CFR 50.65. Appendix B of ADM-17.08 identified those systems and components included within the scope of the rule.

Contrary to the above,

As of September 20, 1996, the licensee failed to include a number of systems and components within the scope of the rule as required. Specifically, the following systems and components should have been included within the scope of the rule but were not:

- Post Accident Sampling System - This non-safety related system was not included in Appendix B of ADM-17.08 even though it is provided to mitigate the consequences of accidents and is in the licensee's Emergency Operating Procedures (EOP-03, LOSS OF COOLANT ACCIDENT & EOP-04, STEAM GENERATOR TUBE RUPTURE).
- Communications System - This non-safety related system was not included in Appendix B of ADM-17.08 even though it is relied upon to mitigate accidents or transients, and used during the performance of all Off-Normal and Emergency Operating Procedures.
- Unit 1 Service Air System - This non-safety related system was not included in Appendix B of ADM-17.08 even though its failure could prevent safety-related

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systems or components from fulfilling their safety-related function. Failure of this system which was in use on July 13, 1996, would have resulted in the failure of the safety-related low pressure safety injection system operating in the shutdown cooling Mode to maintain reactor coolant system temperature within required limits.

- Main Steamline Radiation Monitors - These non-safety related radiation monitors for Units 1 and 2 were not included in Appendix B of ADM-17.08 even though they are used to mitigate accidents, and are used in Emergency Operating Procedures (EOP-04, STEAM GENERATOR TUBE RUPTURE) as an indication that a steam generator tube rupture has occurred.

This is a Severity Level IV violation (Supplement I)

Response A

1. FPL concurs with the violation.
2. REASON FOR VIOLATION

The failure to include the Main Steamline Radiation monitors in the scope of the rule was an oversight in the implementation of the Maintenance Rule at St. Lucie. Other secondary monitors that were appropriately included in the scope of the rule were the Steam Generator Blowdown monitors and the Condenser Air Ejector monitors. FPL has determined that the root cause for this condition was a failure by FPL personnel to perform a thorough scoping review of the Radiation Monitoring System.

FPL did not initially evaluate that the PASS, Communication System, and the Unit 1 Service Air System were required to be in the scope of the rule. However, FPL agrees that it is necessary to identify key components within these systems for inclusion into the scope of the rule. The root cause associated with this portion of the violation was a failure to correctly interpret and implement the guidance provided in NUMARC 93-01. Specifically, FPL incorrectly determined that the PASS and Communications System (non-safety related systems) should not be in the scope of the rule even though referenced in the Emergency Operating Procedures, because using the guidance of NUMARC 93-0,1 section 8.2.1.3, these systems did not provide a total or significant fraction of the ability required to mitigate core damage or radioactive releases. FPL had also determined that the Service Air System (non-safety related system) would not have resulted in the failure of a safety-related system (i.e. Shutdown Cooling, AOVs changing state on a loss of air supply). However, under certain circumstances, loss of service air, when cross-tied to the instrument air system, may result in the momentary

interruption of Shutdown Cooling but not the loss of the safety function for decay heat removal.

3. CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED

FPL has reviewed the radiation monitoring system for applicability under the Maintenance Rule at St. Lucie. Key radiation monitors have been included within the scope of the rule. The Expert Panel has reviewed and approved the inclusion of these key radiation monitors.

4. CORRECTIVE STEPS TO AVOID FURTHER VIOLATIONS

A) For generic considerations, regarding the exclusion of systems from the scope of the rule, FPL will re-examine the basis for systems previously excluded from the scope with the intent of identifying any other Systems, Structures, or Components (SSCs) which should be placed into the scope of the rule. This action will be completed by January 31, 1997.

B) FPL has taken immediate actions for incorporating the Radiation Monitoring System, Service Air System, PASS and Communications System into the scope of the rule. System Engineering will develop System Summaries and Performance Criteria, perform a three year historical review, and obtain Expert Panel review and approval to meet Maintenance Rule requirements for key components of the PASS, Communications System, Radiation Monitoring System and Service Air System by February 14, 1997.

5. Full compliance will be achieved by February 14, 1997, with the inclusion of key components for the Radiation Monitoring, PASS, Communications and Service Air systems into the scope of the rule.

Violation B

10 CFR 50.65 (a)(1) requires, in part, that each holder of an operating license shall monitor the performance or condition of structures, systems, or components against licensee established goals. Such goals shall be established commensurate with safety.

Contrary to the above,

1. As of September 20, 1996, the licensee had failed to establish reliability goals or performance criteria commensurate with safety for risk significant structures,



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systems, or components for the following systems:

- Chemical and Volume Control System
- High Pressure Safety Injection System
- Low Pressure Safety Injection System
- Safety Injection Tanks
- Main Steam System
- Main Feedwater System
- Auxiliary Feedwater System
- Component Cooling Water System
- Instrument Air System
- Intermediate Cooling Water System (Intake Cooling Water)
- Reactor Protection System
- Electrical Distribution System

These systems had been modeled in the licensee's risk determining analysis, with a reliability goal of less than or equal to 2 maintenance preventable functional failures per 18 months. In establishing these goals, the licensee failed to demonstrate performance criteria were established commensurate with the critical assumptions used in the licensee's risk determining analysis. As such, the licensee's goals for reliability had not been established in a manner commensurate with safety.

2. As of September 20, 1996, the licensee had failed to establish adequate goals or performance criteria commensurate with safety for risk significant structures, systems, or components in that the condensate cross-tie valves between Unit 1 and Unit 2 which were designated as risk significant by the licensee, did not include availability goals, or reliability goals consistent with the critical assumptions used in the licensee's risk determining analysis.

This is a Severity Level IV violation (Supplement 1)

Response B

1. FPL concurs with the violation.
2. REASON FOR VIOLATION

FPL's interpretation and implementation of industry guidance did not adequately address linking reliability with Probabilistic Safety Analysis (PSA) assumptions.



In a letter from NEI dated September 30, 1996, to the NRC's NRR Director it was stated that: "The Maintenance Rule baseline inspections have identified a generic industry issue. Specifically, most licensees are using availability and functional failures as performance indicators... The industry selection of functional failures as a performance indicator is consistent with the development of implementation guidance for the Maintenance Rule. This was validated through nine NRC pilot plant inspections where all nine used functional failures as performance indicators."

In a letter to NEI on October 22, 1996, the NRC stated that: "It is the lack of a clear link to PRA or other reliability assumptions that is at the root of the NRC's concerns... During the nine pilot site visits performed to review early implementation of the Maintenance Rule, review of the licensees goal and performance criteria setting processes were performed... Several of those licensee programs described in significant detail the link to safety and justified the use of functional failures in the measure of SSC reliability... Therefore, the issue was not raised in the trip reports or meetings with NEI, since none existed." This letter from the NRC also contains an enclosure, which for the first time, identifies "The Reliability Performance Standard."

Regarding the failure to establish availability and reliability criteria for the Condensate Storage Tank (CST) cross-tie valves, FPL has determined that the root cause for this portion of the violation is:

Initial scoping efforts incorrectly concluded that cross-tie valves were a low risk significant component. This scoping decision was not revisited during final scoping/performance criteria setting efforts. Based on discussions with the NRC during the inspection, FPL agreed that the CST cross-tie should be designated as risk significant.

3. CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED

FPL continues to maintain an awareness of emergent Maintenance Rule guidance developed by NEI and the NRC regarding reliability and is incorporating that generic guidance as appropriate. FPL has reviewed the NRC letter dated October 22, 1996 and the EPRI Technical Bulletin (96-11-01) dated November 1996 on developing reliability criteria.



4. CORRECTIVE STEPS TO AVOID FURTHER VIOLATIONS

Based on a review of the communications discussed above, FPL will perform the following corrective steps:

- A) FPL System Engineers will develop an estimate of demands for risk significant systems by January 31, 1997.
- B) FPL will perform a PSA sensitivity study to develop 'trigger' values (number of allowed failures/given number of demands) commensurate with safety for risk significant systems by January 31, 1997.
- C) Using the trigger values and estimated demands per cycle, System Engineers will review their systems' historical performance to identify any candidates for 10 CFR 50.65(a)(1) consideration by February 28, 1997.
- D) The Expert Panel will review the new reliability criteria and any resulting SSCs which are potential 10 CFR 50.65(a)(1) candidates by February 28, 1997.
- E) The FPL Risk and Reliability Analysis Group will ensure that performance criteria proposed by System Engineering for the CST cross-tie valves are commensurate with safety. Expert Panel review and approval for these criteria will occur by January 15, 1997.
- F) The CST cross-tie will be included on the Unit 1 "Pre-Evaluated Maintenance Risk Assessment Matrix." The matrix update will be issued prior to December 31, 1996.

5. Full compliance will be achieved by February 28, 1997, with the establishment of adequate goals and performance criteria commensurate with safety, and the approval by the Expert Panel for the risk significant systems identified in this violation.

Violation C

10 CFR 50.65(a)(1) requires, in part, the holders of an operating license shall monitor the performance or condition of structures, systems, or components, against licensee-established goals, in a manner sufficient to provide reasonable assurance that such structures, systems, and components, within the scope of the rule, are capable of fulfilling their intended functions. When the performance or condition of a structure, system, or component does not meet established goals, appropriate corrective action shall be taken. 10 CFR 50.65(a)(2) requires, in part, that monitoring as specified in



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paragraph (a)(1) is not required where it has been demonstrated that the performance or condition of a structure, system, or component is being effectively controlled through the performance of appropriate preventive maintenance, such that the structure, system, or component remains capable of performing its intended function.

St. Lucie Administrative Procedure, ADM-17.08, IMPLEMENTATION OF 10 CFR 50.65, THE MAINTENANCE RULE, Revision 7, established procedures for implementing the requirements of 10 CFR 50.65(a)(1) and (a)(2).

1. ADM-17.08, paragraph 7.8.4 requires that cause determinations shall consider any generic implications for structures, systems and components other than the one being evaluated.
2. ADM-17.08, paragraph 7.6.4 requires that performance monitoring be accomplished by tracking specific (SSC Level) and/or Plant Level Performance Criteria and repetitive maintenance preventable functional failures. Paragraph 7.11.2.A requires this information be reported in the licensee's Maintenance Rule Quarterly Reports.
3. ADM-17.08, paragraph 4.4.3 provides "System owners are responsible for monitoring systems, structures and components for compliance to performance criteria." Also, Appendix B of ADM-17.08 identified the Chemical and Volume Control and Containment Spray Systems as risk significant with specific availability performance criteria at the train level.
4. ADM-17.08, paragraph 4.4.4 provides "System owners are responsible for identifying potential maintenance preventable functional failures and bringing them to the attention of Management and the Maintenance Rule Administrator via the Condition Report Process."

Contrary to the above, as of September 18, 1996, ADM-17.08 was not followed in the examples listed below resulting in failure to implement the requirements of 10 CFR 50.65(a)(1) and (a)(2) of the Rule.

1. The generic implications of the failure of a temperature control valve in the Turbine Cooling Water System, which caused a Unit 2 manual reactor trip on June 6, 1996, were not considered for similar valves in other plant systems.
2. Work Orders 95007753-01 and 95007984-01 referenced the preventive maintenance performed on the 4.16 KV Station Blackout Cross-tie Breakers,

and the unavailability of these breakers was not trended against the unavailability performance criteria in the licensee's Maintenance Rule Quarterly Report dated July 9, 1996.

Work Orders 95021809-01 and 95023498-01 reported repetitive maintenance preventable functional failures for the 4.16 KV breakers for the pressurizer heater electrical supply which were not shown in the licensee's Maintenance Rule Quarterly Report dated July 9, 1996.

3. The Chemical and Volume Control System and Containment Spray System owners were not adequately monitoring their systems and components for compliance to performance criteria since the unavailability hours recorded did not include:
 - Five hours six minutes on July 10 when the 2A charging pump was out of service,
 - One hundred twenty nine hours 25 minutes between July 22nd and July 27th when the 1A charging pump was out of service,
 - Eighty hours thirteen minutes between July 13th and July 17th when the 2A charging pump was out of service,
 - Ten hours more than were recorded when the 2A charging pump was out of service between August 5th and August 8th,
 - Twelve hours fifty five minutes between August 6th and August 7th when the 2A hydrazine pump, a portion of a Containment Spray train, was out of service, and
 - Seventeen hours twelve minutes on August 18th when the 2A hydrazine pump, a portion of a Containment Spray train, was out of service.
4. The system owner did not document the July 25, 1996, potential maintenance preventable functional failure of the 1A Boric Acid Makeup pump on a Condition Report.

This is a Severity Level IV Violation (Supplement I)

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Response C

1. FPL concurs with the violation.

2. REASON FOR VIOLATION

The root causes are:

- A) Failure of FPL personnel to follow Maintenance Rule implementing procedures.
- B) FPL procedural guidance regarding unavailability monitoring was inadequate.

3. CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED

- A) The procedure for Equipment Out of Service (EOOS) was revised to include requirements for logging unavailability of Maintenance Rule risk significant systems, including the Station Blackout cross-tie breakers.
- B) Following the TCV failures, the site corrective action processes were revised to include requirements for consideration of generic implications during root cause evaluations.
- C) In response to identified TCV problems, FPL upgraded the Turbine Cooling Water TCV actuator feedback linkage.
- D) A Plant Management Action Item (PMAI) was issued to document the generic considerations for TCV failures.
- E) A Condition Report (CR) was issued to document the Maintenance Preventable Functional Failure of the 1A Boric Acid Makeup Pump.

4. CORRECTIVE STEPS TO AVOID FURTHER VIOLATIONS

- A) The System Engineering Guideline for monitoring SSC performance will be revised to use available sources of information (e.g., RCO Chronological log, Operator Data Loggers, Clearance Records) as well as the Equipment Out of Service Log in determining system unavailability. The guideline revision and training on performance monitoring for availability and reliability will be completed by November 30, 1996.

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- B) Specific maintenance failures and equipment unavailability examples were identified as missing from performance trending reports. The System Engineer has clear responsibility for monitoring system performance. This additional data will be included in the Maintenance Rule Report for the third quarter of 1996. Full implementation of improved data acquisition will be achieved in the Maintenance Rule Report for the fourth quarter of 1996. This report will be issued by January 31, 1997.
5. Full compliance will be achieved by January 31, 1997, with the completion of corrective steps 4A and 4B identified above.