

# CATEGORY 1

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9801140201 DOC.DATE: 98/01/02 NOTARIZED: YES DOCKET #  
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  
AUTH.NAME AUTHOR AFFILIATION  
PLUNKETT, T.F. Florida Power & Light Co.  
RECIP.NAME RECIPIENT AFFILIATION  
Document Control Branch (Document Control Desk)

SUBJECT: Responds to violations noted in insp rept 50-335/97-15 & 50-389/97-15. Corrective actions: completed temporary sys alteration that reversed two of three power leads to low speed winding of fan motor at motor control center.

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January 2, 1998

L-97-322  
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 Special Inspection Report 97-15

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

FPL acknowledges that the cited violations related to the inoperable containment fan coolers are of significant regulatory concern. As described in the violation response, FPL has taken comprehensive corrective actions to resolve the identified condition, and has reviewed the event for generic implications. In this context, FPL appreciates NRC's recognition of the questioning attitude exhibited by St. Lucie personnel in the identification of the inoperable containment fan cooler and the timely and comprehensive corrective actions taken. FPL is optimistic that the behavior demonstrated by the personnel that identified the fan cooler testing deficiency is indicative of the cultural changes encouraged by St. Lucie management.

Please contact us with questions on the enclosed violation responses.

Very truly yours,



Thomas F. Plunkett  
President  
Nuclear Division

TFP/JAS/EJW

Attachment

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

9801140201 980102  
PDR ADDCK 05000335  
Q PDR



*IED 1/1*

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STATE OF FLORIDA            )  
  )  
COUNTY OF PALM BEACH    )

  )        SS.

Thomas F. Plunkett being first duly sworn, deposes and says:

That he is President, Nuclear Division, of Florida Power & Light Company, the Licensee herein;

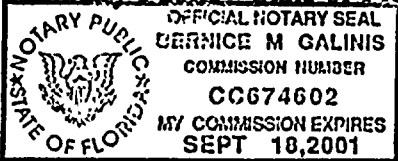
That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information and belief, and that he is authorized to execute the document on behalf of said Licensee.

Thomas F. Plunkett  
Thomas F. Plunkett

STATE OF FLORIDA  
COUNTY OF Palm Beach

Sworn to and subscribed before me  
this 2<sup>nd</sup> day of January, 1998  
by Thomas F. Plunkett, who is personally known to me.

Bernice M. Galinis  
Name of Notary Public - State of Florida



Print, type or stamp Commissioned Name of Notary Public)

Violation A

Technical Specification 3.6.2.1 states that two containment spray trains and two containment cooling trains shall be OPERABLE.

Contrary to the above, between May 16, 1997 and October 8, 1997, while operating in Modes 1, 2, and 3, one Unit 2 containment cooling train was inoperable.

Response

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

This violation was caused by both: a) personnel error during post maintenance testing activities associated with containment cooling fan 2-HVS-1D; and, b) an inadequate 31 day Technical Specification surveillance procedure. These deficiencies contributed to returning containment cooling fan unit 2-HVS-1D to service when it was unable to perform its emergency mode of operation due to reverse slow speed operation. Causes and corrective actions associated with the above are discussed in FPL's responses to violations B and C, respectively.

The low flow alarm for 2-HVS-1D was not documented during the periodic 18 month test of the engineered safety features because the containment fan cooler unit was out of service during the test. Although the procedural requirements for documenting actions to be taken to resolve annunciators received during the performance of safeguards testing were weak, this test was not a missed opportunity for discovering that 2-HVS-1D was inoperable during the emergency mode of operation.

3. **CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED**

FPL entered the applicable Technical Specification ACTION statements when the low flow alarms were received during initial and subsequent containment fan cooler slow speed testing on October 6 and October 7, 1997. The reverse slow speed operation was corrected by implementing a temporary system alteration that reversed two of the three power leads to the low speed winding of the fan motor at the motor control center. This action was completed within the allowed outage time for inoperable containment fan cooler(s). Containment fan cooler unit 2-HVS-1D was returned to service on October 9, 1997, after proper operation of the unit was verified.

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4. **CORRECTIVE STEPS TO AVOID FURTHER VIOLATIONS**

- A. FPL revised surveillance operating procedure 1-0400050, "Periodic Test of the Engineered Safety Features," to enhance the disposition of annunciators that are received during the performance of the Integrated Safeguards Test. This revision includes a new appendix used to track and disposition annunciators that occur during the test. This revision to the Unit 1 procedure was completed on November 18, 1997.
  - B. The Unit 2 Safeguards procedure, 2-0400050, will be revised to include the new annunciator response appendix prior to performing safeguards testing during the Unit 2 1998 refueling outage (SL2-11).
5. Full compliance was achieved on October 9, 1997, when containment fan cooler unit 2-HVS-1D was returned to service.

Violation B

10 CFR 50, Appendix B, Criterion V, Instructions, Procedures and Drawings, requires, in part, that activities affecting quality shall be prescribed by documented procedures of a type appropriate to the circumstances and shall be accomplished in accordance with those procedures.

Maintenance Procedure (MP) 2-0950173, Revision 9, "The Overhaul of Containment Fan Coolers Motors 2HVS-1A, 1B, 1C, 1D (EQ Motors)," Section 9.9, implements the post maintenance checks of the containment fan cooler motors after maintenance. MP 2-0950173 requires the fan to be started in slow and fast speed to verify proper blade rotation in each speed.

Contrary to the above, on May 16, 1997, the licensee failed to perform Section 9.9 of Maintenance Procedure 2-0950173 properly in that containment fan cooler 2-HVS-1D was not started in slow speed and proper blade rotation was not verified.

Response

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

The cause for the violation was personnel error that occurred during the execution of post maintenance testing performed during the last Unit 2 refueling outage. This error resulted in reverse rotation of containment fan cooler 2-HVS-1D. The root cause evaluation concluded that the improper test execution on May 16, 1997, was caused by faulty communications between the maintenance personnel assessing fan rotation inside containment and the control room operator who started the fan. FPL reviewed the completed documentation for the May 16, 1997, post maintenance test and compared it against the May 16, 1997, Unit 2 control room sequence of events recorder (SER). The SER showed that 2-HVS-1D was started twice during the post maintenance testing; however, both the slow and fast speed rotational checks were performed with the motor operating in fast speed. The fact that two motor starts were done implies that maintenance personnel were correctly following the test procedure steps. The proper use of three way communications, as required by both the Conduct of Maintenance and Conduct of Operations policies, would have prevented the faulty communication which led to the unsatisfactory execution of the post maintenance test.

3. **CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED**

- A. Procedure MP-2-0950173, "The Overhaul of Containment Fan Cooler Motors 2-HVS-1A, 1B, 1C, 1D (EQ Motors)," was revised to require the following:
- 1) verification signatures for both fast and slow speed motor rotation testing;
  - 2) a caution statement to ensure that both windings are energized to verify proper motor rotation subsequent to electrically reconnecting the motor;
  - 3) an addendum sheet that will be used by the control room operators to follow the performance of the motor rotation checks; and,
  - 4) a requirement to perform a functional test of the containment fan cooler in both fast and slow speed prior to returning the unit to service (i.e., no low flow alarms present during rotation checks).

The procedure revisions were completed on November 28, 1997. Additional editorial clarifications were subsequently added and approved on December 17, 1997.

4. **CORRECTIVE STEPS TO AVOID FURTHER VIOLATIONS**

- A. This specific event, including the importance of accurate communications and the use of three way communications, was included in a Maintenance training bulletin that was issued on November 22, 1997.
- B. Procedure ADM-78.01, "Post Maintenance Testing," will be revised to add a caution note about testing multiple speed or multiple winding motors by January 31, 1998.
5. Full compliance was achieved on November 28, 1997, when the procedure revisions to MP-2-0950173, "The Overhaul of Containment Fan Cooler Motors 2-HVS-1A, 1B, 1C, 1D (EQ Motors)," were completed.

Violation C

10 CFR 50, Appendix B, Criterion XI, Test Control, requires, in part, that a test program shall be established to assure that all testing required to demonstrate that components will perform satisfactorily in service is identified and performed in accordance with written test procedure which incorporate the requirements and acceptance limits contained in the applicable design documents.

Final Safety Analysis Report Section 6.2.2.2.2 states that the fan coolers operate at a reduced flow of 39,600 cubic feet per minute each, with low speed motor operation during accident operation.

Normal Operating Procedure, NOP-2-2000020, Revision 2, "Containment Cooling System Operation," which implements monthly surveillance testing of the containment fan coolers, requires that each cooling train fan unit be started from the control room and verified that each unit operates for at least 15 minutes, at least once per 31 days.

Contrary to the above, as of October 6, 1997, the licensee failed to assure that all testing required to demonstrate that components will perform satisfactorily in service, in accordance with the requirements and acceptance limits contained in the applicable design documents, was identified and performed. Specifically, NOP-2-2000020, did not require the containment cooler fans to be tested in slow speed, which is the alignment required during emergency operation. This procedural inadequacy had existed since initial plant operation.

Response

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

The cause for the violation was non-cognitive personnel error during the development of surveillance procedure NOP 2-2000020, "Containment Cooling System Operation," that resulted in the surveillance procedure deficiency. The procedure, as it was written, did not meet the intent of the Technical Specification surveillance requirements because it required testing of the containment cooler fans only in the fast speed, and did not require verification of the post-accident safety related function of the fans in slow speed.



3. **CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED**

- A. Procedure NOP 2-2000020, "Containment Cooling System Operation," was revised and issued on October 13, 1997. The revision clearly requires that all fans must be started and run in slow speed. Once all four fans have been shifted to slow speed, the absence of any low flow alarms throughout the 15 minute run time constitutes satisfactory completion of the surveillance test. The procedure also requires satisfactory fast speed operation of the containment fan coolers.
- B. FPL investigated the generic implications of this event to determine what other equipment types may be subject to inadequate surveillances. The review revealed that, with the exception of heating, ventilating, and air conditioning (HVAC) equipment, additional requirements (e.g., ISI/IST requirements and industry standards) exist which enhance the development of surveillance procedures. All HVAC procedures used to perform Technical Specification surveillances were reviewed to ensure the intent of the Technical Specification surveillance were met. This review was completed on November 24, 1997.

4. **CORRECTIVE STEPS TO AVOID FURTHER VIOLATIONS**

FPL Quality Instruction (QI) QI-5-PSL-1, "Preparation, Revision, Review/Approval of Procedures," Section 5.5 requires that site procedures be periodically reviewed. This QI was revised to require a qualified independent review of procedures that affect surveillances or tests to ensure that the procedure adequately implements the intent of Updated Final Safety Analysis Report (UFSAR) surveillance descriptions and Technical Specification surveillance requirements when procedure periodic reviews are conducted. This revision was approved on November 28, 1997.

- 5. Full compliance was achieved on October 13, 1997, when the revision to procedure NOP 2-2000020, "Containment Cooling System Operation," was approved.