



Florida Power

CORPORATION

Crystal River Unit 3

Docket No. 50-302

May 13, 1996
3F0596-13

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

Subject: Notice of Violation (NRC Inspection Report No.50-302/96-01)
NRC to FPC letter, 3N0496-08, dated April 8, 1996

Dear Sir:

In the subject Inspection Report, Florida Power Corporation (FPC) received a Notification of Violation (NOV) for issues concerning High Pressure Injection flow instrumentation, Final Safety Analysis Report revisions and Nuclear Services Closed Cycle Cooling Water flow limits. This correspondence provides our response.

Please note that an extension to May 15, 1996 for this response was approved by telephone conversation between K. Landis, NRC, Region II and G. Halnon, FPC on May 8, 1996.

Sincerely,

G.L. Boldt
Vice President
Nuclear Production

GLB/RLM

cc: Regional Administrator, Region II
NRR Project Manager
Senior Resident Inspector

9605200082 960513
PDR ADOCK 05000302
Q PDR

**FLORIDA POWER CORPORATION
NRC INSPECTION REPORT NO. 50-302/96-01
REPLY TO A NOTICE OF VIOLATION**

VIOLATION 50-302/96-01-01

10 CFR 50, Appendix B, Criterion XVI requires that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, in October 1989, the licensee failed to implement adequate corrective actions to correct an identified nonconformance of a design basis accident requirement as described in Chapter 14 of the Final Safety Analysis Report (FSAR). Specifically, FSAR Chapter 14 accident analysis for a High Pressure Injection (HPI) line Small Break Loss of Coolant Accident (SBLOCA) concurrent with a Loss of Offsite Power (LOOP) and the loss of one (either) vital battery train requires that HPI line flow instrumentation be designed to allow the operator to balance the flow in the four HPI lines. In October 1989 the licensee identified that the existing HPI line flow instrumentation was not adequate to allow operators to balance the flow through the four HPI lines and subsequently revised the flow instrumentation to provide adequate HPI line flow indication. In February 1996 the licensee again identified that the HPI line flow instrumentation was not adequate to allow operators to balance the flow through the four HPI lines.

ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

Florida Power Corporation (FPC) accepts the violation.

REASON FOR THE VIOLATION

The reason for the violation was human error in 1989, in that FPC failed to adequately consider the interface between the operator and the wide range scale indication under all accident conditions. During our Emergency Operating Procedure (EOP) Enhancement Program, FPC identified that with the loss of narrow range flow indicators, operators would not be able to read the wide range indicators with sufficient accuracy to properly balance HPI flow under a limited set of the assumed accident scenarios (coincident SBLOCA, LOOP and loss of one battery). This discovery was facilitated by the installation of the plant specific simulator in late 1989 which provided significantly more experience on the operation of the HPI system under various conditions.

FPC appreciates the NRC's recognition of the conservative decisions and actions taken during the review of these circumstances as discussed in the subject Inspection Report.

CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

To resolve concerns regarding questionable accuracy of the wide range HPI flow instrumentation at lower flows, a modification package was prepared for their

replacement with instrumentation having appropriate accuracy. The replacement instrumentation has been installed and has been functionally tested during startup from the current refueling outage.

Revisions have been made to EOP-03, 07, 08, and 13 to address the HPI flow concerns and expected operator actions. Operators have been instructed to the new revisions.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

The actions described above are considered comprehensive and fully address the problem.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance has been achieved with the installation of the new instrumentation and the operators' ability to balance HPI flow as required.

VIOLATION 50-302/96-01-05

10 CFR 50.71(e) requires that licensees update the Final Safety Analysis Report periodically, on a frequency of annually or 6 months after each refueling outage provided the interval between successive updates does not exceed 24 months. The revision must reflect all changes up to a maximum of 6 months prior to the date of filing. The revision submittal shall contain all the changes necessary to reflect information and analyses submitted to the NRC or prepared by the licensee per NRC requirements.

1. Contrary to the above, in 1986 the licensee made a modification to the make-up system, regarding an interlock installed to open the borated water storage tank isolation valves, MUV-58 and MUV-73, on a low make-up tank water level and the locking open of the make-up tank isolation valve MUV-64, to satisfy 10 CFR 50, Appendix R requirements, for which a submittal was made to the NRC, but no revision was made to the FSAR to address the installed interlocks on the valves.
2. Contrary to the above, the design basis of the spent fuel pool system as revised by license amendment 134 issued on April 16, 1991 was not incorporated into the Updated Final Safety Analysis Report (FSAR) as follows: FSAR 9.3 incorrectly states that 1180 fuel assemblies is allowed versus the 1357 of license amendment 134; FSAR Table 9-6 incorrectly states 16 refuelings can be handled versus 19 1/3 of license amendment 134; The FSAR incorrectly references a maximum spent fuel temperature of 140°F using spent fuel pool cooling versus the 157°F of amendment 134; and FSAR 9.3.2.2 incorrectly states that leakage from the spent fuel pool through the leak chase trench is monitored daily.

ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

Florida Power Corporation (FPC) accepts the violation.

REASON FOR THE VIOLATION

1. The reason for the violation was ineffective change management. In the first example, a FSAR change was initiated for the plant modifications to the Makeup System, but the total scope of the changes were not included. The modifications involved the locking open of MUV-64 and the addition of interlocks to MUV-58 and MUV-73. An incomplete review and comparison of the FSAR to the modification details led FPC personnel to overlook the status change for the new interlocks on MUV-58 and MUV-73. In the second example, details of license amendments (SER) were not routinely compared to the FSAR to ensure the information written by the NRC from information provided by FPC was accurately reflected.

CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

1. FSAR Revision 23 (the next scheduled revision) will incorporate the interlocks on MUV-58 and MUV-73.
2. FSAR Revision 23 will reflect the correct Spent Fuel cooling description.
3. Based on 10 CFR 50.71, FPC developed a position statement to define the level of detail that should be included in future revisions to the FSAR. This was completed on April 30, 1996.
4. An FSAR Review Program has been implemented to review plant documents, license amendments, and SERs against the information in the FSAR to ensure the appropriate level of detail has been accurately incorporated.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

FPC will provide procedural guidance to implement the position developed above. Appropriate FPC personnel will be provided training to heighten their understanding and sensitivity to the importance of the FSAR and to the maintenance of its accuracy.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved when Revision 23 to the FSAR is submitted in accordance with 10 CFR 50.71(e)(4). This will be provided 6 months after the completion of the current refueling outage presently scheduled for May 15, 1996.

VIOLATION 50-302/96-01-06

10 CFR 50, Appendix B, Criterion III, requires that measures be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. This is applicable to all activities affecting the safety related functions of those structures, systems, and components that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public.

Contrary to the above, on January 30, 1996, the licensee determined that a Loss Of Coolant Accident (LOCA) with a Loss of Offsite Power (LOOP) and the loss of one (either) dc power train could result in the opening of Nuclear Services

Closed Cycle Cooling Water (SW) system isolation valves to all three Reactor Building coolers. However, the design basis states that the emergency heat transfer rate of the nuclear services closed cycle cooling system is based on removing the design heat load from each component to be cooled during emergency operations with 2 reactor building fan coolers in service (worst case heat rejection to the nuclear services closed cycle cooling system).

ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

Florida Power Corporation (FPC) accepts the violation.

REASON FOR THE VIOLATION

The reason for this violation is human error due to failure by design personnel to recognize the disconnect between the modification and the design basis. An inadequate failure modes and effects analysis was applied to a modification installed in 1994 to change SWV-41, 43, and 45 circuitry to provide cooling water flow to 2 out of the 3 Reactor Building Cooling Units (RBCU). Prior to installation of this modification, all 3 RCBUs received cooling flow during ES conditions. The design engineers for the modification concentrated on the control circuitry for eliminating cooling flow to the non-operating fan and also ensured the fail-safe position for the valves would be "open" for loss of dc power, thereby ensuring cooling water would be available to an operating fan if the valves were to lose dc power. The design engineers did not consider the consequences of additional SW flow resulting from loss of dc and also, additional Emergency Diesel Generator (EDG) loading resulting from this additional flow.

CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

1. The Shift Supervisor on Duty (SSOD) immediately isolated one of the RCBUs (AHF-1B) with manual valves not susceptible to the above failure mode, thereby restoring SW to OPERABLE status.
2. Operating Procedure OP-417 "CONTAINMENT OPERATING PROCEDURE", OP-408 "NUCLEAR SERVICES COOLING SYSTEM" and SP-381 "LOCKED/SEALED VALVE CHECK LIST (POSITION VERIFICATION OF LOCKED/SEALED VALVES)" were revised effective March 27, 1996 to ensure the SW flow assumptions are maintained by closing the SW valves on the idle non-ES selected RBCU.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

1. CR-3's licensing basis for single failure design applicable to the SW system states that a single active failure within an Engineered Safety Feature (ESF) support system must not disable the ESF system from accomplishing its design basis safety function. To ensure there are no additional examples of this condition, other similar scenarios for systems that provide cooling flow to safety related equipment will be reviewed. The focus of this review will be loss of power to a given safety related valve wherein the loss of power can cause system flow and EDG loading to increase beyond analyzed limits. This review will be completed by August 30, 1996.

2. This design/personnel error was the subject of discussion between the Manager, Nuclear Engineering Design (NED) and the Design Engineering Review Board (DERB) to heighten awareness of the members for future design reviews. A summary of this discussion was distributed to all design personnel within NED as a "lessons learned" with special emphasis on conducting a thorough failure modes and effects analysis.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The immediate actions taken by the SSOD to select AHF-1C as the "B" ES fan while isolating AHF-1B with manual valves, restored the SW system and EDG "A" loading to within their respective design limits and to fully OPERABLE status.