

MAY 2 1994

Docket No. 50-302
License No. DPR-72
EA 93-307

Florida Power Corporation
Mr. P. M. Beard, Jr. (NA2I)
Sr. VP, Nuclear Operations
ATTN: Mgr., Nuclear Licensing
15760 West Power Line Street
Crystal River, FL 34428-6709

Gentlemen:

SUBJECT: NRC INSPECTION REPORT NO. 50-302/93-16

Thank you for your response of March 10, 1994, to our Notice of Violation issued on February 10, 1994, concerning activities conducted at your Crystal River facility.

We have evaluated your response and agree that your current EOPs are adequate for operation of the Unit and are an improvement over earlier EOP guidance. We note your acknowledgement of the EOP development process problems, your disagreement with our statement that significant EOP technical problems existed, and your commitment to thoroughly address the process and technical issues. Also in your response, you partially denied Violations A and E and you accepted Violations B, C, and D. We find your response acceptable with exceptions.

After careful consideration of the bases for your partial denial of Violations A and E, we have concluded, for the reasons presented in the enclosure to the letter, that the violations occurred as stated in the Notice of Violation. Therefore, in accordance with 10 CFR 2.201(a), please submit to this office within 30 days of the date of this letter a written statement describing the steps which have been taken to fully correct Violations A and E, the results achieved, corrective steps which will be taken to avoid further violations, and the date when full compliance will be achieved. Also, your response to Violation E contained corrective actions which had an acceptable end date but were general in nature. We request that a more definitive action plan be formally transmitted as a part of the above.

Additionally, with regards to Violation A, example 1.a, our concern with the lack of EOP guidance for mitigation of a Small Break Loss of Coolant Accident (SBLOCA) with no High Pressure Injection (HPI) is that more than one cause for no-HPI can occur. Your guidance for no-HPI was useful only if a loss of all AC power occurred. You state that you are considering including such guidance. Please include your plans for including this guidance.

Also, with regards to Violation E, example 3, a pre-analyzed course of action to mitigate the accident symptoms is required.

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We will examine the implementation of your actions to correct the violations during future inspections.

The responses directed by this letter and its enclosure are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

We appreciate your cooperation in this matter.

Sincerely,

(Original signed by A. F. Gibson)

Albert F. Gibson, Director
Division of Reactor Safety

Enclosure:
Evaluations and Conclusions

cc w/encl:
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ENCLOSURE

EVALUATIONS AND CONCLUSIONS

On February 10, 1994, a Notice of Violation was issued for violations identified during an NRC inspection. Florida Power Corporation responded to the Notice of Violation by letter dated March 10, 1994. In the response, the licensee acknowledged three of the violations and partially denied two violations. The NRC's evaluations and conclusions regarding the licensee's denials are as follows:

Restatement of Violation A

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

1. Contrary to the above, on December 11, 1993, several Emergency Operating and Abnormal Operating Procedures were inadequate as evidenced by the following examples:
 - a. Emergency Operating Procedure 03, "Inadequate Subcooling Margin," did not contain appropriate guidance to mitigate small break loss of coolant accident with loss of all high pressure injection.
 - b. Emergency Operating Procedure 14, Enclosure 6, could not be performed as written because the procedure did not direct the operator to open Valve CXV-358.
 - c. AP-470, "Loss of Instrument Air," contained four incorrect cross references which directed the operator to implement cancelled Abnormal Procedures.
 - d. AP-581, "Loss of Non-Nuclear Instrumentation (NNI-X) Power," Enclosure 2, was technically incorrect, in that, instruments identified as unreliable were reliable and other instruments that were unreliable were not identified.
 - e. AP-582, "Loss of Non-Nuclear Instrumentation (NNI-Y) Power," Enclosure 2, was technically incorrect, in that, it stated that no instruments would be unreliable on a loss of NNI-Y when, in fact, many instruments would be unreliable.

Summary of Licensee's Response

The licensee accepted the violation in part. Examples 1.a. and 1.b. were denied. With respect to example 1.a, the licensee stated that, "For EOP-03, it remains our best judgment that mitigation of the referenced scenario is adequately addressed in EOP-12, Station Blackout (SBO). However, as discussed in the cover letter, additional guidance may be incorporated in EOP-08, LOCA

Cooldown." With respect to example 1.b, the licensee stated that, "For EOP-14, written instructions to locate a specific source of water is not considered a requirement. This action falls within the normal skills and knowledge of plant operators and allows flexibility."

NRC Evaluation of Licensee's Response to Violation A.1.a

With regard to Violation A, example 1.a, the NRC concern with the lack of EOP guidance for mitigation of a Small Break Loss of Coolant Accident (SBLOCA) with no High Pressure Injection (HPI) is that more than one cause for no-HPI can occur. The licensee's guidance for mitigation of a SBLOCA with no-HPI was only useful if a loss of all AC power occurred.

The licensee assumes that the only way all HPI can be lost is during a station blackout. While probabilistic risk assessment conclusions may indicate that the probability of loss of all HPI due to multiple failure is insignificant, the study did not address maintenance or human errors; the latter accounting for 60 percent of operational occurrences. The consequences of inadequate core cooling are severe and necessitate that every possible preventive measure and anticipated required operator action be identified to avoid this condition. Furthermore, should this event occur with Class 1E busses available, the operating crew should not have to invent methods to cool the reactor core in lieu of a pre-analyzed course of action.

If an operator were to delay RCS cooldown due to his inability to find adequate guidance, he would eventually enter EOP-07, "Inadequate Core Cooling," when incore temperatures indicate greater than or equal to 20 degrees superheat. At this point, RCS inventory may be depleted to the point where natural circulation is lost and only reflux boiling is available for heat transfer to the steam generators. Proper guidance and timely action will significantly mitigate the consequences of such an event.

Guidance from the Babcock and Wilcox Generic EOP Technical Guidelines adequately addresses the SBLOCA with no-HPI in Section III.b, "Lack of Adequate Subcooling Margin." This guidance was not included in the Crystal River Emergency Operating Procedure 03, "Inadequate Subcooling Margin." The licensee believes the operator can find this guidance in the station blackout EOP. Guidance is contained within the station blackout procedure at step 3.11; however, operators may not meet entry conditions for this procedure. For example, the suction flow may have been inhibited and the operators would have to invoke 10 CFR 50.54x for the purpose of utilizing this single step out of the procedure. Furthermore, only the atmospheric dumps would be available during a station blackout, whereas turbine bypass valves would probably be available during a small break LOCA. There is no guidance that turbine bypass valves can be used in the station blackout procedure.

Additionally, Generic Letter 83-31 "Safety Evaluation of Abnormal Transient Operating Guidelines," issued September 19, 1983, indicated: that treatment of multiple failures should be expanded throughout the Abnormal Transient Operating Guidelines (ATOG) and supported by calculations; that guidance for failure of the HPI system should be included as part of this effort; and that possible recovery methods from a small-break LOCA with total loss of HPI should be studied. This effort was accomplished by the Owner's Group, and recovery methods are contained in the Generic Technical Guidelines' inadequate subcooling margin procedure, but are not contained within the licensee's corresponding procedure, EOP-03.

NRC Conclusion

For the above reasons, the NRC staff concludes that the violation occurred as stated.

NRC Evaluation of Licensee Response to Violation A.1.b

The licensee's response does not address the main issue of the violation. The licensee's denies this example of the violation based upon the fact that the location of the valve was common operator knowledge and written instructions to locate a specific source of water is not considered a requirement. The violation identified that Enclosure 6 of EOP-14 did not direct the operator to open CXV-358. The violation makes no reference to the operator's ability to locate the valve. Rather, it pointed out that this valve needed to be manipulated, and the procedure did not positively identify this fact. As an example, the procedure directed the operator to "Fill the blowdown header by opening MSV-524" but it did not direct the operator to open CXV-358 which was also required to fill the blowdown header. If the procedure was followed as written, it would not result in filling the blowdown line with demineralized water.

NRC Conclusion

For the above reasons, the NRC staff concludes that the violation occurred as stated.

Restatement of Violation E

Technical Specification 6.8.1 required, in part, that written procedures shall be established, implemented and maintained covering the applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, November, 1972.

Regulatory Guide 1.33 listed various safety-related administrative activities including Procedure Review and Approval.

AI-402C, "EOP Verification and Validation Plan," required that the originator of the procedure verification designate independent reviewers to perform enclosure 2 of the procedure (Evaluation Criteria for Procedure Verification).

Contrary to the above, on December 11, 1993, the licensee had not performed verifications and validations on 14 Emergency Operating Procedures in accordance with the procedural requirements of AI-402C as evidenced by the following examples:

1. The verification and validation summaries (Enclosure 1 and Enclosure 3 of AI-402C) for 14 Emergency Operating Procedures did not have any independent reviewer signatures and dates as required by step 4.1.2 of AI-402C.
2. Enclosure 2 of AI-402C, "Evaluation Criteria for Procedure Verification," was not performed for any of the verifications in accordance with AI-402C, as evidenced by the following:
 - a. Step 2.2.1 required that differences between the Emergency Operating Procedures and the Generic Technical Guidelines be documented and explained. A large volume of differences existed but were not documented.
 - b. VP-580, "Plant Safety Verification," was designed, written, verified, and implemented on September 3, 1993, without conforming to the quantitative acceptance criteria listed in AI-402C.
3. Emergency Operating Procedure 14, Enclosure 6, "OTSG Blowdown Lineup," was not adequately validated. Step 1.1.1 of AI-402C Enclosure 4 required that the procedure contain sufficient information to perform the specified actions. The procedure could not be performed as written because the procedure did not direct the operator to open Valve CXV-358.

Summary of Licensee's Response to Violation E

The licensee accepts the Violation in part. For item 3, "as discussed in Violation 93-16-01, item i.b., FPC denies that EOP-14 was inadequate and therefore denies it was inadequately validated." In the licensee's response to Violation A.1.b., they stated that, "for EOP-14, written instructions to locate a specific source of water is not considered a requirement. This action falls within the normal skills and knowledge of plant operators and allows flexibility."

NRC Evaluation of Licensee's Response

The NRC concluded that the validation of Emergency Operating Procedure 14, Enclosure 6, "OTSG Blowdown Lineup," was inadequate based upon a number of omissions. An example of these was included in the violation. Additional problems identified were:

1. The procedure did not direct the operator to remove the vent cap.
2. The procedure did not direct the operator to open MSV-542 to vent the blowdown line and allow it to refill with water.
3. The procedure did not identify the tools required to perform the task.

NRC Conclusion

For the above reasons the NRC concludes that the violation occurred as stated. A pre-analyzed course of action to mitigate the accident symptoms is required.