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SUBJECT: Responds to NRC 920330 ltr re violations noted in Insp Rept
50-397/92-03 on 920124-0308. Corrective actions: Test
Procedure PPM 8.3.230TP revised to require drywell to
drywell test flow path to satisfy TS requirements.

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May 13, 1992
G02-92-120

Docket No. 50-397

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Gentlemen:

Subject: NUCLEAR PLANT NO. 2, OPERATING LICENSE NO. NPF-21
NRC INSPECTION REPORT 92-03
RESPONSE TO NOTICE OF VIOLATIONS

The Washington Public Power Supply System hereby replies to the Notice of Violations contained in your letter dated March 30, 1992. A 14 day extension for this response was verbally approved by Mr. P. H. Johnson of the NRC Region V staff. Our reply, pursuant to the provisions of Section 2.201, Title 10, Code of Federal Regulations, consists of this letter and Appendix A (attached).

In Appendix A, the violations are addressed with an explanation of our position regarding validity, corrective action and date of full compliance.

Very truly yours,

L. L. Grumme, Acting Director
Licensing & Assurance

DAS/bk
Attachments

cc: JB Martin - NRC RV
NS Reynolds - Winston & Strawn
WM Dean - NRR
DL Williams - BPA/399
NRC Site Inspector - 901A

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APPENDIX A

During an NRC inspection conducted on January 24 - March 8, 1992, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violations are listed below:

- A. Paragraph (c) of 10 CFR 50.59, "Changes, Tests, or Experiments," states, in part, "The holder of a license authorizing operation of a production or utilization facility who desires...(2)...to conduct tests or experiments not described in the safety analysis report, which involve...a change in technical specifications, shall submit an application for amendment of his license pursuant to § 50.90."

Section 3.6.2.1 of the Technical Specification states, in part:

"The suppression chamber shall be operable with:

- b. Drywell-to-suppression chamber bypass leakage less than or equal to 10% of the acceptable A/K design value of .050 square feet.

ACTION:

- e. With the drywell-to-suppression chamber bypass leakage in excess of the limit, restore the bypass leakage to within the limit prior to increasing reactor coolant temperature above 200 degrees F."

Contrary to the above, the Plant Operations Committee approved a request to perform Test Procedure (TP) 8.3.230, "CAC-HR-1B Recycle Flow Verification from Drywell," while the plant was in MODE 1 (Power Operation), even though conduct of this test would have created drywell-to-suppression chamber bypass leakage greater than allowed by the Technical Specifications, and the required application for an amendment had not been submitted.

This is a Severity Level IV violation (Supplement I).

Validity of Violation

The Supply System acknowledges the validity of this violation. Test Procedure PPM 8.3.230TP, CAC-HR-1B Recycle Flow Verification from Drywell, was developed to test Containment Atmospheric Control System (CAC) performance. With the Plant in Operational Condition 1, the test was written and approved for use in that Condition. Although never actually performed, the procedure was written to test CAC with flow from the drywell to the suppression chamber. This would have established a potential drywell-to-suppression chamber steam bypass leakage flow path.



Although it has not been conclusively determined that this would have resulted in bypass leakage in excess of that permitted by Technical Specification 3.6.2.1 had a LOCA occurred while the test was being performed, the Supply System acknowledges that this possibility was not identified during the development and approval of PPM 8.3.230TP.

In response to past problems with the CAC System the Supply System conducted a limited scope Safety System Functional Inspection (SSFI). The SSFI team raised concerns about system operation. As a result, Plant management directed the preparation and performance of a CAC system test to verify satisfactory system performance. The test procedure developed was PPM 8.3.230TP.

The WNP-2 CAC System is designed to limit the oxygen concentration in the primary containment to less than that required for hydrogen flammability. CAC is required to operate post-LOCA. The CAC System is designed as an extension of the Primary Containment and is tested for leak tightness during the Integrated Leakage Rate Test. As such, CAC is an analyzed part of the Primary Containment boundary leakage limiting function.

The suppression chamber-to-drywell interface is designed so that the steam released to the drywell during a LOCA flows through the downcomers and is quenched by the suppression pool. The design basis drywell-to-suppression chamber bypass leakage flow is $A/(k)^{.5}$, or the equivalent of a 0.05 ft^2 hole. As stated in the NOV, the Technical Specification allowable value is 10% of this design limit. The CAC System minimum pipe size is 2 inches, or a 0.022 ft^2 hole. The system includes approximately 200 feet of piping, fittings, etc., that would further restrict bypass steam flow. In addition, the CAC System includes a moisture separator/demister which would significantly limit steam flow to the suppression chamber, and an aftercooler serviced by service water that would condense the steam. The results of past surveillance testing of the drywell-to-suppression chamber leakage verified that the tested leakage was a small fraction of the Technical Specification allowable value. The total bypass leakage, including that introduced by the CAC system test, would have been significantly below that assumed in the accident analyses had a LOCA occurred while the test was being run. There is a high probability that the CAC System protective trips such as high blower outlet temperature, blower motor overload, or high moisture separator/demister outlet temperature (200°F) would have caused an isolation of the CAC System very early in a LOCA transient.

The drywell-to-suppression chamber bypass leakage rate is verified at least every 18 months in accordance with the requirements of Technical Specification Surveillance Requirement 4.6.2.1.d. The testing is performed during refueling outages. Since startup above 200°F is not permitted without the required testing having been successfully completed, and since there are no other tests or operations routinely performed at power which create a bypass leakage path, this Technical Specification requirement is infrequently dealt with. Personnel familiarity with the limitation of this Specification was somewhat lower than that of most other Specifications.

As part of the test procedure development, several Supply System organizations reviewed and commented on the draft procedure. This early review was requested by management to provide additional assurance that the procedure would satisfactorily test the CAC System performance. The reviewers focused, however, on the test method and potential restraints to achieving valid test results. Because of this focus, these reviewers did not recognize the potential for introduction of a drywell-to-suppression chamber steam bypass leakage path by running CAC in its design configuration with the Plant at 100% power as called for by the test. Since these reviews were provided early in the development process, the associated 10CFR50.59 review documentation was not yet available.

The 10CFR50.59 review performed for PPM 8.3.230TP included an evaluation of the tests effect on Technical Specification compliance. The review correctly identified the impact of the test on: 1) CAC System operability; 2) the containment leakage boundary; and 3) the potential for operation of the suppression chamber-to-drywell vacuum breakers due to the transfer of mass from the drywell to the suppression chamber. The 10CFR50.59 also included recognition, as documented in the 10CFR50.59 review, that isolation of the CAC System might be required in the highly unlikely event a LOCA occurred during performance of the test. However, the 10CFR50.59 review did not identify the potential impact the test could have on drywell-to-suppression chamber steam bypass leakage during a LOCA. The individual who prepared both the procedure and the 10CFR50.59 review was also the designated Test Coordinator for the test. The individuals who served as the Preparer and the Qualified Reviewer for the 10CFR50.59 review were each qualified to perform both of these functions under the Supply System requirements.

New safety related Plant procedures are generally subjected to a Verification and Validation (V&V) using the guidance and documentation requirements of procedure PPM 1.2.6, PPM Evaluation Program. Procedure PPM 8.3.230TP was not subjected to a V&V since the CAC System operating procedure, PPM 2.3.3, which included a comparable system lineup, had previously been V&Ved. Test procedure PPM 8.3.230TP required a CAC System line-up from the drywell to the suppression chamber like that required by the system operating procedure. The CAC System is normally only required to be run post-LOCA. The system operating procedure was written for the anticipated post-accident conditions. It was not recognized that the Plant conditions assumed for development of the operating procedure, and those assumed for the test procedure, were different enough to make the V&V performed for the operating procedure not applicable for the test procedure.

The next review of the procedure was performed by two individuals specifically called out on the procedure revision form. These individuals were asked to review the procedure prior to the procedure going to Plant Operations Committee (POC) due to their Plant and CAC System knowledge. Both individuals had provided input in the procedure development process and focused their review on the validity of the test and potential impediments to successful completion.



The final level of review for procedure PPM 8.3.230TP was provided by POC. POC is required by Technical Specification 6.5.1 to review proposed tests that affect nuclear safety and their associated 10CFR50.59 reviews. The POC meeting included a detailed discussion of the procedure, the test methodology and lineup, potential problem areas, and the expected results. The discussion also addressed Technical Specifications and the 10CFR50.59 review identified concerns with the installation of test instrumentation and the potential for cycling the suppression chamber to drywell vacuum breakers. POC recognized that the CAC System would be operated in its post-accident design safety configuration for a limited period of time, and would be declared inoperable for the duration of the test. The potential for a drywell-to-suppression chamber steam bypass leakage path was not discussed or identified by POC. The documentation provided to POC indicated that the CAC System operating procedure, a procedure requiring a comparable system lineup, had received a V&V. A review of information acquired during the development of this response revealed, because of the different intended operating conditions for the test and operating procedures, the V&V for the operating procedure was not directly applicable to the test procedure.

The root causes for this violation were:

- 1) Work practices were less than adequate in that the required verification was not adequately performed and the 10CFR50.59 review failed to thoroughly evaluate the Technical Specifications for impact. The reviewers recognized the tests' potential affect on the containment leakage boundary, but did not perform a thorough enough review of the Technical Specifications to recognize the potential impact on the containment pressure suppression function. Therefore, all such bypass flow paths are considered unacceptable when the Plant is above 200°F.
- 2) Change Management was less than adequate in that the system interrelationship between CAC and bypass of the containment pressure suppression function was not considered.
- 3) Management methods were less than adequate in that a test procedure and associated 10CFR50.59 review were approved by POC without a critique which resulted in recognition of the procedural impact on Technical Specification compliance.

Corrective Steps Taken/Results Achieved

Management approval to perform PPM 8.3.230TP above 200°F was withdrawn when it was determined that the potential for a Technical Specification violation existed. PPM 8.3.230TP was then revised to require a drywell-to-drywell test flow path to satisfy the Technical Specification requirements. The revised procedure was approved for use on February 21, 1992. Since the revision of the procedure cited in the Notice of Violation was never approved for performance by the Shift Manager, procedure performance did not occur and the Technical Specification requirements were not violated.

The CAC System operating procedure has been revised to specifically restrict operation of the CAC System, with flow from the drywell to the suppression chamber, to times when the Plant is below 200°F or post-accident when CAC is required to perform its intended safety function. This revision will ensure that operation of the CAC System, in accordance with the system operating procedure requirements, meets the Technical Specification requirements.

Corrective Action to be Taken

- 1) PPM 1.2.4, Plant Procedure Approval, Revision And Distribution, will be upgraded to formalize the procedure review process so that the reviewers receive both the draft procedure and the associated 10CFR50.59 review. The procedure will also provide improved documentation and use of "specialty expertise" reviews. This change is not intended, however, to limit the practice of obtaining technical assistance from various organizations during the procedure development process. This procedure upgrade will be completed by August 31, 1992.
- 2) Enhanced qualification requirements will be implemented for 10CFR50.59 qualified reviewers. The requirements will include completion of a two week "Design Basis Safety" course. This course provides the students with a better understanding of the complex interrelationships of Plant systems, structures and components required for Plant safety. Perhaps more importantly, the course also imparts an understanding of the need to seek out specific expertise when questions exist. The required procedure changes, training, and program implementation will be completed by September 30, 1992.
- 3) The lessons learned from this event, particularly the importance of performing a thorough review of the Licensing Basis Documents, will be reinforced with the 10CFR50.59 qualified reviewers. The need to ensure this thorough review has occurred will be reinforced with POC members. Communication of this management expectation will be completed by May 20, 1992.
- 4) The lessons learned from this event will be presented to POC at the scheduled POC meeting on May 20, 1992.
- 5) The lessons learned from this event will be factored into future 10CFR50.59 training.
- 6) For those systems that could present a challenge of the drywell-to-wetwell Technical Specification steam bypass leakage limits, the system operating procedures will be changed to caution against this potential when the Plant is above 200°F. This action will be completed by October 31, 1992.

Date of Full Compliance

Management approval to perform PPM 8.3.230TP above 200°F was withdrawn when it was determined that the potential for a Technical Specification violation existed. PPM 8.3.230TP was revised to satisfy the Technical Specification requirements and approved for use on February 21, 1992. The Plant was in full compliance at that time. Since the procedure was not approved for performance by the Shift Manager, the Technical Specification requirements were not violated.

B. Section 3.1.3.1 of the Technical Specifications states, in part:

"All control rods shall be OPERABLE.

b. With one or more control rods trippable but inoperable...:

2. If the inoperable control rod(s) is inserted, within one hour, disarm the associated directional control valves either:

a) Electrically, or

b) Hydraulically by closing the drive water and exhaust water isolation valves.

Otherwise, be in HOT SHUTDOWN within the next 12 hours."

Contrary to the above, on February 22, 1992, the licensee inserted and declared inoperable control rod 42-59, but did not disarm the associated directional control valves electrically or hydraulically as specified, in that the exhaust water isolation valve was left open for a period of 21 hours, and did not place the plant in hot shutdown as required.

This is a Severity Level IV violation (Supplement I).

Validity of Violation

The Supply System acknowledges the validity of this violation. As described in Inspection Report No. 50-397/92-03, this condition was identified by the Supply System. This condition was reported, along with extensive detail of the actual control rod drive hydraulics physical configuration, in LER 92-011. The root cause for this violation was a less than adequate procedure. The Plant procedure used to hydraulically isolate the control rod drive unit utilized an isolation method that, although technically acceptable, did not close the exhaust water isolation valve as required by Technical Specification Action 3.1.3.1.b.2. This procedure deficiency has existed since initial Plant startup.



This violation of the Technical Specification requirement was identified by a member of Plant management during his review of Plant logs and activities. He initiated the corrective actions necessary to achieve compliance. Inspection Report 50-397/92-03 stated that this event resulted in a cited, in lieu of a non-cited, violation since a Problem Evaluation Request (PER) was not generated without NRC prompting. The PER process is used at WNP-2 to document and evaluate Plant problems, including those that are potentially reportable. The failure to write a PER was found by the NRC inspector during his review of the Operations night orders where specific instructions for the proper isolation of a control rod drive were provided.

Corrective Steps Taken/Results Achieved

The clearance order for the control rod isolation was amended and the exhaust water isolation valve was closed. This returned the Plant to compliance with Technical Specification Action 3.3.1.b.2.

In addition, PPM 2.1.1 was deviated on March 3, 1992 to require isolation of the exhaust water isolation valve when hydraulically isolating a Control Rod Drive. This procedure deviation will ensure future control rod drive hydraulic isolations are performed in accordance with the Technical Specification requirements.

Corrective Action to be Taken

The root cause for not writing a PER, failure to follow procedural requirements, was brought about by the strong focus of effort on returning the Plant to compliance with the Technical Specification requirements and resolving the technical discrepancy between the procedure and the Technical Specification. The requirement to document the problem via a PER was inadvertently overlooked. Managements expectations relative to the use of the PER process will be conveyed to WNP-2 personnel no later than May 20, 1992.

Date of Full Compliance

Full compliance was achieved at approximately 2339 hours on February 22, 1992 when the control rod was isolated in accordance with the Technical Specification requirements.

