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July 7, 1989

Docket No. 50-348
Docket No. 50-364

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

SUBJECT: Reply to a Notice of Violation
J. M. Farley Nuclear Plant NRC Inspection of
April 11 - May 10, 1989

RE: Report Numbers 50-348/89-11
50-364/89-11

Gentlemen:

This letter refers to the violations cited in the subject inspection reports which state:

"During the Nuclear Regulatory Commission (NRC) inspection conducted on April 11 - May 10, 1989, violations of NRC requirements were identified. The violations involved a breach of containment integrity and a failure to follow procedures. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1988), 53 Fed. Reg. 40019 (October 13, 1988), the violations are cited below:

A. Technical Specification 3.9.4.C requires, during core alteration or movement of irradiated fuel within containment, that each containment building penetration providing direct access from the containment atmosphere to the outside atmosphere be either closed by an isolation valve, blind flange or manual valve.

Contrary to the above, on April 19, containment integrity was breached during the replacement/placement of fuel within the reactor containment. The bonnet to valve Q2P25V001A in the 1/2-inch chemical injection piping to steam generator 2A was removed with the manways and handhole covers to steam generator 2A also removed. This created an air path from containment atmosphere to the outside atmosphere.

This is a Severity Level IV violation (Supplement 1).

B. Technical Specification 6.8.1 requires that applicable written procedures recommended in Appendix A of Regulatory Guide (RG) 1.33, Revision 2, 1978 shall be established, implemented and maintained.

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Procedure FNP-2-STP-16.6, Spray and Phase B Actuation Test, Revision 9, Section 3.9 requires the solid state protection system (SSPS) logic cabinet input error inhibit switch to be placed in the inhibit position before placing the output mode selector switch in the operate position.

Contrary to the above, on April 29, a safety injection was initiated on Unit 2 when the SSPS output mode selector switch was placed in the operate position before placing the inhibit switch in the inhibit position. The event occurred while clearance tags were being removed to allow the initial conditions to be established for conducting STP-16.6.

This is a Severity Level IV violation (Supplement 1)."

Admission or Denial

A. The above violation occurred as described in the subject reports. However, the significance of this occurrence is minimal. The potential release of radioactive material due to this occurrence is bounded by the fuel handling accident analysis which is contained in Chapter 15 of the FSAR. The accident described in the FSAR meets the limits of 10CFR100. The basis for this is:

1. The FSAR assumes that 70% of the iodine released to the containment atmosphere from the damaged fuel assembly is removed by the containment purge charcoal filter. This accident is assumed to occur 100 hours after shutdown of the reactor.

   Since this incident occurred 25 days after shutdown, the amount of iodine in the fuel had decayed significantly. The decay of iodine at 18.1 days after shutdown results in a reduction equivalent to the amount removed by the containment purge charcoal filter in the FSAR analysis at 100 hours.

2. The FSAR assumes that all noble gases released to the containment atmosphere from a damaged fuel assembly are removed from containment by the containment purge system with no filtration. With the containment breach the noble gases could have escaped with no filtration but the consequences would have been no worse.

Thus, if a fuel handling accident had occurred during the incident which is the subject of this violation, and the activity released to the containment atmosphere was assumed to escape via the breach, the fuel handling accident analysis in the FSAR is a bounding analysis and shows there was no increased risk to the health and safety of the public.

Other mitigating factors are:

1. Prior to any radioactive material reaching the environment, it would have had to travel into the steam generator, through the J-tubes, down the feedwater piping, and out the 1/2-inch chemical addition line

valve body. In addition, there was no postulated driving force to push the air out the release path, i.e., the pressure in containment was at atmospheric pressure. Thus, the combination of the tortuous path with the lack of a driving force makes it highly unlikely that any radioactive material would have escaped containment.

2. The above analysis and the FSAR analysis do not take credit for the radioactivity mixing in the containment free volume. Both analyses assume that all the radioactivity released to the containment atmosphere is released to the environment over a 2 hour period. Some mixing and diffusion of the radioactivity is likely to occur. Thus, it is unlikely that all the radioactivity could escape containment in 2 hours.

3. The FSAR assumes that 10% of the radioactive iodine in the rods is released. Westinghouse has stated that this percentage is conservative by a factor of 5.

4. The FSAR analysis conservatively assumes all rods in the assembly are damaged; however, the FSAR also states that in an actual fuel handling accident only the outer row of rods is expected to be damaged.

B. The above violation occurred as described in the subject reports.

Reasons for Violations

These violations were caused by:

A. Personnel error in that the Shift Supervisor who released the maintenance work requests did not recognize that Q2N25V001A is a containment integrity boundary and that concurrently working on valve Q2N25V001A and removing the 2A steam generator manway and handhole covers resulted in breaching refueling containment integrity.

B. Personnel error in that there was inadequate communication between the personnel responsible for the test activities.

1. The Shift Foreman did not effectively communicate with the Shift Supervisor to ensure that he understood the prerequisites and sequence of events for the test.

2. When the release was approved for the test the Shift Supervisor did not ensure that everyone involved was aware of the test prerequisites and sequence of events.

Corrective Action Taken and Results Achieved

A. The chemical injection valve was restored prior to discovery of this event.

B. Following the safety injection, plant conditions were stabilized using the

guidance of FNP-2-EEP-0 (Reactor Trip or Safety Injection) and FNP-2-ESP-1.1 (SI Termination).

Corrective Steps To Avoid Further Violations

A. The appropriate personnel involved in this event have been counseled. In addition, this event has been discussed with other appropriate Operations personnel responsible for the release of work requests. The system for assuring refueling containment integrity will be strengthened by providing additional documented guidance for identifying components which affect refueling containment integrity.

B. Disciplinary action has been administered to the Shift Supervisor and Shift Foreman involved in this event. Also, this event has been discussed with on-shift licensed personnel emphasizing the need for clear communication and delineation of responsibility.

Date of Full Compliance

A. September 1, 1989

B. June 28, 1989

Affirmation

I affirm that this response is true and complete to the best of my knowledge, information, and belief. The information contained in this letter is not considered to be of a proprietary nature.

Yours very truly,

W. G. Hairston, III

WGH:emb/NEL-89-0207

cc: Mr. S. D. Ebneter
Mr. E. A. Reeves
Mr. G. F. Maxwell

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