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FVY #84-134

November 9, 1984

U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region I
631 Park Avenue
King of Prussia, PA 19406

Attention: Mr. Richard W. Starostecki, Director
Division of Project and Resident Programs

References: (a) License No. DPR-28 (Docket No. 50-271)
(b) Letter, USNRC to VYPNC, dated October 11, 1984
I + E Inspection Report 50-271/84-20

Subject: Response to I + E Inspection Report 50-271/84-20

Dear Sir:

This letter is written in response to Reference (b), which indicates that certain of our activities were not conducted in full compliance with Nuclear Regulatory Commission requirements. The alleged violations, classified in the aggregate at Severity Level IV, were identified as a result of an inspection conducted by the NRC Senior Resident Inspector during the period July 17-31, 1984.

Information is submitted as follows in response to the alleged violations contained in the Appendix to your letter.

A. Technical Specification limiting condition for operation 3.7.C.1.d requires that secondary containment integrity be maintained whenever irradiated fuel is being moved in the reactor building.

Contrary to the above, on July 17, 1984, from about 12 midnight until about 3:30 a.m., secondary containment integrity was not maintained while three irradiated fuel bundles were moved in the spent fuel pool within the Reactor Building. Secondary containment was degraded because of an opening in the reactor building created when plant workers opened the cooling water supply piping to the reactor building air conditioner (RBAC) - 1B during work under mechanical bypass request 84-14. The open service water piping provided a flow path from the refueling zone air space through the service water system return piping to the main condenser discharge block and thereafter to the circulating water outfall at the station discharge structure.

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B. Technical Specification 6.5.1 requires that written procedures and instructions governing nuclear safety be established, implemented and followed. Procedure AP 0025, Plant Equipment Control, Revision 4, written prusuant to the requirement, requires that a work party leader obtain permission from the shift supervisor to commence a work activity after he has described how he intends to perform an assigned task and has obtained concurrence as to whether system tags are required to perform the work.

Contrary to the above, on July 16, 1984, a plant worker began work under mechanical bypass request 84-14 to provide alternate cooling to RBAC-1B without permission from the shift supervisor and without obtaining system tags from operations personnel. The failure to establish a proper tagging boundary for mechanical bypass request 84-14 prior to opening the service water system resulted in the degradation of secondary contrainment integrity.

These two violations have been classified in the aggregate at Severity Level IV.

Response

The violation of secondary containment integrity was caused by a contractor's failure to request that equipment to be worked on be isolated and tagged in accordance with AP 0140. Detailed investigations and debriefing interviews with the personnel involved revealed no intentional failure to follow established plant policies and procedures. The contractor who failed to have the equipment isolated indicated that he did in fact consider the appropriate administrative controls, however, due to circumstances surrounding the work effort, he felt that appropriate controls were already in place and took no further action.

In order to install a design change the service water supplying the Reactor Building Air Conditioners, (RBACs) Recirc MG Set Lube Oil Coolers, and the Turbine Building service water, was isolated. During the design change review, a concern was expressed that summer conditions would make the refueling effort very uncomfortable while the RBACs were isolated. Therefore a Mechanical Bypass Request was written to supply cooling water from a conveniently located fire protection hose station to a spool piece between the service water supply header and the RBAC unit on the refuel floor.

In order to implement the Mechanical Bypass, a 2" local equipment isolation valve had to be removed from the service water supply line to make room for the bypass condition. The contractor was aware of the design change in progress and knew that SW supply was isolated from the RBAC unit. Normally the local isolation valve would be tagged shut before working on the effected equipment, but in this case the valve would be removed from the system and thus could not perform an isolation function. For this reason, the contractor did not request tags to shut the local isolation valve and further did not believe that service water had to be isolated since he thought that service water was already isolated from the cooler.

In order to confirm that SW was isolated from the RBAC unit, the contractor momentarily opened a vent valve at the unit noticing no water flow and proceeded to install the Mechanical Bypass. The opening of the vent valve to check for proper isolation should have been performed by an operator.

During the implementation of the Mechanical Bypass, the contractor noticed a vacuum present at the opening in the SW line, but believed this simply indicated drainage of the water back down the SW pipes and had no concern because he believed service water was totally isolated and air inspiration during draining was normal. The contractor notified the Control Room when he had finished the installation, with the exception of the final connection which would be done after the glue had dried on the PVC pipe connections. During this conversation, the contractor mentioned the vacuum observed on the opening. Approximately one hour later, the Shift Supervisor (SS) went to the Refuel Floor to inspect the installation and noticed that the vacuum condition still existed. The SS attempted to isolate the line with tape, but this effort failed. The SS then stopped all refueling activities and reviewed the valve line up associated with the service water system. The SS noticed that SW valve 23D was open which would allow a vent path to exist which could violate secondary containment integrity. He then closed and tagged SW valve 23D which eliminated the vacuum and restored secondary containment.

Immediate Corrective Action

1. The contractor involved was immediately removed from the list of authorized persons allowed to request tagging orders. Although the contractor was apparently misled by the conditions encountered, plant procedures clearly require him to contact the Shift Supervisor to verify that installation may begin. Even though the SW system was isolated and tagged for another work effort, the contractor must receive permission to perform work under someone elses' tags.

2. All applicable procedures were reviewed to ensure that they did not mislead the contractor, and no corrections deemed necessary. This was confirmed by interviews with the personnel involved.

3. The potential consequences of the event were reviewed to ensure no physical conditions could exist which would have had a significant radiological impact on public safety in the unlikely event of a design basis accident. The results of this evaluation indicated that any potential personnel exposure would be well below the limits specified in 10 CFR 100.

Additional Actions Taken or Planned

1. Following the subject event, contractor training was reviewed to ensure proper knowledge of plant administrative procedures. Although training is provided by contractors, no specific procedure training was documented. Therefore VY will enhance the contractor training program by requiring specific procedure training for applicable

contractor personnel prior to performing work at VY (for new contractors). Additionally, existing contract personnel will receive this training on an ongoing basis. This training should be completed by 6/1/85.

2. AP 0020 regarding control of mechanical bypass requests was revised on 10/17/84. The revised procedure requires the Shift Supervisor to review all the ramifications of the bypass including implementation plans. In addition the requirement to control valve repositioning in accordance with AP 0140 has been added and/or clarified in both the implementation and restoration sections of the procedure.

3. All Engineering, Operations, Maintenance, Instrumentation and Control, and Construction personnel attended classroom training which covered the changes in AP 0020 as well as the need to adhere to this procedure and all other plant procedures. This event was used as an example of the importance of requesting tags prior to working on any plant equipment. This training will also be provided to contractor personnel.

4. The Mechanical Bypass Request Form (VYAPF 0020.02) has been revised to remove the words "approval to implement". This step now states "Shift Supervisor approval". This enhancement coupled with the procedural improvements removes any confusion concerning the significance of the Shift Supervisor's signature.

5. Meetings of plant management personnel were held to discuss the importance of following plant procedures. The Plant Manager stressed that administrative procedures must be considered as management directives and followed to the letter. Each Department Head has discussed the importance of following plant procedures with their personnel. This reinforcement is not a single classroom instruction to remind personnel of their responsibilities, but a constant continuing effort to ensure that all personnel are well aware of the need and importance of following procedures.

6. In light of this event and the conditions described in Inspection Report 50-271/84-18 we will be reviewing the existing level of controls contained in AP 0140 including those required to maintain secondary containment integrity. Additional information will be provided in our response to Inspection Report 84-18.

Reference (b) also expresses a concern with the lack of cautions in the documentation for mechanical bypasses which would alert plant workers that a condition adverse to safety could be created during the implementation phase of the bypass. We respectfully disagree with the need to insert such caution statements. After considerable evaluation of this item, we feel that any activity if not conducted in strict adherence to plant procedures and policies could create condition adverse to safety. This type of caution must apply to all activities undertaken at VY and this is the message that is being provided to all personnel. Although this one occurrence did indeed create an undesirable condition, it would be unrealistic to apply additional controls and/or caution statements to the Mechanical

Bypass Process only. VY agrees that plant personnel must be aware of the potential significance of procedural non compliance as it applies to all procedures, practices, and policies. We will continue to emphasize this fact in training classes as well as routine meetings. This effort should more fully address the stated concern.

We trust that this information will be satisfactory; however, should you have any questions or desire additional information, please contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORP.

Warren P. Murphy
Vice President and
Manager of Operations

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