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Nuclear Power Plant  
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Joseph E. Russell  
Resident Manager



October 3, 1989  
IP3-89-070  
RAL-89-117B

Docket No. 50-286  
License No. DPR-64

Mr. Jacques P. Durr, Chief  
Engineering Branch  
Division of Reactor Safety  
U.S. Nuclear Regulatory Commission  
Region 1  
475 Allendale Road  
King of Prussia, PA 19406

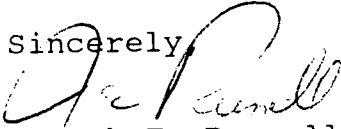
SUBJECT: Inspection No. 50-286/89-17 and Associated Notices of  
Violation (89-17-01 and 89-17-02)

Dear Mr. Durr:

This letter and Attachment I provide the Authority response to the notices of violation (89-17-01 and 89-17-02) identified in Inspection Report No. 50-286/89-17.

Should you or your staff have any questions concerning this matter, please contact Mr. M. Peckham of my staff.

Sincerely,

  
Joseph E. Russell  
Resident Manager  
Indian Point Unit 3  
Nuclear Power Plant

JER:RAL/rl

Attachment

cc: Document Control Desk (original)  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Resident Inspector's Office  
Indian Point 3  
U.S. Nuclear Regulatory Commission  
P.O. Box 337  
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ATTACHMENT I  
RESPONSE TO NOTICE OF VIOLATION  
89-17-01 and 89-17-02

VIOLATION:

A. 10 CFR 50, Appendix B, Criterion VI states in part, "Measures shall be established to control issuance of ..... drawings including changes thereto. "

Contrary to the above, as of July 21, 1989, the measures established to control drawing change was inadequate in that Control Room drawing 9321-F-27473, Rev. 20 affected by Modification 86-03-145 RCS was not revised prior to declaring the system operational. (Note: A similar concern was identified previously by the NRC in Inspection Report 50-286/88-22).

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

RESPONSE:

The Authority has reviewed in detail notice of Violation 89-17-01 and agrees that the events occurred as discussed and resulted from inadequate implementation of the drawing change control process. Immediate corrective actions undertaken by the Authority included the issuance of procedure DCM-22, "Drawing Update Program". This procedure details the controls required to assure adequate drawing change control. The Authority believes that longer term measures such as 1) the Authority's new Modification Control Manual (MCM) program and 2) the developing use of computerized databases for the tracking of modification information should further enhance this procedure and existing drawing change controls.

Modification 86-03-145 RCS was installed during the cycle 5/6 refueling outage (summer of 1987). This modification was an integral part of a series of changes designed to eliminate potential water hammer loads in the pressurizer safety valve discharge line following a pressurizer safety valve actuation. The modification involved the rerouting of pressurizer safety valve loop seal drain piping. Documents that required updating as a result of the modification included drawing 9321-F-27473 Rev. 20 "Reactor Coolant System" and FSAR Figure 4.2-2B. After the modification was installed, these documents were updated to reflect the modification, but changes to the modification that were implemented by Engineering Change Notice (ECN) 004 were not incorporated.

The root causes of the errors identified in the violation are twofold. Initially, the effected documents were updated without utilizing the most recent Engineering Change Notice. Secondly, the drawing update effort did not entail a systematic review of ECNs. A number of procedural and programmatic controls have been established to preclude errors similar to those identified in the

**ATTACHMENT I**  
**RESPONSE TO NOTICE OF VIOLATION**  
**89-17-01 and 89-17-02**

violation. The Authority's Modification Control Manual and Design Control Manual efforts address these controls. The drawing update effort (DCM-22, "Drawing Update Program") includes a review of entire modification packages including ECNs. This provides assurance that the most recent documents have been utilized for drawing revision. The Authority has under development a database to reference all modifications and/or ECNs to a specific drawing. Computerization of this system will enhance the efficiency of this process and ensure that the most recent documentation is utilized in drawing / document updates. In addition, the drawing update effort has adopted the practice of performing field walk down verifications including any ECNs generated. The Authority believes this provides additional verification on the accuracy of drawing revisions including engineering change notices.

The following immediate corrective actions were undertaken 1) Reactor Coolant System drawing 9321-F-27473 and FSAR Figure 4.2-2B were corrected by incorporating changes implemented by Engineering Change Notice 004, 2) verification that all drawing changes created by the modification that affect AP-12, Control Room Drawings, were incorporated, and 3) the performance of a survey of other modifications performed in 1987 to determine if errors typical to those identified in the violation was undertaken. The results of that survey showed no similar significant concerns to that identified in violation 89-17-01.

**VIOLATION:**

10 CFR 50, Appendix B, Criterion XVI states in part, that "Measures shall be established to assure that conditions adverse to quality ... are promptly identified and corrected ... and corrective action taken to preclude repetition.

Contrary to the above, as of July 21, 1989, the licensee's measures established to assure that conditions adverse to quality are promptly corrected and corrective action taken to preclude repetition were inadequate as evidenced by the following.

The Refueling Water Storage Tank level transmitter LT-920 and level controller LIC-921 failed to function adequately in 1985 and 1987. However, the licensee's corrective actions were not adequate to preclude recurrence of a similar failure in March 1989.

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

ATTACHMENT I  
RESPONSE TO NOTICE OF VIOLATION  
89-17-01 and 89-17-02

RESPONSE:

The Authority has reviewed in detail notice of Violation 89-17-02 and agrees that the events occurred as discussed and constitute a violation of NRC requirements.

The Refueling Water Storage Tank (RWST) level is monitored by LT-920 and LIC-921 to provide level indications and low level alarms. This is necessary to meet the Indian Point 3 Technical Specifications. These instruments were original plant equipment which had previously passed refueling surveillance tests.

In 1979, the Authority first experienced an RWST level instrumentation problem on one alarm channel. This situation did not recur until the 1985 Refueling Outage where a similar alarm channel failure occurred because of instrument drift. In each case the channels were recalibrated and returned to service. In neither instance was a Technical Specification action statement or LCO entered. In 1987 during the Refueling Level Calibration check, LT-920 and LIC 921 did not meet the test acceptance criteria for the "as found" conditions because of instrument drift (see LER 87-007). This condition put the actual RWST low-level alarm set points for both channels below the Technical Specification actuation range. The instruments were recalibrated to meet the test acceptance criteria and returned to service.

After the failure in March of 1989, the instruments were recalibrated and the calibration schedule was increased to quarterly. This increase in calibration frequency was completed to aide in narrowing down the exact cause of the failure trend. In June of 1989, LIC-921 was found to have a large repeatability error and the instrument was replaced. As part of the replacement, an instrument error calculation was performed to account for the errors associated with its calibration. A narrower calibration acceptance range and calibration methods were then developed to account for the errors. This was to ensure that the level alarm would be within the Technical Specifications values. Although LT-920 was not replaced its calibration acceptance range was also reduced to account for instrument errors. Both LT-920 and LIC-921 passed their surveillance test in August of 1989. The as found values were within the narrower calibration acceptance range necessitating no required recalibration.

Although the present instrumentation is calibrated to provide the required alarm, the instrument errors associated with them make the calibration acceptance range small and considerably difficult to achieve. To alleviate this concern the Authority is investigating the need to develop modifications involving

ATTACHMENT I  
RESPONSE TO NOTICE OF VIOLATION  
89-17-01 and 89-17-02

installation of new instrumentation.

The corrective actions discussed above (during 1989) resulted from the evaluation detailed in LER 89-005-00 dated April 7, 1989. These corrective actions were in place and effective to preclude further failures prior to the RWST evaluation conducted by the NRC inspector in Inspection Report No. 89-17.