

NRC-03-124

December 19, 2003

10 CFR 2.201

U S Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

KEWAUNEE NUCLEAR POWER PLANT
DOCKET 50-305
LICENSE NO. DPR-43

REPLY TO NOTICE OF VIOLATION: EA-02-204 – REVISED RESPONSE

- References:
- 1) Letter from J.E. Dyer (NRC) to T. Coutu (NMC), "Final Significance Determination for a White Finding and Notice of Violation, NRC Inspection Report 50-305/02-06 (DRS), dated December 2, 2002.
 - 2) Letter from T. Coutu (NMC) to USNRC, "Reply to a Notice of Violation: EA-02-204", dated January 2, 2003

In Reference 1, the Nuclear Regulatory Commission (NRC) provided Nuclear Management Company (NMC) with the final significance determination for the inspection activities conducted from July 31 through October 1, 2002.

As a result of the inspection, NRC identified a violation of NRC requirements. The violation was cited as "a fixed fire suppression system was not installed in fire area TU-95B, a fire area where alternative or dedicated shutdown capability was provided because the protection of systems whose function was required for hot shutdown did not satisfy the requirements of 10 CFR Part 50, Appendix R, Section III.G.2".

In Reference 2, NMC recognized the failure to install a fixed fire suppression in Fire Area TU-95B as a violation of 10 CFR Part 50, Appendix R requirements. This letter also provided the results of the root cause evaluation of this occurrence, and a summary of the corrective actions completed and the steps planned to prevent recurrence.

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Since the submittal of the violation response, NMC has performed an additional root cause evaluation, which requires updating of the information provided in Reference 2. Attached is the revised response to the Notice of Violation.

I declare under penalty of perjury that the foregoing is true and accurate. Executed on December 19, 2003.

A handwritten signature in black ink, appearing to read "T. Coutu for".

Thomas Coutu
Site Vice President, Kewaunee Nuclear Power Plant
Nuclear Management Company, LLC

cc: Regional Administrator, USNRC, Region III
Senior Resident Inspector, USNRC

Enclosure

ENCLOSURE 1

NUCLEAR MANAGEMENT COMPANY, LLC

KEWAUNEE NUCLEAR POWER PLANT

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Notice of Violation: EA-02-204

10 CFR 50.48 Section (b) (2) requires, in part, that all nuclear power plants licensed to operate before January 1, 1979, must satisfy the applicable requirements of Appendix R to this part, including specifically the requirements of Section III.G, III.J and III.O. The Kewaunee Nuclear Power Plant was licensed to operate prior to January 1, 1979.

10 CFR Part 50, Appendix R, Section III.G.2, requires, in part, that for cables or equipment of redundant trains of systems necessary to achieve and maintain hot shutdown conditions which are located within the same fire area outside of primary containment, one of the following means of ensuring that one of the redundant trains is free of fire damage shall be provided: (a) separation of cables and equipment and associated non-safety circuits of redundant trains by a fire barrier having a three hour rating; (b) separation of cables and equipment and associated non-safety circuits of redundant trains by a horizontal distance of more than 20 feet with no intervening combustibles or fire hazards; and fire detectors and an automatic fire suppression system shall be installed in the area; or (c) enclosure of cables and equipment and associated non-safety circuits of one redundant train in a fire barrier having a one-hour fire rating; and fire detectors and an automatic fire suppression system shall be installed in the fire area.

10 CFR Part 50, Appendix R, Section III.G.3, requires, in part, that alternative or dedicated shutdown capability be provided where the protection of systems whose function is required for hot shutdown does not satisfy the requirements of Section III.G.2. In addition, fire detection and a fixed fire suppression system shall be installed in the area, room, or zone under consideration.

Contrary to the above, as of March 30, 2001, a fixed fire suppression system was not installed in fire area TU-95B, a fire area where alternative or dedicated shutdown capability was provided because the protection of systems whose function is required for hot shutdown did not satisfy the requirements of 10 CFR Part 50, Appendix R, Section III.G.2.

NMC Response (Revised)

NMC does not contest the violation. However, the results from the additional root cause evaluation documents that the design and licensing basis for Appendix R compliance at the Kewaunee Nuclear Power Plant, is the separation of redundant systems outside primary containment, in accordance with Section III.G.3 of Appendix R.

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Reason for the Violation (Revised)

In Reference 2, NMC recognized that this occurrence constituted a violation of 10 CFR Part 50 Appendix R requirements. However, during the NRC Follow-up Inspection IR2003-003 (associated with this occurrence), weaknesses in the root cause evaluation were identified. As a result, NMC conducted an extensive re-evaluation of this occurrence.

As a result of this re-evaluation, a thorough review of the station design and licensing basis was conducted. From this review, the following additional conclusions have been reached:

- In accordance with the requirements of 10CFR48(c)(5), Kewaunee submitted the design descriptions of all modifications needed to satisfy Section III.G.3 of Appendix R via transmittal letters dated March 19, 1981; April 9, 1981; and May 19, 1981. Refer to Safety Evaluation Report, dated December 22, 1981.
- The proper characterization of TU-95B is that it is a Fire Zone, and not a Fire Area. TU-95B is a Fire Zone within the Alternate Fire Area (A), for which alternative shutdown is credited in accordance with the approved design.
- NMC's failure to understand the licensing basis for Appendix R compliance in this Fire Zone resulted in the original acknowledgement of this occurrence as a violation of Appendix R requirements.
- NMC has further evaluated the fire hazards in Fire Zone TU-95B, and has determined that a potential fire in this zone would not have resulted in damage to cabling to redundant trains of equipment required for hot shutdown.

NMC has re-evaluated the adequacy of the partial area suppression and detection within Alternate Fire Area (A) and Dedicated Fire Area (D). This re-evaluation has confirmed the acceptability of the partial area suppression and detection, which constituted the bases for the Kewaunee Appendix R design.

Corrective Steps Taken (Revised)

As a corrective action for the original NOV response, NMC instituted an hourly fire watch in Fire Zone TU-95B and has completed a design change and installed a fixed fire suppression system in Fire Zone TU-95B. Corrective actions associated with the revised response include revisions to the Fire Protection Program Analysis (FPPA), Fire Protection Program Plan (FPPP), and Appendix R Design Description (ARDD) to better incorporate the design and licensing basis into these documents.

The automatic suppression system installed in Fire Zone TU-95B (in accordance with the commitments made as part of the original NOV response) was declared operational in July 2003. The revisions to the Appendix R Design Description, the Fire Protection

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Program Analysis, and the Fire Protection Program Plan (which were required by the revised root cause evaluation) were completed in November 2003.

Corrective Action Steps to Prevent Further Violations (Revised)

Procedural controls have been developed to preclude recurrence of similar conditions related to Appendix R compliance. KNPP has updated its procedural requirements for identifying the design inputs for a modification. General Nuclear Procedure (GNP) 04.03.07, "Design Inputs" was issued on August 1, 2002, and must be performed for every modification initiated after August 1, 2002 or completed after June 1, 2003. Checklist A of this procedure contains a section specific to Appendix R, and requires the responsible engineer to answer various questions regarding the proposed design change. These questions are provided to identify potential impacts to Appendix R requirements. If any of these questions are answered yes, the responsible engineer is directed to contact the Fire Protection Group for assistance. These same controls have subsequently been adopted in NMC Fleet Procedure FP-E-MOD-04 and Form QF-0515A effective March 18, 2003 (supersedes GNP 04.03.07 for new modifications).

Corrective actions have been completed to properly document the Appendix R licensing basis for the station, and to ensure that changes to the licensing basis are properly evaluated. The licensing basis has been described in revisions to the Fire Protection Program Plan and the Appendix R Design Description. In addition, Corporate Directive CD 5.13 (Fire Protection Program Standard), has been updated to require that the station licensing bases be clearly documented and retrievable.

Process changes have also been made with regard to reporting of fire protection program health. These changes support frequent updates to management of the status of the program. These frequent updates also support holding the fire protection group accountable for performance.

Date When Full Compliance Will Be Achieved (Revised)

The station has completed all actions associated with this occurrence and is in full compliance.