



Kewaunee Nuclear Power Plant  
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Kewaunee / Point Beach Nuclear  
Operated by Nuclear Management Company, LLC

NRC-03-001

January 2, 2003

10 CFR 2.201

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

Ladies/Gentlemen:

Docket 50-305  
Operating License DPR-43  
Kewaunee Nuclear Power Plant  
Reply to a Notice of Violation: EA-02-204

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.

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 required for hot shutdown did not satisfy the requirements of 10 CFR Part 50, Appendix R, Section III.G.2."

Attached is our response to the notice. If you should have any questions with regard to this response, please contact Gordon Arent, Manager, Regulatory Affairs, at (920) 388-8537.

Sincerely,

Thomas Coutu  
Site Vice President  
Kewaunee Nuclear Power Plant

ADB  
Attachment

1. NMC response to NRC Notice of Violation

cc - US NRC, Region III  
US NRC Senior Resident Inspector

IEO1

ATTACHMENT 1

Letter from Thomas Coutu (NMC)

To

Document Control Desk (NRC)

Dated

January 2, 2003

NMC Response

To

NRC Notice of Violation: EA-02-204

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 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

NMC does not contest this violation. NMC agrees that the cause of this violation is a failure to install a fixed fire suppression system in fire area TU-95B, a fire area where alternative and dedicated shutdown capability was provided. We recognize this as a violation of 10 CFR Part 50, Appendix R requirements.

Reason for the Violation

NMC has performed a root cause evaluation of this occurrence. NMC has concluded that the original design modification did not meet the intent of the federal regulations. However, because of the age of the issue (~20 years), the cause for this failure was not determined. Several contributing factors include:

1. *Miscommunication between the licensee and the NRC during initial review of KNPP implementation of Appendix R requirements.*

The Appendix R modification process involved numerous communications between the licensee and the NRC. NRC Generic Letter (GL) 81-12 requested a list of safety-related and non safety-related cables associated with the equipment and cables constituting the alternate or dedicated method of shutdown that are located in the fire area. On June 26, 1981, Wisconsin Public Service (WPS) provided a response to GL 81-12 which included a list of cables that were routed through each fire area. However, the list did not include those cables that were isolated by the REMOTE/LOCAL switches on the Dedicated Shutdown Panel (DSP).

NRC Safety Evaluation Report (SER), "10 CFR 50.48 and 10 CFR 50 Appendix R Items III.G.3 and III.L Concerning Fire Protection of Safe Shutdown Capability" dated December 22, 1981 states, in part, "Based on our review of the design concept for electrical isolation we conclude it is acceptable." The NRC SER also states "The licensee has listed associated circuits together with component cables required for shutdown and are made to conform to the same separation requirements. This will provide adequate separation between Train A or Train B or 'dedicated' and 'alternate' systems for post fire safe shutdown. The associated circuits in this plant will not present any barrier to post fire safe shutdown."

The NRC Appendix R compliance inspection report 50-305/87013(DRS) dated June 10, 1987 contains examples of dedicated shutdown system circuits routed through TU-95B, including Service Water Pumps 1A1 and 1A2. The conclusion of this portion of the report is: "The licensee's methods of fire instigated spurious signal isolation were found to be satisfactory."

These items led the licensee to believe that the as-built modification adequately met federal regulation requirements.

- 2. Less than adequate extent of condition assessment by Kewaunee staff of an Appendix R non-conformance identified during the initial NRC inspection in 1987.*

The NRC Appendix R compliance inspection report 50-305/87013(DRS) dated June 10, 1987 identifies that the Control Room is required to comply with Appendix R Section III.G.3 because a fire there will require the activation of the Dedicated Shutdown Panel (DSP). This is essentially identical to the current classification issue with fire zone TU-95B. The Kewaunee staff did seek and get approval for an exemption from the Control Room requirements for a fixed fire suppression system. However, this situation was not examined generically for its applicability to other fire areas in the plant.

#### Corrective Steps Taken

NMC has instituted an hourly fire watch in fire area TU-95B. In addition, NMC has initiated a design change to install a fixed fire suppression system in fire area TU-95B. This is scheduled for completion prior to our next scheduled refueling outage in Spring 2003.

#### Corrective Steps to Prevent Further Violations

Procedural controls have been established to preclude recurrence of similar conditions related to Appendix R requirements. 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.

#### Date When Full Compliance will be Achieved

Full compliance will be achieved upon the completion of the installation of the fixed fire suppression system for fire area TU-95B. This is scheduled to occur by June 30, 2003.