



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

February 13, 1996

EA 95-268

Mr. Donald A. Reid
Vice President, Operations
Vermont Yankee Nuclear Power Corporation
RD 5, Box 169
Ferry Road
Brattleboro, Vermont 05301

SUBJECT: NOTICE OF VIOLATION
(NRC INSPECTION REPORT NO. 50-271/95-26)

Dear Mr. Reid:

This refers to the inspection conducted from October 23 through November 9, 1995, at the Vermont Yankee Nuclear Power Station (VY) facility. The purpose of the inspection was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements. The inspector identified apparent violations of NRC requirements, which were described in the NRC inspection report transmitted with our letter, dated December 22, 1995. On January 11, 1996, a Predecisional Enforcement Conference was conducted with Mr. R. Wanczyk, Plant Manager, Mr. J. Thayer, Vice President, Engineering, and other members of your staff to discuss the violations, their causes, and your corrective actions.

Based on the information developed during the inspection and the information provided during the conference and your post-conference letter to us dated January 15, 1996, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report.

The first violation involved your failure to provide a means for the reactor core isolation cooling (RCIC) system and automatic depressurization system (ADS) to remain free of fire damage to support safe shutdown of the facility. Specifically, RCIC system and ADS circuits were not adequately protected from maloperation due to hot shorts or fire. In addition, in the event of a fire in the reactor building fire area RB-3, the wiring and terminals of the ADS valve (SRV-71A), located in the same fire zone, could have been damaged and thereby prevent the use of this ADS valve as planned and credited in your safe shutdown capability analysis (SSCA) to depressurize the vessel and achieve cold shutdown within 72 hours.

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This violation has been categorized in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG 1600, at Severity Level III.

In accordance with the Enforcement Policy a base civil penalty in the amount of \$50,000 is considered for a Severity Level III violation. Because your facility has been the subject of escalated enforcement actions within the last 2 years, the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Credit for identification and corrective actions is warranted because you identified the violation and your corrective actions were both prompt and comprehensive. These actions, which were noted in the inspection report, your presentation at the predecisional enforcement conference, and in Licensee Event Report 95-014-01, dated September 22, 1995, included, but were not limited to: (1) implementing compensatory measures consisting of firewatches, equipment monitoring, administrative controls, and enhanced awareness of potential Appendix R vulnerabilities; (2) issuing an operations standing order to provide details of the conditions and specifying operator actions for response to particular fire scenarios; (3) increasing management oversight of hot work; (4) establishing four response teams: evaluation team, self-assessment team, design change team, and root cause analysis team; (collectively the teams performed a comprehensive and timely review of the deficiencies); and (5) performing and planning to perform self assessments of other engineering programs to look for similar organizational and process inadequacies.

Therefore, to encourage prompt identification and comprehensive correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty.

A second violation involves Licensee Procedure OP-3126. You requested and were granted an exemption from the requirements of Sections III.G.1 and III.G.2 to Appendix R of 10 CFR Part 50 for hot repairs. The exemption allows, in part, the replacing of fuses that could be blown due to fire in the cable spreading area. NRC review of your Procedure OP-3126 identified steps for replacing a number of additional fuses not granted in the exemption. We acknowledge that you had considered the exemption to extend beyond the RCIC and residual heat removal (RHR) systems to the support systems. However, that is inconsistent with the scope of the exemption defined by our letter of December 1, 1986, which granted the exemption. This violation has been categorized in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG 1600, at Severity Level IV.

Mr. Donald A. Reid

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In our view, the problems discussed in this enforcement action result from a longstanding failure on your part to assure that the facility is in compliance with 10 CFR Part 50, Appendix R requirements. However, the corrective actions you took in this matter, along with those you took earlier, associated with Generic Letter 89-10 motor-operated valve issues, represent a marked improvement in how significant regulatory issues are addressed by your managers and staff. We strongly encourage your organization to respond to other emergent regulatory issues in a similarly strong manner. As stated above, the enforcement action we are taking in this case is consistent with our assessment of the scope and quality of your corrective action.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

Sincerely,



Thomas T. Martin
Regional Administrator

Docket No. 50-271
License No. DPR-28

Enclosure: Notice of Violation

Mr. Donald A. Reid

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cc w/encl:

R. Wanczyk, Plant Manager

J. Thayer, Vice President, Engineering, Yankee Nuclear Power Corporation

J. Duffy, Licensing Engineer, Vermont Yankee Nuclear Power Corporation

J. Gilroy, Director, Vermont Public Interest Research Group, Inc.

D. Tefft, Administrator, Bureau of Radiological Health, State of New Hampshire

Chief, Safety Unit, Office of the Attorney General, Commonwealth of
Massachusetts

W. D. Meinert, Nuclear Engineer

R. Gad, Esquire

G. Bisbee, Esquire

R. Sedano, Vermont Department of Public Service

T. Rapone, Massachusetts Executive Office of Public Safety

D. Screnci, PAO (30) Saip Reports and (2) All Inspection Reports

NRC Resident Inspector

State of New Hampshire, SLO Designee

State of Vermont, SLO Designee

Commonwealth of Massachusetts, SLO Designee

NOTICE OF VIOLATION

Vermont Yankee Nuclear Power Corporation
Vermont Yankee Nuclear Power Station

Docket No. 50-271
License No. DPR-28
EA 95-268

During an NRC inspection conducted from October 23 through November 9, 1995 violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG 1600, the violations are listed below:

- A. 10 CFR 50.48(a) requires, in part, that each operating nuclear power plant must have a fire protection plan that satisfies Criterion 3 of Appendix A to 10 CFR Part 50. This fire protection plan must describe specific features necessary to implement the program and the means to limit fire damage to structures, systems, or components important to safety so that the capability to safely shut down the plant is ensured.

10 CFR 50.48(b) requires, in part, that all nuclear power plants licensed prior to January 1, 1979, shall satisfy the applicable requirements of Appendix R to 10 CFR Part 50, including specifically the requirements of Section III G., fire protection of safe shutdown capability.

10 CFR Part 50, Appendix R, Section III.G.1 requires that fire protection features shall be provided for structures, systems and components important to safe shutdown. These features shall be capable of limiting fire damage so that; a) one train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control station(s) is free of fire damage; and b) systems necessary to achieve and maintain cold shutdown from either the control room or emergency control station(s) can be repaired within 72 hours.

Appendix R, Section III.G.2 requires, in part, that except as provided in paragraph G.3 of this section, where cables or equipment, including associated non-safety circuits that could prevent operation or cause maloperation due to hot shorts, of redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located within the same fire area outside of primary containment, one of the means; specifically in Section III.G.2, of ensuring that one of the redundant trains is free of fire damage shall be provided.

The Licensee's safe shutdown capability analysis (SSCA), part of their fire protection plan, requires the use of redundant trains of the reactor core isolation cooling (RCIC) system and the automatic depressurization system (ADS) safety relief valve system to support safe shutdown of the plant in the event of a fire in the control room, cable vault, and reactor building fire zone RB-3. In the event of a fire in the reactor building fire zone RB-3, credit is taken for the repair of one ADS valve to depressurize the vessel and achieve cold shutdown within 72 hours.

Contrary to the above, on and prior to July 1995, fire protection features were not provided for structures, systems and components important for safe shutdown, in that, the SSCA selected RCIC system and ADS components important to safe shutdown were not provided with an acceptable means, as listed in Appendix R, Section III.G.2, to ensure that the redundant trains remained free of fire damage. The RCIC system and the ADS circuits were not adequately protected from maloperation due to hot shorts or fire as necessary to achieve and maintain hot shutdown and cold shutdown conditions. In addition, repair of systems necessary to achieve and maintain cold shutdown from either the control room or emergency control station(s) could not occur within 72 hours in the event of a fire in the reactor building fire area RB-3. Specifically:

- a) Cables (C1752AS11B, C1753AS11D, C1754AS11B and C1755AS11D) associated with all four ADS safety relief valves were routed through the control room, cable vault and reactor building fire area RB-3 without suitable fire barriers to protect the safe shutdown equipment. In the event of a fire in the control room, cable vault or RB-3 fire area, a hot short in the ADS control cables could have inadvertently actuated an ADS valve, which would have prevented the use of the RCIC system as planned and credited in the SSCA to support safe shutdown of the plant either from the control room or from the RCIC alternate shutdown panel.
- b) Emergency power supply and control cables for the RCIC steam supply line isolation valve (V13-15) were routed in fire area RB-3 without suitable fire barriers to protect the safe shutdown equipment. In the event of a fire in RB-3, the RCIC steam line isolation valve could malfunction or could be damaged as a result of spurious operation due to sustained hot shorts that could have prevented the use of the RCIC system as planned and credited in the SSCA to support safe shutdown of the plant either from the control room or from the RCIC alternate shutdown panel.
- c) In the event of a fire in the reactor building fire area RB-3, the wiring and terminals of the ADS valve (SRV-71A), located in the same fire zone could have been damaged and thereby prevented the use of this ADS valve as planned and credited in the SSCA to depressurize the vessel and achieve cold shutdown within 72 hours.
(01013)

This is a Severity Level III violation (Supplement I).

- B. 10 CFR 50.48(b) requires, in part, that all nuclear power plants licensed prior to January 1, 1979, shall satisfy the applicable requirements of Appendix R of 10 CFR Part 50 including, specifically, the requirements of Section III.G, fire protection of safe shutdown capability.

10 CFR Part 50, Appendix R, Section III.G.1.a. requires that fire protection features shall be provided for structures, systems and components important to safe shutdown. These features shall be capable of limiting fire damage so that one train of systems necessary to achieve and maintain hot shutdown conditions, from either the control room or emergency control station(s) is free of fire damage.

The Licensee requested and was granted an exemption from the requirements of Section III.G.1 and III.G.2 of Appendix R, for hot shutdown repairs. The exemption allows, in part, the replacing of fuses of RHR and RCIC systems that could be blown due to a fire in the cable spreading area. Procedures for replacing the fuses are contained in Licensee Procedure OP-3126.

Contrary to the above, as of November 9, 1995, the fire protection features provided for systems and components important to safe shutdown were not capable of remaining free of fire damage, in that several fuses could be blown due to fire in the cable spreading area. The licensee's Procedure OP-3126 identified replacing several fuses in addition to those in the RCIC and RHR systems for hot shutdown repairs in the event of a fire. For those additional fuses, the exemption was not authorized. Specifically, Appendix F of Procedure OP-3126, Revision 13, identifies additional fuses for replacement other than those permitted by the exemption. The additional fuses include the following: (1) air recirculation units (RRU-5 and RRU-7, in MCC-98); (2) diesel fuel oil transfer pump (P92-1A, in MCC-9C); and (3) MOV supplying service water to the turbine building, which must close to ensure service water is not diverted from the emergency diesel generators (SW-20, in MCC-9D); and the "A" diesel generator room exhaust fan (TEF-2, in MCC-9C). (02014)

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

Pursuant to the provisions of 10 CFR 2.201, Vermont Yankee Nuclear Power Corporation (Licensee) is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington D.C. 20555 with a copy to the Regional Administrator, Region I, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) The reason for the violation, or if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and 4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Notice of Violation

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Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

Dated at King of Prussia, PA
this 13th day of February 1996

Mr. Donald A. Reid

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