

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 (RKU-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.

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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