

PA-LR



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To: "Jessie Muir" <JMM7@nrc.gov>, <RLE@nrc.gov>
Date: 11/06/2006 1:25:13 PM
Subject: VYNPS SAMA RAI Clarification Letter

Jessie,

Attached is a letter to provide clarification for several SAMA issues that were discussed with the VY License Renewal Team and the NRC during a teleconference on 10/26/06. Please contact me if you have any additional questions.

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November 6, 2006

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ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

- Reference:
1. Letter, Entergy to USNRC, "Vermont Yankee Nuclear Power Station, License No. DPR-28, License Renewal Application," BVY 06-009, dated January 25, 2006.
 2. Letter, Entergy to USNRC, "Vermont Yankee Nuclear Power Station, License No. DPR-28, License Renewal Application, Amendment 7," BVY 06-071, dated August 01, 2006.
 3. Letter, Entergy to USNRC, "Vermont Yankee Nuclear Power Station, License No. DPR-28, License Renewal Application, Amendment 18, Response to Request for Clarification of SAMA RAI Responses," BVY 06-095, dated October 20, 2006.

**Subject: Vermont Yankee Nuclear Power Station
License No. DPR-28 (Docket No. 50-271)
License Renewal Application, Amendment 21
Response to Request for Clarification of SAMA RAIs**

On January 25, 2006, Entergy Nuclear Operations, Inc. and Entergy Nuclear Vermont Yankee, LLC (Entergy) submitted the License Renewal Application (LRA) for the Vermont Yankee Nuclear Power Station (VYNPS) as indicated by Reference 1. On October 26, 2006, a teleconference was conducted with Entergy License Renewal Team representatives and the Nuclear Regulatory Commission (NRC) Environmental Auditors. The NRC requested clarification for several of the responses provided in Reference 2 and 3. These issues are addressed Attachment 1 to this letter.

This submittal does not contain new regulatory commitments.

Should you have any questions, please contact Mr. Dave Mannai at (802) 451-3304. I declare under penalty of perjury that the foregoing is true and correct, executed on November 6, 2006.

Sincerely,

A handwritten signature in black ink, appearing to read "Ted A. Sullivan", followed by a horizontal line.

Ted A. Sullivan
Site Vice President
Vermont Yankee Nuclear Power Station

Attachment 1
cc: See next page

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Attachment 1

Vermont Yankee Nuclear Power Station

License Renewal Application

Amendment 21

**VERMONT YANKEE NUCLEAR POWER STATION
LICENSE RENEWAL APPLICATION
ATTACHMENT 1**

10/26/2006 Teleconference Clarification Items

A teleconference was held on 10/26/06 with the NRC and VYNPS License Renewal Team. During this call, the NRC requested additional information pertaining to fire and flood risk contributors to ensure that VYNPS evaluated each of the contributors for scenario-specific remedies, and did not find any that were cost effective (with exceptions as stated below).

RAI 5.e Clarification

The clarification of response to the request for additional information (RAI) RAI 5.e in Amendment 18 indicated that there are now only 9 risk significant terms involving internal flooding initiators. As indicated in revised Environmental Report (ER) Table E.1-3, two of the flood scenarios are addressed by Phase II Severe Accident Mitigation Alternatives (SAMA) SAMA 47, "Shield injection system electrical equipment from potential water spray."

Flood-specific improvements identified by the Individual Plant Examination for External Events (IPEEE) have already been implemented to address specific flood scenarios. The flood scenarios were systematically reviewed as part of the 2002 Probabilistic Safety Assessment (PSA) model update (in which the internal flood events model was updated) to determine if additional improvements could be identified to reduce the internal flood Core Damage Frequency (CDF) contribution. With the exception of the improvement which has been included as Phase II SAMA 47, no additional cost-beneficial alternatives were identified.

RAI 5.g Clarification

There are eight (8) dominant fire initiated events. All of the associated fire compartments are equipped with fire detection, and all except two (2) of the fire compartments are protected by an automatic fire suppression system. The exceptions are the control room (control bldg 272' elev.) and the Control Rod Drive (CRD) repair room (reactor bldg 252'-south elev.).

The control room is continuously occupied. An auto-suppression system would need to be acceptable with regard to health risks associated with continued occupation of the space. Some thought was given to use of a fixed auto-suppression system for the control room utilizing FM-200 (a replacement for the ozone depleting Halon) for the suppression agent. However, the current fire detection system may or may not be usable for actuation. In addition, some amount of sealing of the cabinets would be required. Also, migration of the suppression agent within the panel enclosure would need to be considered. For example, on the main bench-board, there may be undesirable consequences associated with filling the entire enclosure with suppression agent because non-fire affected electrical contacts and circuits could be damaged. For these reasons an auto-suppression system for this space was judged to be inappropriate. Rerouting of cables or relocation of equipment out of the control room is not practical due the need for a centralized control location.

**VERMONT YANKEE NUCLEAR POWER STATION
LICENSE RENEWAL APPLICATION
ATTACHMENT 1**

The CRD repair room is located on the south side of reactor building, on the 252' elevation. A water suppression system would not be practical since the main steam tunnel communicates with this room through an open door. A High Energy Line Break (HELB) which occurred in this room would likely cause the water suppression system to discharge, resulting in a flooding hazard. Likewise a CO2 suppression system would require sealing of the room, which would have undesirable consequences in that this path is credited for pressure relief for a HELB within the main steam tunnel. For these reasons an auto-suppression system for this space was judged to be inappropriate. Control cables for both emergency diesel generators and control cables for 2 of the 4 Safety Relief Valves (SRVs) are routed through this room. Since rerouting control cables would require extensive modifications, it was judged to be not cost beneficial.

Additional Clarification

As noted in revised ER Table E.1-3, Phase I SAMAs including improvements to plant procedures, and installation of instrumentation to enhance the likelihood of success of operator action in response to accident conditions, have already been implemented. No additional Phase II SAMAs were recommended for this subject because potential improvements would involve major, and very costly, design changes. To automate these functions, significant design changes would be necessary to upgrade the Structures, Systems and Components (SSCs) relied upon for alternate injection from non-safety-class to safety-class. The firewater system components and support system relied upon for alternate injection would need to be upgraded to comply with seismic safety-class standards. Similarly, the John Deere diesel generator electrical switchgear would need to be upgraded to comply with electric safety-class standards. For these reasons, automation of the alternate injection system was judged to be not cost beneficial.