

May 23, 2007

Mr. Michael R. Kansler
President
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: NRC RECEIPT OF VERMONT YANKEE NUCLEAR POWER STATION
RESPONSE TO GENERIC LETTER 2003-01 "CONTROL ROOM
HABITABILITY" (TAC NO. MB9868)

Dear Mr. Kansler:

The Nuclear Regulatory Commission (NRC) acknowledges the receipt of your responses to Generic Letter (GL) 2003-01 "Control Room Habitability" dated August 6, 2003 (Agencywide Documents and Access Management System (ADAMS) Accession No. ML032260036); September 14, 2004 (ADAMS Accession No. ML042610328); and June 21, 2005 (ADAMS Accession No. ML051750348). This letter provides a status of your response and describes any actions that may be required to consider your response to GL 2003-01 complete.

The GL requested that you confirm that your control rooms meet their design bases (e.g. General Design Criterion, (GDC) 1, 3, 4, 5, & 19, draft GDC, or principal design criteria), with special attention to: (1) determination of the most limiting unfiltered and/or filtered inleakage into the control room and comparison to values used in your design bases for meeting control room operator dose limits from accidents (GL 2003-01, Item 1a); (2) determination that the most limiting unfiltered inleakage is incorporated into your hazardous chemical assessments; (GL 2003-01, Item 1b) and, (3) determination that reactor control capability is maintained in the control room or at the alternate shutdown location in the event of smoke (GL 2003-01, Item 1b). The GL further requested information on any compensatory measures in use to demonstrate control room habitability, and plans to retire them (GL 2003-01, Item 2).

Entergy reported the results of American Society for Testing Materials (ASTM E741, Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution) tracer gas tests for the Vermont Yankee Nuclear Power Station (VY) control room that were conducted in 1982. You determined that the most limiting unfiltered in leakage into the Control Room Envelope (CRE), was 21.5 cfm, which was less than the value of 3700 cfm assumed in the design basis radiological analyses for Control Room Habitability (CRH).

In your June 21, 2005 letter, you provided the information that your Control Room (CR) Heating, Ventilation and Air Conditioning (HVAC) system is assumed to operate normally throughout the limiting radiological accident (loss-of-coolant accident, LOCA) with the assumed unfiltered in-leakage flowrate value of 3700 cfm. You referenced information provided with your Alternate Source Term (AST) license amendment request (LAR) which was issued on March 29, 2005 (ADAMS Accession No. ML041280490). In your letter dated December 30, 2003 (ADAMS Accession No. ML040070088) you indicated that your CR HVAC does not have High Efficiency Particulate Air (HEPA) filters, nor charcoal filters, and no credit is taken in your CR

accident dose analyses for reduction of airborne contamination that such equipment might provide. You stated that your AST dose analyses showed CR occupant dose to be acceptable with margin to the corresponding limits. You provided a discussion of the ventilation system design and operation. You indicated that the design fresh air intake is 3700 cfm but that only about 2700 cfm of that actually enters the CR volume (approximately 41,500 cubic feet). The accident modeling has the airborne radioactivity concentration peaking in the first few minutes then dropping rapidly to much lower levels. The approximate 15-minute turnover rate of CR air results in CR air volume airborne contamination levels following outside airborne contamination levels fairly closely. Your evaluation determined that any additional unfiltered in-leakage would not adversely affect the calculated CRE occupant radiation dose and thus tracer gas testing to verify a tight, very low unfiltered in-leakage rate, CR boundary was not warranted.

You provided information that your most recent (2004) hazardous chemical release evaluation update showed no on-site potential CR habitability challenge from permanent or normal on-site transient hazardous chemical inventory. You stated that your evaluation revealed no off-site hazardous chemical threats, as those involving shipping container accidents of large enough size being of too low a probability to meet the Regulatory Guide (RG) 1.78 Rev. 1 threshold for further evaluation. You also indicated that VY has emergency procedures that would be initiated in the event of a hazardous chemical release within or near the plant site. If CR habitability could be affected, CR personnel would place the CR HVAC system in emergency mode (recirculation, no fresh air makeup) and don self contained breathing apparatus (SCBA).

You provided information that fire byproducts (e.g., smoke or fire suppression agents) would not prevent safe shutdown of the plant from either the Control Room or the Alternate Shutdown System. You stated that if fire byproducts should enter the Control Room from outside, Operators would isolate the ventilation system (place in recirculation without fresh air makeup) and don SCBAs as required. If a fire should occur in the CR or the CR otherwise become uninhabitable due to fire byproducts, Operators would evacuate the CR and proceed to the local control panels and implement the procedure for shutdown using alternate shutdown methods.

The GL further requested that you assess your Technical Specifications (TS) to determine if they verify the integrity of the CRE, including ongoing verification of the inleakage assumed in the design basis analysis for control room habitability, and in light of the demonstrated inadequacy of a delta (Δ) P measurement to alone provide such verification (GL 2003-01, Item 1.c). In your June 21, 2005, response you indicated that you do not have a TS surveillance requirement associated with CR integrity. You did not mention any plans to change your TS per Technical Specification Task Force (TSTF) change traveler TSTF-448. You stated that your current CRH radiological and on-site and off-site chemical analysis do not take credit for CR isolation and that your radiological analysis assumes that all CR isolation dampers fail in the open position.

The information you provided also supported the fact that there are no compensatory measures needed to be in place to demonstrate CRH and that you are committed to meet the draft GDC and the GDC regarding CRH.

M. Kansler

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Based on the information discussed above, your response to GL 2003-01 is considered complete.

Sincerely,

/RA/

James Kim, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-271

cc: See next page

M. Kansler

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Based on the information discussed above, your response to GL 2003-01 is considered complete.

Sincerely,

/RA/

James Kim, Project Manager
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Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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