



Entergy Nuclear Operations, Inc.  
Vermont Yankee  
320 Governor Hunt Rd.  
Vernon, VT 05354  
Tel 802 257 7711

Michael J. Colomb  
Site Vice President

BVY 10-039

July 26, 2010

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

SUBJECT: Supplemental Special Report for Tritium Discovered Onsite  
Vermont Yankee Nuclear Power Station  
Docket No. 50-271  
License No. DPR-28

REFERENCE: 1. Vermont Yankee Nuclear Power Station Off-Site Dose Calculation Manual, Revision 32  
2. NEI 07-07, Industry Groundwater Protection Initiative – Final Guidance Document, dated August 2007  
3. Letter, VYNPS to NRC, "Special Report for Tritium Discovered Onsite," BVY 10-011, dated March 1, 2010

Dear Sir or Madam:

This supplemental special report is submitted to provide updated information to the letter submitted by the Vermont Yankee Nuclear Power Station on March 1, 2010.

On January 30, 2010, water samples contained confirmed tritium levels in excess of the Vermont Yankee Nuclear Power Station (VY) Offsite Dose Calculation Manual (ODCM) reporting threshold and the NEI 07-07 voluntary reporting threshold of 30,000 picocuries/liter (pCi/L) for tritium in groundwater. The table below shows the highest recorded sample data for wells containing tritium levels above minimum detectable levels as of June 24, 2010:

Well Number	Sample Date	Sample Results (in pCi/L)
GZ - 3	05/24/2010	169K pCi/L
GZ - 4	06/24/2010	29K pCi/L
GZ - 07	03/17/2010	1.22M pCi/L
GZ - 10	02/08/2010	2.52M pCi/L
GZ - 11	05/03/2010	3000 pCi/L
GZ - 12	05/03/2010	481K pCi/L
GZ - 13D	02/24/2010	2100 pCi/L
GZ - 14	06/24/2010	321K pCi/L
GZ - 14D	03/04/2010	2300 pCi/L
GZ - 15	04/26/2010	820K pCi/L
GZ - 20	03/10/2010	645K pCi/L
GZ - 21	04/09/2010	2.07M pCi/L

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The highest level of tritium measured was 2.52 million pCi/L.

It has been determined that there are no adverse affects on the health and safety of the public. VY calculations determined the dose is a fraction of a mrem annualized. The calculated annualized dose is small fraction of the 10 CFR 50 Appendix I dose limits. This calculation is on file for NRC review.

The causes of this event were inadequate housekeeping standards and practices that were applied during the construction of the advance off gas (AOG) pipe tunnel in 1972; inadequate design installation standards and practices during system modifications in 1978; and ineffective monitoring and inspection of the AOG pipe tunnel drain. Immediate corrective actions included termination of the leak, clearing the obstruction in the AOG pipe tunnel drain, removal of accessible debris from the tunnel and rerouting of drain lines. Planned corrective actions include redesign of the AOG pipe tunnel to ensure it is water tight, installation of AOG sump run-time monitors for enhanced leak detection, verification that other sump pumps have run timers and the establishment of surveillance activities for the AOG pipe tunnel.


Remediation of the tritium in the soil and groundwater is being funded as an operating expense and based on this will not significantly impact VY's decommissioning costs.

VY periodically communicates investigation results, sample activity results and actions taken to resolve the cause of the leak with key stake-holders.

This letter contains no new regulatory commitments.

Should you have any questions concerning this letter, please contact Mr. Robert J. Wanczyk at (802) 451-3166.

Sincerely,

A handwritten signature in black ink, appearing to be 'R. Wanczyk', written in a cursive style.

[MJC/RAM]

cc list (next page)

cc: Regional Administrator  
U.S. Nuclear Regulatory Commission, Region 1  
475 Allendale Road  
King of Prussia, PA 19406-1415

Mr. Jack Strosnider, Director  
U.S. Nuclear Regulatory Commission  
Office T8A23  
Washington, DC 20555-00001

Mr. James S. Kim, Project Manager  
U.S. Nuclear Regulatory Commission  
Mail Stop O 8 C2A  
Washington, DC 20555

USNRC Resident Inspector  
Entergy Nuclear Vermont Yankee, LLC  
320 Governor Hunt Rd  
Vernon, Vermont 05354

Mr. David O'Brien, Commissioner  
VT Department of Public Service  
112 State Street – Drawer 20  
Montpelier, Vermont 05620-2601

Vermont Department of Health  
108 Cherry Street  
Burlington, VT 05402

NH DHHS Division of Public Health Services  
Radiological Health  
29 Hazen Drive  
Concord, NH 03301-4604

Mr. Robert Walker, Director  
Massachusetts Department of Public Health  
Radiation Control Program  
529 Main Street  
Charlestown, MA 02129