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Michael J. Colomb  
Site Vice President

BVY 10-011

March 1, 2010

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

SUBJECT: 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

Dear Sir or Madam:

This special report is submitted in accordance with References (1) and (2).

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 0800 hours on February 19, 2010:

Well Number	Sample Date	Sample Results (in pCi/l)
GZ3	02/08/2010	39,358
GZ4	02/06/2010	3,204
GZ7	02/19/2010	1,001,000
GZ10	02/08/2010	2,518,888
GZ12	02/09/2010	22,636
GZ14	02/18/2010	119,206
GZ15	02/18/2010	355,155

The highest level of tritium measured was 2,518,888 pCi/l. No other radionuclides have been identified in the well samples.

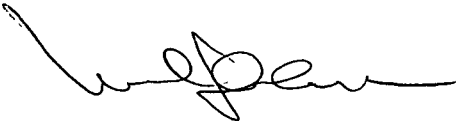
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It has been determined that there are no adverse affects on the health and safety of the public. VY calculations determined the dose is less than a fraction of a mrem annualized. The calculated annualized dose is small fraction of the 10 CFR 50 Appendix I dose limits. This calculation is on file for NRC review. A cross-disciplinary team of experts are working to identify the cause/source of the tritium and to effect repairs. Sampling of the other groundwater monitoring wells has been accelerated and the installation of additional groundwater wells to identify the source and improve monitoring capabilities is in progress.

VY communicates investigation results, sample activity results, and actions taken to resolve the cause of the leak with key stake-holders. VY will supplement this letter upon identification and repair of the source of the leak.

This letter contains no new regulatory commitments.

Should you have any questions concerning this letter, please contact me at (802) 451-3102.

A handwritten signature in black ink, appearing to be 'MJC/RAM', written in a cursive style.

Sincerely,  
[MJC/RAM]

cc list (next page)

cc: Mr. Samuel J. Collins, Regional Administrator  
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