



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

John W. Boyle  
Director, Nuclear Decommissioning

10 CFR 2.201

BVY 17-024

July 25, 2017

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

SUBJECT: Reply to a Notice of Violation; EA-17-059  
Vermont Yankee Nuclear Power Station  
Docket No. 50-271  
License No. DPR-28

REFERENCE: 1. Letter, USNRC to Entergy Nuclear Operations, Inc., "Vermont Yankee –  
NRC Investigation Report No. 1-2016-012; and Notice of Violation,"  
NVY 17-013, dated June 26, 2017 (ML17174B221)

Dear Sir or Madam:

Pursuant to the provisions of 10 CFR 2.201, Entergy Nuclear Operations, Inc. (ENO) hereby submits a written reply to Notice of Violation EA-17-059 enclosed in NRC Investigation Report No. 1-2016-012 dated June 26, 2017 (Reference 1). The reply is provided in the Enclosure to this letter.

This letter contains no new regulatory commitments.

Should you have any questions concerning this submittal, please contact Mr. Coley C. Chappell at 802-451-3374.

Sincerely,

A handwritten signature in black ink, appearing to read "Boyle", written over the word "Sincerely,".

JWB/cc

Enclosure: Reply to Notice of Violation EA-17-059

IED1  
RGN-I

cc: Mr. Daniel H. Dorman  
Regional Administrator, Region 1  
U.S. Nuclear Regulatory Commission  
2100 Renaissance Blvd, Suite 100  
King of Prussia, PA 19406-2713

Mr. Jack D. Parrott, Sr. Project Manager  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Mail Stop T-8F5  
Washington, DC 20555

Ms. June Tierney, Commissioner  
Vermont Department of Public Service  
112 State Street – Drawer 20  
Montpelier, Vermont 05602-2601

Enclosure

Vermont Yankee Nuclear Power Station

Reply to Notice of Violation EA-17-059

### **Description of the Violation**

During an NRC investigation conducted between April 26, 2016, and March 31, 2017, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 20.1101(a) requires that each licensee develop, document, and implement a radiation protection program commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the provisions of Part 20.

EN-RP-301, Rev 7, "Radiation Protection Instrument Control," describes the Entergy Nuclear program to ensure that radiation and radioactivity measurement instruments are properly maintained and calibrated and response checked at appropriate frequencies. Step 5.4 [8] requires the performance of response checks within the frequency specified by Attachment 9.2. Attachment 9.2 requires a minimum response check frequency of "Daily" for personnel monitoring equipment.

Contrary to the above, on multiple occasions between January 19 and September 20, 2016, Vermont Yankee did not implement a documented radiation protection program requirement to ensure the performance of daily response checks for personnel monitoring equipment. Specifically, a Senior Radiation Protection Technician who was assigned to perform the daily response checks while working night shift, did not perform this activity.

This is a Severity Level IV violation (Enforcement Policy Section 6.7).

### **Reply**

#### **1. Reason for the violation**

At Vermont Yankee Nuclear Power Station (VY), Radiation Protection (RP) Technicians are required to document the performance of daily response/alarm checks of each in-service personnel contamination monitor (PCM) using Attachment 8, "Radiation Protection Weekly Check Off Log Sheet" to site procedure RPRP-USER-0527, "Radiation Protection Department Site Specific Expectations and Requirements." Attachment 8 is typically used to track surveillance items performed by RP Technicians on a weekly or more frequent basis. Shift RP Technicians are required to document tasks performed by initialing as complete on Attachment 8, and to review the previous shift tasks and complete any tasks remaining. Completed Attachment 8 forms are reviewed by an RP Supervisor. The shift RP Technicians are also required to make log entries identifying that the daily PCM checks were satisfactorily completed. These documentation and review requirements are used to ensure shift RP Technicians perform the assigned daily PCM checks.

On or about November 2, 2016, a request was received from the NRC Investigator to provide the response/alarm check information recorded by APTEC APM-3e PCMs. In response, data files were downloaded from each of the APTEC APM-3e PCM on-board

computers. The data contained in the files revealed an apparent pattern of daily response checks not being recorded during certain shifts in the period from January 19 to September 20, 2016. The pattern correlated with the night shift rotation assigned to an individual RP Technician. For each of the response checks shown by the PCM data as not having been performed, this individual RP Technician had initialed the RPRP-USER-0527 Attachment 8 form, and made a log entry which identified that the source check was satisfactorily completed. Entergy investigated the discrepancies and concluded that they resulted from a performance deficiency on the part of the individual RP Technician, specifically, the willful decision not to satisfy the assigned responsibility to perform daily PCM response checks. Entergy determined that the individual RP Technician understood the responsibility, and acted in violation of this responsibility without direction or authorization from supervision.

As stated in NRC Investigation Report No. 1-2016-012, although the RP Technician denied failing to conduct the source checks and falsifying the related records, the NRC determined that the evidence showed otherwise. As noted, Entergy made the same determination based on its review of the data and records.

The APTEC APM-3e PCM computer is older, DOS-based technology and requires data to be transferred using 3.5-inch storage disks in order to be reviewed. This is a cumbersome process, and therefore was not previously utilized to verify daily PCM checks.

## **2. Corrective steps that have been taken and the results achieved**

On November 8, 2016, after review of the APTEC APM-3e PCM data files which revealed a pattern in which the PCMs did not record performance of the daily checks during shifts assigned to an individual RP Technician, VY site management removed the individual's site access pending further investigation. Based on the results of its investigation, Entergy took personal accountability actions against the individual RP Technician in accordance with procedure V-EN-HR-135, "Disciplinary Action," and terminated the individual's employment in December 2016.

The APTEC APM-3e PCM data indicated a pattern of daily response/alarm checks not being performed during certain shifts between January 19 and September 20, 2016. Near the end of this period, the NRC conducted interviews with VY RP Technicians, which included the subject of daily checks of these PCMs. After September 20, 2016, the APTEC APM-3e PCM data records indicate that daily checks were performed for all required shifts during the remainder of 2016.

The issue of daily PCM response/alarm checks not being performed was entered into the VY Corrective Action Program as Condition Report CR-VTY-2017-00015. As documented in CR-VTY-2017-00015, the APTEC APM-3e PCMs are utilized at VY to identify potential contamination on personnel prior to exiting the Radiologically Controlled Area (RCA) at the RP checkpoint to prevent the inadvertent release of radioactive material from the RCA. Daily response/alarm checks ensure that the PCMs will alarm for all detectors when exposed to a radioactive source. The APTEC APM-3e PCMs have an on-board computer that evaluates the operating parameters and will automatically remove the PCM from

service if it is not capable of achieving the alarm setpoint. For all of the periods when the PCMs were not response checked, a review of the response/alarm check data showed that the PCMs successfully alarmed the day before and the day after. Entergy assessed this information and determined that it provides reasonable assurance that the PCMs continued to function adequately to detect potential contamination on personnel exiting from the RCA throughout these periods.

An extent of condition review at VY was performed to determine if other unexplained gaps in performance of PCM response checks existed, and if other required activities were not being performed by the individual RP Technician indicated by the PCM daily source check discrepancies. The review included daily response/alarm checks performed by VY RP Technicians for the APTEC APM-3e PCMs, PM-12 PCMs in service at the RP Checkpoint and Gatehouse 2, and handheld RP instrumentation, and also RP surveys previously performed by the individual RP Technician. Instrument response data, RP survey information, RCA transaction log entries, access card reader data, individual dose records, and other documentation such as source control forms were used to verify activities were performed as documented. The review determined that the individual RP Technician had not performed the APTEC APM-3e PCM daily response checks, based on the data obtained from the PCMs corresponding to the assigned shift rotation during the period described in the violation. The review identified two instances, on September 27, 2016 and October 30, 2016, when a chemistry lab drain line survey was documented as complete by the same individual RP Technician, whereas access card reader data for the area required to be entered to perform this survey indicated the area was not accessed during these times. No significant discrepancies for daily PCM response checks performed by other RP Technicians were identified. Minor discrepancies were resolved and documented in CR-VTY-2017-00015. On this basis, the review concluded that the failure to conduct the daily PCM checks was a personal accountability issue involving the individual RP Technician. The extent of condition review at VY was completed on March 15, 2017.

VY RP personnel performed periodic reviews of PCM data to verify daily checks are being performed as documented on the RPRP-USER-0527 Attachment 8 Check Off sheets and shift RP Technician log entries. The reviews covered the period from January 1, 2017 through June 25, 2017, and identified no instances of daily PCM checks not being performed. These reviews were completed on June 27, 2017.

Actions were assigned to RP departments at other Entergy sites to review for similar conditions related to the response/alarm checking of PCMs. Minor discrepancies were identified and entered into the respective corrective action program, and no integrity issues were identified.

### **3. Corrective steps that will be taken**

No additional corrective actions are required.

**4. Date when full compliance will be achieved**

Based on the results of the actions completed, full compliance was achieved when the former RP Technician's site access was removed on November 8, 2016. This was confirmed by the extent of condition review at VY completed on March 15, 2017, and additional reviews of PCM data records of daily response/alarm checks which were completed on June 27, 2017.