



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

May 27, 2015

Vice President, Operations  
Entergy Nuclear Operations, Inc.  
Vermont Yankee Nuclear Power Station  
P.O. Box 250  
Governor Hunt Road  
Vernon, VT 05354

SUBJECT: VERMONT YANKEE NUCLEAR POWER STATION – NRC RESPONSE TO  
ENTERGY’S FINAL RESPONSE TO THE MARCH 12, 2012, REQUEST FOR  
INFORMATION LETTER REGARDING NEAR-TERM TASK FORCE  
RECOMMENDATIONS 2.1, 2.3, AND 9.3

Dear Sir or Madam:

By letter dated March 12, 2012,<sup>1</sup> the U.S. Nuclear Regulatory Commission (NRC) issued a request for information pursuant to Title 10 to the *Code of Federal Regulations* (10 CFR), Subpart 50.54(f) (hereafter referred to as the 50.54(f) letter), to all nuclear power reactor licensees and construction permit holders in response to lessons-learned from Japan’s March 2011, earthquake and subsequent tsunami. Enclosures 1 through 4 to the 50.54(f) letter include information requests regarding Near-Term Task Force (NTTF) Recommendations 2.1 and 2.3 for seismic and flooding hazard actions, and Enclosure 5 includes NTTF Recommendation 9.3 for emergency preparedness, as part of the response to the “*Near-Term Task Force Recommendations for Enhancing Reactor Safety in the 21st Century*” report, issued July 12, 2011.<sup>2</sup> The 50.54(f) letter requests licensees to perform seismic and flooding walkdowns and hazard re-evaluations, and perform emergency preparedness communication and staffing evaluations for prolonged loss of power events.

By letter dated September 23, 2013<sup>3</sup>, Entergy Nuclear Operations, Inc. (Entergy, the licensee) submitted a letter certifying permanent cessation of power operations of Vermont Yankee Nuclear Power Station (VY), per 10 CFR Subpart 50.82(a)(1)(i). By letter dated January 12, 2015,<sup>4</sup> Entergy submitted a letter certifying that the fuel has been permanently removed from the VY reactor vessel and placed in the spent fuel pool, per 10 CFR Subpart 50.82(a)(1)(ii). Entergy acknowledged in its letter that, once these certifications are docketed, the VY license will no longer authorize operation of the reactor, or placement or retention of fuel in the reactor vessel.

By letter dated March 12, 2015<sup>5</sup>, Entergy submitted its final response to the 50.54(f) letter regarding NTTF Recommendations 2.1, 2.3, and 9.3. In this letter, Entergy reaffirmed that the VY is no longer an operating plant, but is a permanently shut down and defueled reactor.

<sup>1</sup> The 10 CFR 50.54(f) letter is available via the Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340.

<sup>2</sup> The NTTF report is available under ADAMS Accession No. ML111861807.

<sup>3</sup> The September 23, 2013, letter is available under ADAMS Accession No. ML13273A204.

<sup>4</sup> The January 12, 2015, letter is available under ADAMS Accession No. ML15013A426.

<sup>5</sup> The March 12, 2015, letter is available under ADAMS Accession No. ML15082A036.

Therefore, the licensee considers the requests of the 50.54(f) letter to no longer be applicable to VY, and no longer plans on proceeding with any further implementation of the requests in the 50.54(f) letter or any alternative approach for NTTF Recommendations 2.1, 2.3 and 9.3.

The NRC staff verified that the VY certifications are docketed and that the license is no longer authorized for operation of the reactor or placement or retention of fuel in the reactor vessel. Further, the NRC staff has reviewed the licensee's responses to the information requests described in Enclosures 1 through 5 of the 50.54(f) letter and have determined that the requests are no longer necessary for VY.

No further responses or actions associated with the 50.54(f) letter are necessary for VY since the licensee is no longer authorized to load fuel into the vessel and potential fuel-related accident scenarios are limited to the spent fuel pool. Unlike the reactor, the safety of fuel located in the spent fuel pool is assured for an extended period through maintenance of pool structural integrity, which preserves coolant inventory and maintains margin to prevent criticality. Small changes in the flooding hazard elevation would not threaten the structural integrity of a flooded pool. Further, previous evaluations of spent fuel pool structures, including a plant specific analysis of the VY spent fuel pool structure, have determined that seismic margins are substantial large. As seismic and flooding studies continue for the remainder of the operating fleet, new information concerning the adequacy of design bases of spent fuel pools will be evaluated for applicability to decommissioned sites using existing NRC processes.

Based on the discussion above, the safety of the fuel stored in spent fuel pools would not be substantially affected by potential changes in the flooding or seismic hazard levels. Furthermore, for beyond-design-basis external events challenging the safety of the spent fuel, recovery and mitigation actions could be completed over a long period of time due to the slow progression of any accident as a result of the very low decay heat levels present in the pool within a few months following permanent shutdown of the reactor. Thus, spent fuel pool beyond-design-basis accident scenarios at decommissioning reactor sites do not require the enhanced communication and staffing that may be necessary for the reactor-centered events the 50.54(f) letter addresses.

If you have any questions regarding this letter, please contact Mr. Frankie Vega at 301-415-1617 or [Frankie.Vega@nrc.gov](mailto:Frankie.Vega@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to be 'J. Davis', written over a horizontal line. The signature is stylized and somewhat illegible.

FOR

Jack R. Davis, Director  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation

Docket No. 50-271

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Therefore, the licensee considers the requests of the 50.54(f) letter to no longer be applicable to VY, and no longer plans on proceeding with any further implementation of the requests in the 50.54(f) letter or any alternative approach for NTTF Recommendations 2.1, 2.3 and 9.3.

The NRC staff verified that the VY certifications are docketed and that the license is no longer authorized for operation of the reactor or placement or retention of fuel in the reactor vessel. Further, the NRC staff has reviewed the licensee's responses to the information requests described in Enclosures 1 through 5 of the 50.54(f) letter and have determined that the requests are no longer necessary for VY.

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Based on the discussion above, the safety of the fuel stored in spent fuel pools would not be substantially affected by potential changes in the flooding or seismic hazard levels. Furthermore, for beyond-design-basis external events challenging the safety of the spent fuel, recovery and mitigation actions could be completed over a long period of time due to the slow progression of any accident as a result of the very low decay heat levels present in the pool within a few months following permanent shutdown of the reactor. Thus, spent fuel pool beyond-design-basis accident scenarios at decommissioning reactor sites do not require the enhanced communication and staffing that may be necessary for the reactor-centered events the 50.54(f) letter addresses.

If you have any questions regarding this letter, please contact Mr. Frankie Vega at 301-415-1617 or [Frankie.Vega@nrc.gov](mailto:Frankie.Vega@nrc.gov).

Sincerely,  
**/RA by Jeremy Bowen for/**  
Jack R. Davis, Director  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation

Docket No. 50-271  
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