



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

April 24, 2015

Site Vice President  
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 – DRAFT  
ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT  
IMPACT RELATED TO REQUEST FOR EXEMPTIONS FROM CERTAIN  
EMERGENCY PLANNING REQUIREMENTS (TAC NO. MF3614)

Dear Sir or Madam:

Enclosed is a copy of the Draft Environmental Assessment and Finding of No Significant Impact related to your application dated March 14, 2014, as supplemented by letters dated August 29, 2014, and October 21, 2014, regarding your request for exemptions from certain emergency planning requirements.

The proposed action would exempt Entergy Nuclear Operations, Inc., from certain requirements set forth in Title 10 of the *Code of Federal Regulations* section 50.47, "Emergency plans," and Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," based on the permanently shutdown and defueled status of the Vermont Yankee Nuclear Power Station.

The Draft Environmental Assessment and Finding of No Significant Impact is being forwarded to the Office of the Federal Register for publication for a 30-day public comment period.

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If you have any questions, please contact me at 301-415-4125, or by e-mail at [James.Kim@nrc.gov](mailto:James.Kim@nrc.gov).

Sincerely,

A handwritten signature in black ink that reads "James Kim". The signature is written in a cursive style with a long horizontal stroke at the end.

James Kim, Project Manager  
Plant Licensing IV-2 and Decommissioning  
Transition Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-271

Enclosure:  
Draft Environmental Assessment

cc w/enclosure: Distribution via Listserv

**ENCLOSURE**

DRAFT ENVIRONMENTAL ASSESSMENT AND FINDING OF NO  
SIGNIFICANT IMPACT

ENTERGY NUCLEAR OPERATIONS, INC.

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. 50-271

**NUCLEAR REGULATORY COMMISSION**

**[Docket No. 50-271; <NRC-20YY-XXXX>]**

**Entergy Nuclear Operations, Inc.**

**Vermont Yankee Nuclear Power Station**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Draft environmental assessment and finding of no significant impact; request for comment.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of exemptions in response to a request from Entergy Nuclear Operations, Inc. (Entergy or the licensee) that would permit the licensee to reduce its emergency planning (EP) activities at the Vermont Yankee Nuclear Power Station (VY). The licensee is seeking exemptions that would eliminate the requirements for the licensee to maintain offsite radiological emergency plans and reduce some of the onsite EP activities based on the reduced risks at VY, which is permanently shutdown and defueled. However, requirements for certain onsite capabilities to communicate and coordinate with offsite response authorities would be retained. In addition, offsite EP provisions would still exist through State and local government use of a comprehensive emergency management plan process in accordance with the Federal Emergency Management Agency's (FEMA's) Comprehensive Preparedness Guide (CPG) 101, "Developing and Maintaining Emergency Operations Plans." The NRC staff is issuing, for public comment, this draft environmental assessment (EA) and finding of no significant impact (FONSI) associated with the proposed exemptions.

**DATES:** Submit comments by **[INSERT DATE 30 DAYS FROM DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received before this date.

**ADDRESSES:** You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-20YY-XXXX. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **Mail comments to:** Cindy Bladey, Office of Administration, Mail Stop: OWFN-12-H08, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

For additional direction on obtaining information and submitting comments, see "Obtaining Information and Submitting Comments" in the SUPPLEMENTARY INFORMATION section of this document.

**FOR FURTHER INFORMATION CONTACT:** James Kim, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-4125; e-mail: [James.Kim@nrc.gov](mailto:James.Kim@nrc.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. Obtaining Information and Submitting Comments.**

#### **A. Obtaining Information.**

Please refer to Docket ID <NRC-20YY-XXXX> when contacting the NRC about the availability of information regarding this this draft EA and FONSI. You may obtain publicly-available information related to this this draft EA and FONSI using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID <NRC-20YY-XXXX>.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**

You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). For the convenience of the reader, the ADAMS accession numbers are provided in a table in the "Availability of Documents" section of this document.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

#### **B. Submitting Comments.**

Please include Docket ID <NRC-20YY-XXXX> in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at <http://www.regulations.gov> as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

## **II. Introduction.**

VY is a permanently shutdown and defueled nuclear power plant that is in the process of decommissioning. VY is located in Windham County, Vermont, 5 miles south of Brattleboro, Vermont. Entergy is the holder of the Renewed Facility Operating License No. DPR-28 for VY. VY has been shut down since December 29, 2014, and the final removal of fuel from the VY reactor vessel was completed on January 12, 2015. By letter dated January 12, 2015, Entergy submitted to the NRC a certification of the permanent cessation of power operations at VY and the permanent removal of fuel from the VY reactor vessel. As a permanently shutdown and defueled facility, and pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) section 50.82(a)(2), VY is no longer authorized to be operated or to have fuel placed into its reactor vessel, but the licensee is still authorized to possess and store irradiated nuclear fuel.

Irradiated nuclear fuel is currently stored onsite at VY in a spent fuel pool (SFP) and in an independent spent fuel storage installation (ISFSI).

The licensee has requested exemptions for VY from certain EP requirements in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities." The NRC regulations concerning EP do not recognize the reduced risks after a reactor is permanently shut down and defueled. As such, a permanently shutdown and defueled reactor, such as VY, must continue to maintain the same EP requirements as an operating power reactor under the existing regulatory requirements. To establish a level of EP commensurate with the reduced risks of a permanently shutdown and defueled reactor, Entergy requires exemptions from certain EP regulatory requirements before it can change its emergency plans.

The NRC is considering issuing to Entergy exemptions from portions of 10 CFR 50.47, "Emergency plans," and 10 CFR part 50, appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," which would eliminate the requirements for Entergy to maintain offsite radiological emergency plans and reduce some of the onsite EP activities based on the reduced risks at VY, due to its permanently shutdown and defueled status. Based on the decision of the United States Court of Appeals for the Second Circuit in *Brodsky v. NRC* associated with a fire protection exemption for Indian Point Nuclear Generating Unit No. 3, and demonstrated public interest in this exemption request, particularly the State of Vermont, the NRC is issuing for public comment, pursuant to 10 CFR 51.33, this draft EA and FONSI associated with the exemption request. The NRC has concluded that the proposed action will have no significant environmental impact.



### III. Draft Environmental Assessment.

#### *Description of the Proposed Action*

The proposed action would exempt Entergy from meeting certain requirements set forth in 10 CFR 50.47 and appendix E to 10 CFR part 50. More specifically, Entergy requested exemptions from: (1) certain requirements in 10 CFR 50.47(b) regarding onsite and offsite emergency response plans for nuclear power reactors; (2) certain requirements in 10 CFR 50.47(c)(2) to establish plume exposure and ingestion pathway EP zones for nuclear power reactors; and (3) certain requirements in 10 CFR part 50, appendix E, section IV, which establishes the elements that make up the content of emergency plans. The proposed action of granting these exemptions would eliminate the requirements for Entergy to maintain offsite radiological emergency plans and reduce some of the onsite EP activities at VY, based on the reduced risks at the permanently shutdown and defueled reactor. However, requirements for certain onsite capabilities to communicate and coordinate with offsite response authorities would be retained. Additionally, if necessary, offsite protective actions could still be implemented using a comprehensive emergency management plan (CEMP) process. A CEMP in this context, also referred to as an emergency operations plan (EOP), is addressed in Federal Emergency Management Agency's (FEMA's) Comprehensive Preparedness Guide (CPG) 101. The CPG 101 is the foundation for State, territorial, tribal, and local EP in the United States. It promotes a common understanding of the fundamentals of risk-informed planning and decision making, and helps planners at all levels of government in their efforts to develop and maintain viable, all-hazards, all-threats emergency plans. An EOP is flexible enough for use in all emergencies. It describes how people and property will be protected; details who is responsible for carrying out specific actions; identifies the personnel, equipment, facilities, supplies, and

other resources available; and outlines how all actions will be coordinated. A CEMP is often referred to as a synonym for “all-hazards” planning.

The proposed action is in accordance with the licensee’s application dated March 14, 2014, as supplemented by letters dated August 29, 2014, and October 21, 2014. In its letters dated August 29, 2014, and October 21, 2014, Entergy provided responses to the NRC staff’s requests for additional information concerning the proposed exemptions.

#### *Need for the Proposed Action*

The proposed action is needed for Entergy to revise the VY emergency plan to reflect the permanently shutdown and defueled status of the facility. The EP requirements currently applicable to VY are for an operating power reactor. There are no explicit regulatory provisions distinguishing EP requirements for a power reactor that has been permanently shut down from those for an operating power reactor. Therefore, since the 10 CFR Part 50 license for VY no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2), the occurrence of postulated accidents associated with reactor operation is no longer credible.

In its exemption request, the licensee identified four possible radiological accidents at VY in its permanently shutdown and defueled condition. These are: (1) a fuel-handling accident; (2) a radioactive waste-handling accident; (3) a loss of SFP normal cooling (i.e., boil off); and (4) an adiabatic heat up of the hottest fuel assembly. The NRC staff evaluated these possible radiological accidents in the Commission Paper (SECY) 14-0125, “Request by Entergy Nuclear Operations, Inc., for Exemptions from Certain Emergency Planning Requirements,” dated November 14, 2014. In SECY-14-0125, the NRC staff verified that Entergy’s analyses and calculations provided reasonable assurance that if the requested

exemptions were granted, then: (1) for a design-basis accident (DBA), an offsite radiological release will not exceed the Environmental Protection Agency's (EPA) Protective Action Guides (PAGs) at the site boundary, as detailed in the EPA "PAG Manual, Protective Action Guides and Planning Guidance for Radiological Incidents," dated March 2013, which was issued as Draft for Interim Use and Public Comment; and (2) in the unlikely event of a beyond DBA resulting in a loss of all SFP cooling, there is sufficient time to initiate appropriate mitigating actions, and if a release is projected to occur, there is sufficient time for offsite agencies to take protective actions using a CEMP to protect the health and safety of the public. The Commission approved the NRC staff's recommendation to grant the exemptions based on this evaluation in its Staff Requirements Memorandum to SECY-14-0125, dated March 2, 2015.

Based on these analyses, the licensee states that complete application of the EP rule to VY, in its particular circumstances as a permanently shutdown and defueled reactor would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. Entergy also states that it would incur undue costs in the application of operating plant EP requirements for the maintenance of an emergency response organization in excess of that actually needed to respond to the diminished scope of credible accidents for a permanently shutdown and defueled reactor.

#### *Environmental Impacts of the Proposed Action*

The NRC staff concluded that the exemptions, if granted, would not significantly increase the probability or consequences of accidents at VY in its permanently shutdown and defueled condition. There would be no significant change in the types of any effluents that may be released offsite. There would be no significant increase in the amounts of any effluents that

may be released offsite. There would be no significant increase in individual or cumulative occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential non-radiological impacts, the proposed action does not have any foreseeable impacts to land, air, or water resources, including impacts to biota. In addition, there are also no known socioeconomic or environmental justice impacts associated with the proposed action. Therefore, there are no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

#### *Environmental Impacts of the Alternatives to the Proposed Action*

As an alternative to the proposed action, the NRC staff considered the denial of the proposed action (i.e., the “no-action” alternative). The denial of the application would result in no change in current environmental impacts. Therefore, the environmental impacts of the proposed action and the alternative action are similar.

#### *Alternative Use of Resources*

The proposed action does not involve the use of any different resources than those previously considered in the Final Environmental Statement for VY, dated July 1972, as supplemented by NUREG-1437, Supplement 30, “Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Regarding Vermont Yankee Nuclear Power Station,” Volumes 1 and 2, published in August 2007.

#### *Agencies or Persons Consulted*

The NRC staff did not enter into consultation with any other Federal agency or with the State of Vermont regarding the environmental impact of the proposed action. On April 24, 2015, the Vermont State representative was notified of this draft EA and FONSI.

#### **IV. Finding of No Significant Impact.**

The licensee has proposed exemptions from: (1) certain requirements in 10 CFR 50.47(b) regarding onsite and offsite emergency response plans for nuclear power reactors; (2) certain requirements in 10 CFR 50.47(c)(2) to establish plume exposure and ingestion pathway EP zones for nuclear power reactors; and (3) certain requirements in 10 CFR part 50, appendix E, section IV, which establishes the elements that make up the content of emergency plans. The proposed action of granting these exemptions would eliminate the requirements for the licensee to maintain offsite radiological emergency plans and reduce some of the onsite EP activities at VY, based on the reduced risks at the permanently shutdown and defueled reactor. However, requirements for certain onsite capabilities to communicate and coordinate with offsite response authorities will be retained and offsite EP provisions will still exist through State and local government use of a CEMP.

Consistent with 10 CFR 51.21, the NRC conducted the EA for the proposed action included in Section III of this document, and incorporated by reference in this finding. On the basis of this EA, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has decided not to prepare an environmental impact statement for the proposed action.

## V. Availability of Documents.

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

<b>Document</b>	<b>ADAMS Accession No. / Web link / Federal Register Citation</b>
Developing and Maintaining Emergency Operations Plans, Comprehensive Preparedness Guide (CPG) 101, Version 2.0, November 2010.	<a href="http://www.fema.gov/media-library-data/20130726-1828-250450014/cpg_101_comprehensive_preparedness_guide_developing_and_maintaining_emergency_operations_plan_2010.pdf">http://www.fema.gov/media-library-data/20130726-1828-250450014/cpg_101_comprehensive_preparedness_guide_developing_and_maintaining_emergency_operations_plan_2010.pdf</a>
Docket No. 50-271, Request for Exemptions from Portions of 10 CFR 50.47 and 10 CFR 50, Appendix E, Vermont Yankee Nuclear Power Station, March 14, 2014.	ADAMS Accession No. ML14080A141
Docket No. 50-271, Request for Exemptions from Portions of 10 CFR 50.47 and 10 CFR 50, Appendix E – Supplement 1, Vermont Yankee Nuclear Power Station, August 29, 2014.	ADAMS Accession No. ML14246A176
Docket No. 50-271, Request for Exemptions from Portions of 10 CFR 50.47 and 10 CFR 50, Appendix E – Supplement 2, Vermont Yankee Nuclear Power Station, October 21, 2014.	ADAMS Accession No. ML14297A159
Protective Action Guides and Planning Guidance for Radiological Incidents, U.S. Environmental Protection Agency Draft for Interim Use and Public Comment, March 2013.	<a href="http://www.epa.gov/rpdweb00/docs/er/pag-manual-interim-public-comment-4-2-2013.pdf">http://www.epa.gov/rpdweb00/docs/er/pag-manual-interim-public-comment-4-2-2013.pdf</a>
SECY-14-0125, "Request by Entergy Nuclear Operations, Inc. for Exemptions from Certain Emergency Planning Requirements," November 14, 2014.	ADAMS Accession No. ML14227A711

Staff Requirements Memorandum to SECY-14-0125, "Request by Entergy Nuclear Operations, Inc., for Exemptions from Certain Emergency Planning Requirements," March 2, 2015.	ADAMS Accession No. ML15061A516
NUREG-1437, Supplement 30, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Vermont Yankee Nuclear Power Station," August 2007	ADAMS Accession No. ML071840398

Dated at Rockville, Maryland, this 24 day of April, 2015.

For the Nuclear Regulatory Commission.



Meena K. Khanna, Chief,  
Plant Licensing IV-2 and Decommissioning  
Transition Branch,  
Division of Operating Reactor Licensing,  
Office of Nuclear Reactor Regulation.

If you have any questions, please contact me at 301-415-4125, or by e-mail at [James.Kim@nrc.gov](mailto:James.Kim@nrc.gov).

Sincerely,

*/RA/*

James Kim, Project Manager  
Plant Licensing IV-2 and Decommissioning  
Transition Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-271

Enclosure:  
Draft Environmental Assessment

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**\*Via e-mail**

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DATE	4/14/15	4/14/15	4/15/15	4/15/15
OFFICE	NRR/DLR/RERB/BC	OGC – NLO w/comments	NRR/DORL/LPL4-2/BC	NRR/DORL/LPL4-2/PM
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