



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

June 6, 2017

Mr. Coley C. Chappell
Manager, Design and Programs
Entergy Nuclear Operations, Inc.
Vermont Yankee
320 Governor Hunt Road
Vernon, VT 05354

SUBJECT: VERMONT YANKEE NUCLEAR POWER STATION INDEPENDENT SPENT FUEL STORAGE INSTALLATION ISSUANCE OF EXEMPTION TO ALLOW LOADING OF CERTAIN LOW ENRICHED CHANNELED UNDAMAGED FUEL WITH HIGHER ENRICHED FUEL IN THE SAME CANISTER (CAC NO. L25162)

Dear Mr. Chappell:

This is in response to your letter dated November 9, 2016 (Agencywide Document Access and Management System (ADAMS) Accession No. ML16319A102), and supplemented on January 9, 2017 (ADAMS Accession No. ML17010A300), requesting an exemption under Title 10 of the *Code of Federal Regulations* (10 CFR) 72.7 to load and store certain low enriched channeled undamaged fuel with higher enriched fuel in the same HI-STORM 100 multipurpose canister (MPC)-68M at the Vermont Yankee Nuclear Power Station (VYNPS). Specifically, you requested an exemption from the requirements of 10 CFR 72.212(a)(2), 10 CFR 72.212(b)(3), 10 CFR 72.212(b)(5)(i), 10 CFR 72.214, and the portion of 10 CFR 72.212(b)(11), which require storage of spent nuclear fuel under a general license in dry storage casks approved under the provisions of 10 CFR Part 72, and compliance with the terms and conditions set forth in the certificate of compliance (CoC) for each dry storage spent fuel cask used by an independent spent fuel storage installation (ISFSI) general licensee.

Entergy plans to use Holtec's HI-STORM 100 cask system under CoC No. 1014, Amendment No. 10 for dry storage of spent nuclear fuel in MPC-68M canisters at VYNPS ISFSI. CoC No. 1014, Amendment No. 10, Appendix B, Table 2.1-3, sets out the characteristics of BWR fuel assemblies approved for storage in MPC-68M canisters. Note 19 of Table 2.1-3 states that when VYNPS loads certain low-enriched, channeled undamaged BWR fuel assemblies, such as crud induced localized corrosion (CILC) fuel assemblies, in an MPC-68M, all fuel assemblies in the MPC are limited to 3.3 wt.% U-235 maximum planar-average initial enrichment. Entergy requested exemption from this restriction to allow VYNPS to store certain (CILC fuel) lower enriched (up to 3.3 wt.% U-235) channeled boiling water reactor (BWR) fuel assemblies classified as undamaged per CoC No. 1014, Amendment No. 10, with higher enriched (planar-average initial enrichment up to 4.8 wt.% U-235) BWR fuel assemblies in the same MPC-68M canister.

The NRC staff reviewed Entergy's exemption request for the VYNPS ISFSI, and details of the review are included in the enclosed safety evaluation report. Based upon the staff's evaluation, the NRC has determined that, pursuant to 10 CFR 72.7, the exemption is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest. Therefore, the NRC is granting Entergy an exemption from the requirements in

10 CFR 72.212(a)(2), 10 CFR 72.212(b)(3), 10 CFR 72.212(b)(5)(i), 10 CFR 72.214, and the portion of 10 CFR 72.212(b)(11) that requires compliance with terms, conditions, and specifications of the CoC. This exemption allows VYNPS to load and store certain (CILC fuel) lower enriched (up to 3.3 wt.% U 235) channeled undamaged BWR fuel assemblies with higher enriched (planar-average initial enrichment up to 4.8 wt.% U-235) BWR fuel assemblies in the same MPC-68M canister.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the publicly available records component of the NRC's document system, ADAMS. ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions, please contact me at (301) 415-5722, or Yen-Ju Chen of my staff, at (301) 415-1018.

Sincerely,

/RA/

John McKirgan, Chief
Spent Fuel Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket Nos.: 50-271, 72-59, and 72-1014

CAC No.: L25162

Enclosure:
Safety Evaluation Report

SUBJECT: VERMONT YANKEE NUCLEAR POWER STATION INDEPENDENT SPENT FUEL STORAGE INSTALLATION ISSUANCE OF EXEMPTION TO ALLOW LOADING OF CERTAIN LOW ENRICHED CHANNELED UNDAMAGED FUEL WITH HIGHER ENRICHED FUEL IN THE SAME CANISTER (CAC NO. L25162)

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