



[7590-01-P]

**NUCLEAR REGULATORY COMMISSION**

**[Docket No. 72-16; NRC-2014-0154]**

**North Anna Power Station Independent Spent Fuel Storage Installation**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Environmental assessment and finding of no significant impact; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is considering a license amendment request for the Virginia Electric and Power Company's (Dominion) Special Nuclear Materials (SNM) License SNM-2507 for the operation of North Anna Power Station's (NAPS) independent spent fuel storage installation (ISFSI). The proposed amendment would revise the technical specifications (TSs) to allow the loading and storing of high burnup spent nuclear fuel from NAPS, Units 1 and 2, in a single, modified (and instrumented) TN-32B HBU cask.

**DATES:** The environmental assessment and finding of no significant impact referenced in this document are available on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** Please refer to Docket ID **NRC-2014-0154** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2014-0154**. Address questions about NRC dockets to Carol Gallagher;

telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **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). The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in 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.

**FOR FURTHER INFORMATION CONTACT:** Jean Trefethen, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-0867, e-mail: [Jean.Trefethen@nrc.gov](mailto:Jean.Trefethen@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

**I. Introduction**

The NRC is considering issuance of a license amendment for Dominion's SNM License SNM-2507 for the NAPS ISFSI located in Louisa County, Virginia (ADAMS Accession No. ML15239B251 and ML15289A189). Dominion is proposing to revise the TSs to allow the

loading and storing of high burnup spent nuclear fuel (i.e., spent fuel with burnup greater than 45,000 megawatt days per metric ton of uranium (MWD/MTU)) from NAPS, Units 1 and 2, in a single, modified (and instrumented) TN-32B HBU cask.

The NRC staff has prepared a final environmental assessment (EA) as part of its review of this proposed license amendment in accordance with the requirements in part 51 of title 10 of the *Code of Federal Regulations* (10 CFR) “Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions.” Based on the final EA, the NRC has determined that an environmental impact statement is not required for this proposed action and a finding of no significant impact (FONSI) is appropriate. The NRC is also conducting a safety evaluation of the proposed license amendment pursuant to 10 CFR part 72, “Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High Level Radioactive Waste, and Reactor-Related Greater than Class C Waste,” and the results will be documented in a separate Safety Evaluation Report (SER). If Dominion’s request is approved, the NRC will issue the license amendment following publication of this final EA and FONSI and the SER.

## **II. Final Environmental Assessment Summary**

Dominion is requesting to amend its specifically-licensed ISFSI to load and store high burnup spent nuclear fuel from NAPS, Units 1 and 2, in a single, modified (and instrumented) TN-32B HBU cask. Specifically, the TN-32B HBU cask will be modified to insert thermocouples through the cask lid and into the fuel assemblies to monitor fuel temperatures in the cask. The data gathered will support the U.S. Department of Energy and Electric Power Research Institute High Burnup Dry Storage Research Project. Dominion is proposing to revise the TSs that address the functional and operating limits, the limiting condition for operation, and the design features to reflect the use of the TN-32B HBU cask. As part of the High Burnup Dry Storage

Research Project, Dominion will monitor the fuel temperature in this cask and collect data to support research on the long-term behavior of high burnup spent nuclear fuel. The information will be used to inform dry cask designs and future ISFSI licensing actions. If the proposed license amendment is approved, Dominion will load the TN-32B HBU cask with high burnup spent nuclear fuel and place it on the single vacant spot in the specifically-licensed ISFSI Pad 1.

The NRC has assessed the potential environmental impacts of the proposed action, and alternatives to the proposed action including the use of the Transnuclear, Inc., Standardized NUHOMS® Cask System under the generally-licensed ISFSI and the no-action alternative. The results of the NRC's environmental review can be found in the final EA (ADAMS Accession No. ML16168A104). The NRC staff performed its environmental review in accordance with the requirements in 10 CFR part 51. In conducting the environmental review, the NRC considered information in the license amendment application (ADAMS Accession No. ML15239B251); information in the responses to the NRC's requests for additional information (ADAMS Accession No. ML16097A213 and ML16097A219); communications and consultation with the Virginia State Historic Preservation Office, the U.S Fish and Wildlife Service (FWS), and the Virginia Department of Health.

Approval of Dominion's proposed license amendment would allow the TN-32B HBU cask to be placed on the specifically-licensed ISFSI Pad 1. Changes to routine operations or maintenance of the NAPS specifically-licensed ISFSI would consist of downloading the data from the data logger on a quarterly basis. Dominion calculated the total dose rate at the site boundary from the placement of this one TN-32B HBU cask and determined that the dose would be 0.937 mrem/year. Adding the total dose rate from the placement of the TN-32B HBU cask to the maximum combined radiation contribution to the nearest permanent resident from the operation of the ISFSI and the NAPS, Units 1 and 2 (5.10 mrem/year), would result in a total combined dose rate of 6.037 mrem/year, which is below the 25 mrem/year

regulatory limit in 10 CFR 72.104. In addition, the NRC reviews and oversees casks to ensure these are designed and maintained in accordance with the regulatory limits in 10 CFR parts 20 and 72. Furthermore, Dominion maintains a radiation protection program for NAPS, Units 1 and 2, and the specifically-licensed and generally-licensed ISFSIs in accordance with 10 CFR part 20 to ensure that radiation doses are as low as is reasonably achievable. Accordingly, no significant radiological or non-radiological impacts are expected to result from approval of the license amendment request, and the proposed action would not significantly contribute to cumulative impacts at the NAPS site. Additionally, there would be no disproportionately high and adverse impacts on minority and low-income populations. Furthermore, the NRC staff determined that this license amendment request does not have the potential to cause effects on historic properties, assuming those were present; therefore, in accordance with 36 CFR 800.3(a)(1), no consultation is required under Section 106 of the National Historic Preservation Act. The NRC staff, however, reached out to and informed the Virginia State Historic Preservation Officer and the Pamunkey Tribe of Virginia of its determination via letters dated April 12, 2016, and January 21, 2016, respectively (ADAMS Accession No. ML16098A212 and ML16020A342, respectively). The NRC staff also consulted with the FWS in accordance with Section 7 of the Endangered Species Act. The NRC staff used FWS Virginia Field Office's Ecological Services online project review process. The self-certification letter dated April 8, 2016 (ADAMS Accession No. ML16118A168), stated that "additional coordination with this office is not needed." The NRC completed the certification process by submitting the online review package to the FWS Virginia Field Office via letter dated May 2, 2016 (ADAMS Accession No. ML16120A189). In conclusion, the NRC staff finds that the proposed action will not result in a significant effect on the quality of the human environment.

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

Based on its review of the proposed action, in accordance with the requirements in 10 CFR part 51, the NRC has concluded that the license amendment request for the Dominion's SNM License Number SNM-2507 for the operation of NAPS' ISFSI located in Louisa County, Virginia, will not significantly affect the quality of the human environment. Therefore, the NRC has determined, pursuant to 10 CFR 51.31, that preparation of an environmental impact statement is not required for the proposed action and a finding of no significant impacts is appropriate.

Dated at Rockville, Maryland, this 24<sup>th</sup> day of June, 2016.

For the Nuclear Regulatory Commission.

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