

**NUCLEAR REGULATORY COMMISSION**

**Docket No. 50-271**

**NorthStar Nuclear Decommissioning Co., LLC**

**Vermont Yankee Nuclear Power Station**

**Exemption from Certain Low-Level Waste Shipment Tracking Requirements of  
10 CFR Part 20, Appendix G, Section III.E**

**I. Background.**

The Vermont Yankee Nuclear Power Station (VY), licensed under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 (renewed license no. DPR-28, docket no. 50-271), is located in the town of Vernon, Vermont, in Windham County on the western shore of the Connecticut River immediately upstream of the Vernon Hydroelectric Station. VY employed a General Electric boiling water reactor nuclear steam supply system licensed to generate 1,912 megawatts (thermal energy). The operating license for VY was issued on March 21, 1972, and commercial operation commenced on November 30, 1972. The license was renewed on March 21, 2011. VY permanently ceased operations on December 29, 2014 and on January 12, 2015 (NRC's Agencywide Documents Access and Management System (ADAMS) Accession No. ML15013A426), the licensee certified to the NRC that it had permanently ceased operations at VY and that all fuel from the reactor vessel had been permanently removed.

The VY renewed operating license was transferred to NorthStar Nuclear Decommissioning Company (NorthStar NDC) by NRC order issued October 11, 2018 (ADAMS Accession No. ML18248A096). Upon implementation of the license transfer, on January 11, 2019, NorthStar NDC commenced dismantlement and decommissioning activities at the VY site that included the generation of low-level radioactive waste. This waste is primarily destined for transfer to the Waste Control Specialists disposal site in Andrews, Texas by rail or mixed mode

shipment, such as a combination of truck/rail shipments. Decommissioning of VY is scheduled to be complete by 2030.

## **II. Request/Action.**

By letter dated August 28, 2019 (ADAMS Accession No. ML19252A056), NorthStar NDC requested an exemption from 10 CFR part 20, appendix G, "Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifests," section III.E. for disposals from the VY facility. Section III.E requires that the shipper of any low-level radioactive waste to a licensed land disposal facility must investigate and trace the shipment if the shipper has not received notification of the shipment's receipt by the disposal facility within 20 days after transfer. In addition, section III.E requires licensees to report such missing shipments to the NRC. Specifically, NorthStar NDC is requesting an exemption from the requirements in 10 CFR Part 20, Appendix G, Section III.E, under the provisions of 10 CFR 20.2301, "Applications for exemptions," to extend the time period for NorthStar NDC to receive acknowledgement that the shipment has been received from 20 to 45 days after transfer for a rail or mixed mode shipment from VY to the intended recipient.

Inherent to the decommissioning process, large volumes of low-level radioactive waste are generated and require disposal. The licensee has transported low-level radioactive waste from VY to distant locations such as the waste disposal facility operated by Waste Control Specialists in Andrews, Texas. Experience with waste shipments from VY and other decommissioning power reactor sites indicates that rail or mixed-mode transportation time to waste disposal facilities has, in several instances, exceeded the 20-day receipt of notification requirement. In addition, administrative processes at the disposal facility and mail delivery times can further delay the issuance or arrival of the receipt of notification.

### **III. Discussion.**

#### **A. The Exemption is Authorized by Law.**

The NRC's regulations in 10 CFR 20.2301 allow the Commission to grant exemptions from the requirements of the regulations in 10 CFR Part 20 if it determines the exemption would be authorized by law and would not result in undue hazard to life or property. There are no provisions in the Atomic Energy Act of 1954, as amended (or in any other Federal statute) that impose a requirement to investigate and report on low-level radioactive waste shipments that have not been acknowledged by the recipient within 20 days of transfer. Therefore, the NRC concludes that there is no statutory prohibition on the issuance of the requested exemption and the NRC is authorized to grant the exemption by law.

With respect to compliance with Section 102(2) of the National Environmental Policy Act, 42 USC 4332(2) (NEPA), the NRC staff has determined that the proposed action, namely, the approval of the NorthStar NDC exemption request, is within the scope of the two categorical exclusions listed at 10 CFR 51.22(c)(25)(vi)(B) and 10 CFR 51.22(c)(25)(vi)(C). The categorical exclusion listed at 10 CFR 51.22(c)(25)(vi)(B) concerns approval of exemption requests from reporting requirements and the categorical exclusion listed at 10 CFR 51.22(c)(25)(vi)(C) concerns approval of exemption requests from inspection or surveillance requirements. Therefore, no further analysis is required under NEPA.

#### **B. The Exemption Presents no Undue Risk to Public Health and Safety.**

The purpose of 10 CFR part 20, appendix G, section III.E is to require licensees to investigate, trace, and report radioactive shipments that have not reached their destination, as scheduled, for unknown reasons. Data from the VY (for example, see NorthStar NDC reports on investigation pursuant to 10 CFR Part 20, Appendix G (ADAMS Accession Nos. ML19233A015, ML19233A032, ML19233A019, ML20014D560, and ML19347B109) found that several shipments took longer than 20 days, and one up to 59 days, to reach the Waste Control

Specialist disposal facility in Andrews, Texas once they left the VY facility. The NRC acknowledges that, based on the history of low-level radioactive waste shipments from VY, the need to investigate, trace and report on shipments that take longer than 20 days could result in an excessive administrative burden on the licensee. As stated in the request for exemption, NorthStar NDC will request a daily update to be provided for the location of the shipment from the appropriate carriers of the low-level radioactive waste shipments.

Because of the oversight and monitoring of radioactive waste shipments throughout the entire journey from VY to the disposal site, it is unlikely that a shipment could be lost, misdirected, or diverted without the knowledge of the carrier or NorthStar NDC. Furthermore, by extending the elapsed time for receipt acknowledgment to 45 days before requiring investigations, tracing, and reporting, a reasonable upper limit on shipment duration (based on historical analysis) is still maintained if a breakdown of normal tracking systems were to occur. Consequently, the NRC finds that extending the receipt of notification period from 20 to 45 days after transfer of the low-level radioactive waste as described by NorthStar NDC in its August 28, 2019, letter would not result in an undue hazard to life or property.

#### **IV. Conclusions.**

Accordingly, the Commission has determined that, pursuant to 10 CFR 20.2301, the exemption is authorized by law and will not result in undue hazard to life or property. Therefore, the Commission hereby grants NorthStar NDC an exemption from 10 CFR part 20, appendix G, section III.E to extend the receipt of notification period from 20 days to 45 days after transfer for

rail or mixed-mode shipments of low-level radioactive waste from the VY facility to a licensed land disposal facility.

Dated at Rockville, Maryland, this 4<sup>th</sup> day of February.

For the Nuclear Regulatory Commission.

Patricia K. Holahan, Director,  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs,  
Office of Nuclear Material Safety  
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