

**NUCLEAR REGULATORY COMMISSION**

**Docket No. 50-293**

**Holtec Decommissioning International, LLC**

**Pilgrim Nuclear Power Station**

**Exemption from Certain Low-Level Waste Shipment Tracking Requirements**

**I. Background**

The U.S. Nuclear Regulatory Commission (NRC, the Commission) license for Pilgrim Nuclear Power Station (Pilgrim) is Renewed Facility Operating License No. DPR-35. The current licensed decommissioning operator under this license is Holtec Decommissioning International, LLC (HDI). The Pilgrim license is subject to the rules, regulations, and orders of the NRC.

Pilgrim is located on the western shore of Cape Cod Bay in the Town of Plymouth, Plymouth County, Massachusetts. The nearest large cities are Boston, Massachusetts, approximately 38 miles to the northwest and Providence, Rhode Island, approximately 44 miles to the west. The Pilgrim facility occupies approximately 140 acres.

Operation of Pilgrim permanently ceased on May 31, 2019 and all fuel was permanently removed from the Pilgrim reactor vessel on June 9, 2019. HDI is currently decommissioning the Pilgrim facility. Inherent to the decommissioning process, large volumes of low-level radioactive waste are generated. This low-level radioactive waste requires processing and disposal or disposal without processing, as appropriate. To this end, HDI will transport, by truck or by mixed mode shipments like a combination of truck and rail, low-level radioactive waste from Pilgrim to locations such as the waste disposal facility operated by Waste Control Specialists (WCS) in Andrews, Texas. The estimated license termination date for Pilgrim, except for the

independent spent fuel storage installation (ISFSI), is 2027. The site restoration activities will be completed by 2027. HDI projects that all decommissioning activities will be completed by early September 2063, approximately 9 months after the removal of the last spent fuel from the Pilgrim ISFSI, which is estimated to occur by the end of December 2062.

## **II. Request/Action**

By letter dated August 30, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21242A267), as supplemented on September 23, 2021 (ADAMS Accession No. ML21266A277), HDI requested an exemption from certain requirements of title 10 of the *Code of Federal Regulations* (10 CFR) part 20, "Standards for Protection Against Radiation," appendix G, "Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifests," Section III.E for shipments of low-level radioactive waste from Pilgrim. As indicated by HDI in its request, this regulation requires HDI to investigate, trace, and report to the NRC any low-level radioactive waste shipment or part of a shipment for which acknowledgement of receipt is not received by HDI within 20 days after transfer. HDI requested that this time period be extended from 20 days to 45 days for "mixed mode shipments from [Pilgrim], including combination of truck/rail shipments."

## **III. Discussion**

The NRC's regulations at 10 CFR 20.2301, "Applications for exemptions," allow the Commission to grant exemptions from the requirements of the regulations in 10 CFR part 20 if it determines the exemption is authorized by law and would not result in undue hazard to life or property.

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

The requested exemption from 10 CFR part 20, appendix G, section III.E would extend the receipt acknowledgment period from 20 days to 45 days before HDI would have to investigate, trace, and report on the status of a low-level radioactive waste shipment being

transported from Pilgrim to a licensed low-level radioactive waste processing or land disposal facility. As stated above, 10 CFR 20.2301 allows the NRC to grant exemptions from the requirements of 10 CFR Part 20 when, in part, the exemptions are authorized by law. The NRC determined that the requested exemption is permissible under the Atomic Energy Act of 1954, as amended, and other regulatory requirements. Therefore, the NRC finds that the requested exemption is authorized by law.

**B. The Exemption Would Not Result in Undue Hazard to Life or Property**

As stated in Enclosure 1 to SECY-18-0055, “Proposed Rule: Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning” (ADAMS Package Accession No. ML18012A019), the underlying purpose of 10 CFR part 20, appendix G, section III.E is to require licensees to investigate, trace, and report on low-level radioactive waste shipments that have not reached their destination, as scheduled, for unknown reasons.

In its exemption request, HDI stated that in May and June 2021, it had shipped numerous freight containers of low-level radioactive waste that were transloaded onto railcars for transport to the WCS disposal facility in Andrews, Texas. The total time from release of these shipments to verification of receipt varied from 22 to 56 days. HDI investigated these shipments and submitted reports on them to the NRC Region I Administrator (ADAMS Accession Nos. ML21165A399, ML21187A200, and ML21203A313).

In support of its exemption request, HDI identified the NRC staff statement in Enclosure 1 to SECY-18-0055 that “operating experience indicates that, while the 20-day receipt notification window is adequate for waste shipments by truck, other modes of shipment such as rail, barge, or mixed-mode shipments, such as combinations of truck and rail, barge and rail, and barge and truck shipments, may take more than 20 days to reach their destination due to delays in the route that are outside the shipper’s control (e.g., rail cars in switchyards waiting to be included in a complete train to the disposal facility).” On this basis, the NRC staff proposed to amend 10 CFR part 20, appendix G, section III.E to extend the

receipt notification window to 45 days. HDI also stated that its exemption request is similar to those previously submitted to and approved by the NRC for San Onofre Nuclear Generating Station, Fort Calhoun Station, and Vermont Yankee Nuclear Power Station (ADAMS Accession Nos. ML20287A358, ML20162A155, and ML20017A069, respectively).

HDI further stated that although it takes actions during the preparation of shipments to predict and mitigate undesirable conditions, encountered delays can often extend the shipping duration beyond the 20-day requirement. According to HDI, exceeding the 20-day requirement results in the administrative burden of investigating and reporting, even though the shipments continue to be under requisite controls.

HDI explained that because there is not direct rail access at Pilgrim, the disposal of Pilgrim low-level radioactive waste utilizes road shipments to intermodal transfer terminals for transfer of containers onto rail as the primary transport method. According to HDI, these truck to rail shipments may sit on the rail spur at a remote railyard (e.g., waiting for a train to depart or allow for railcar repair), which may add to shipping delays. In addition, HDI believes that administrative processes at the disposal facility and communication of receipt times could add several additional days to shipping delays. Therefore, HDI concludes that receipt notifications for low-level radioactive waste shipments from Pilgrim to a waste disposal facility can often take longer than 20 days. This delay, though, is not indicative of loss, but a consequence of the complexity involved in shipping.

The NRC staff notes that the shipments are compliant with the Department of Transportation and NRC requirements for low-level radioactive waste packaging, placarding, and radiation levels for health and safety purposes during transit, including during switchyard staging. Therefore, there are no potential health or safety concerns associated with these shipments sitting in a switchyard for an extended period of time or taking more than 20 days overall.

Based on the history of low-level radioactive waste shipments from Pilgrim and the lack of potential health or safety concerns associated with these shipments sitting in a switchyard for an extended period of time or taking more than 20 days overall, the need to investigate, trace, and report on these shipments that take longer than 20 days but not longer than 45 days is inappropriate. The NRC staff believes that the application of 45 days as an upper bound is appropriate for the same reasons as presented in Enclosure 1 to SECY-18-0055.

Additionally, as indicated in the exemption request, for truck and rail shipments from Pilgrim, HDI will use a tracking system that allows daily monitoring of a shipment's progress to its destination and Pilgrim shipping procedures prescribe the expectations for tracking and communications during transit. The NRC staff notes that this will allow for monitoring the progress of shipments on a daily basis, if needed, in lieu of the 20-day requirement, and will initiate an investigation as provided for by 10 CFR part 20, appendix G, section III.E after 45 days. Because of this oversight and the ability to monitor low-level radioactive waste shipments throughout the entire journey from Pilgrim to a disposal or processing facility, the staff concludes that it is unlikely that a shipment could be lost, misdirected, or diverted without the knowledge of the carrier or HDI and that, therefore, there is no potential health or safety concern presented by the requested exemption. Furthermore, by extending the time for receipt acknowledgment to 45 days before requiring investigations, tracing, and reporting, a reasonable upper limit on shipment duration is maintained in the event that a breakdown of normal tracking systems were to occur.

Based on the above, the NRC staff finds that the requested exemption would not result in undue hazard to life or property.

### **C. Environmental Considerations**

With respect to compliance with section 102(2) of the National Environmental Policy Act of 1969, as amended (NEPA), the NRC staff has determined that the proposed action, the approval of the HDI exemption request, is within the scope of the categorical exclusion at

10 CFR 51.22(c)(25). The proposed granting of the exemption from certain requirements of the NRC's regulations at 10 CFR part 20, appendix G, section III.E, would: (i) present no significant hazards consideration; (ii) not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; (iii) not result in a significant increase in individual or cumulative public or occupational radiation exposure; (iv) have no significant construction impact; and (v) not result in a significant increase in the potential for or consequences from radiological accidents. Additionally, the requirements from which the exemption is sought involve reporting requirements under 10 CFR 51.22(c)(25)(vi)(B) and inspection or surveillance requirements under 10 CFR 51.22(c)(25)(vi)(C). Given the applicability of a relevant categorical exclusion, no further analysis is required under NEPA.

#### **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, effective immediately, the Commission hereby grants HDI 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 Pilgrim to a licensed land disposal or processing facility.

Dated: October 18, 2021.

For the Nuclear Regulatory Commission.



Signed by Holahan, Patricia  
on 10/18/21

Patricia K. Holahan, Director,  
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