

**NUCLEAR REGULATORY COMMISSION**

**Docket No. 50-302**

**ADP CR3, LLC**

**Crystal River Unit 3 Nuclear Plant**

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

**I. Background.**

The Crystal River Unit 3 Nuclear Plant (CR-3), licensed under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 (License No. DPR-72, Docket No. 50-302), is located in Citrus County, Florida. CR-3 has been shutdown since September 26, 2009. Subsequently, the licensee determined that issues with containment integrity could not be satisfactorily resolved and decided not to attempt to restart the facility. On May 28, 2011, Duke Energy Florida, LLC (DEF) completed the removal of fuel from the reactor vessel at CR-3. By letter dated February 20, 2013 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML13056A005), DEF submitted to the U.S. Nuclear Regulatory Commission (NRC) certifications in accordance with 10 CFR 50.82(a)(1)(i) indicating it would permanently cease power operations, and with 10 CFR 50.82(a)(1)(ii) that it had permanently defueled the reactor vessel at CR-3. The spent fuel is currently being stored onsite in a spent fuel pool (SFP).

The CR-3 operating license was transferred to ADP CR3, LLC (ADP CR3) by NRC Order issued April 1, 2020 (ADAMS Accession No. ML20069A028). Upon implementation of the license transfer on October 1, 2020, ADP CR3 commenced dismantlement and decommissioning activities at the CR-3 site that included the generation of low-level radioactive

waste. This waste is primarily destined for transfer to distant locations such as the Waste Control Specialists (WCS) disposal site in Andrews, Texas by rail or mixed mode shipment, such as a combination of truck/rail/barge shipments.

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

By letter dated January 19, 2021 (ADAMS Accession No. ML21019A464), ADP CR3 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 CR-3 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, ADP CR3 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 ADP CR3 to receive acknowledgement that the shipment has been received from 20 to 45 days after transfer for a rail or mixed mode shipment from CR-3 to the intended recipient.

Inherent to the decommissioning process, large volumes of low-level radioactive waste are generated and require disposal. Experience with waste shipments from CR-3 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. For example, in December 2020, ADP CR3 shipped six rail cars, three containing EXEMPT materials and three containing UN2912 LSA-1 materials to the WCS disposal facility

in Andrews, Texas. The total transit time between when the railcars were released from the CR3 facility until verification of receipt was received for the six railcars ranged from thirty (30) to forty-one (41) days. Further, in June 2019, Vermont Yankee (VY) shipped two railcars containing four (4) freight containers each of low-level radioactive waste to the WCS disposal facility in Andrews, Texas. The total transit time between when the railcars were released from the VY facility until verification of receipt was received for the two railcars ranged from thirty-three (33) to forty (40) days. Finally, on September 11, 2014, ZionSolutions shipped two gondola railcars of low-level radioactive waste to the EnergySolutions' Clive Disposal Facility in Clive, UT. The railcars reported to the Clive Facility on October 9, 2014, a duration of 28 days. 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 staff 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.

**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 CR-3 (for example, see ADP CR3 report on investigation pursuant to 10 CFR Part 20, Appendix G (ADAMS Accession No. ML21019A458)) found that several shipments took longer than 20 days, from 30 to 41 days, to reach the Waste Control Specialists disposal facility in Andrews, Texas once they left the CR-3 facility. The NRC acknowledges that, based on the history of low-level radioactive waste shipments from CR-3, 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 noted above, shipping times have frequently exceeded 20 days and have taken up to 41 days. As stated in the request for exemption for rail shipments, ADP CR3 utilizes an electronic data tracking system interchange, or similar tracking systems that allows monitoring the progress of the shipments on a daily basis.

The requirement to investigate a late shipment that may be lost, misdirected, or diverted helps prevent any inadvertent radiological exposure to the public from the radioactive materials in the shipment. Because of the oversight and monitoring of radioactive waste shipments throughout the entire journey from CR-3 to the disposal site, it is unlikely that a shipment could be lost, misdirected, or diverted without the knowledge of the carrier or ADP CR3; therefore, there is no potential health and safety concern presented by the requested exemption. This oversight and monitoring would facilitate a prompt investigation of a loss, misdirection or diversion which would minimize any adverse impact. 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 ADP CR3 in its January 19, 2021, letter would not result in an undue hazard to life or property.

### **C. Categorical Exclusion**

With respect to compliance with Section 102(2) of the National Environmental Policy Act (NEPA), 42 U.S.C. 4332(2) (NEPA), the NRC staff has determined that the proposed action, namely, the approval of the ADP CR3 exemption request, is within the scope of the categorical exclusions listed at 10 CFR 51.22(c)(25). The proposed action presents (i) no significant hazards considerations; (ii) would not result in a significant change in the types, or significant increase in the amounts, of any effluents that may be released offsite; (iii) would not result in a significant increase in individual or cumulative public or occupational radiation exposure; (iv) has no significant construction impact; (v) does not present a significant increase in the potential for or consequences from radiological accidents. The requirements from which an exemption is sought involves 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). Therefore, 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, the Commission hereby grants ADP CR3 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 CR-3 facility to a licensed land disposal facility.

Dated this 3rd day of March, 2021

For the Nuclear Regulatory Commission.

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