

**NUCLEAR REGULATORY COMMISSION**

**Docket No. 50-285**

**Omaha Public Power District**

**Fort Calhoun Station, Unit 1**

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

**I. Background.**

Fort Calhoun Station, Unit 1 (FCS), is licensed to the Omaha Public Power District (OPPD) under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 (renewed license no. DPR-40, docket no. 50-285). FCS is located in Washington County, Nebraska on the western shore of the Missouri River three miles south of the town of Blair, Nebraska and 20 miles north of Omaha, Nebraska. FCS employed a Combustion Engineering pressurized water reactor nuclear steam supply system licensed to generate 1,500 megawatts (thermal energy). The operating license for FCS was issued on August 9, 1973, and commercial operation commenced on September 26, 1973. The operating license was renewed on November 4, 2003. FCS permanently ceased operations on October 24, 2016, and on November 13, 2016, OPPD certified to the U.S. Nuclear Regulatory Commission (NRC) that all fuel had been permanently removed from the reactor vessel.

By letter dated March 30, 2017 (NRC's Agencywide Documents Access and Management System (ADAMS) Accession No. ML17089A759), OPPD submitted the FCS Post-Shutdown Decommissioning Activities Report (PSDAR). A PSDAR is required to be submitted to the NRC by 10 CFR 50.82(a)(4)(i). The FCS PSDAR described the decommissioning approach that was selected by OPPD as the SAFSTOR method where the facility is placed in a safe and stable condition after shutdown. The facility is maintained in that state for

approximately 50 years, allowing for levels of radioactivity to decrease through radioactive decay, followed by decontamination of the facility to levels that permit license termination.

By letter dated December 16, 2019 (ADAMS Accession No. ML19351E355), OPPD submitted a revised PSDAR describing a change of decommissioning strategy to the DECON method that would commence prompt decontamination and dismantlement of the facility primarily after all spent nuclear fuel is transferred to the onsite Independent Spent Fuel Storage Installation (ISFSI). By letter dated May 18, 2020 (ADAMS Accession No. ML20139A138), OPPD certified that all spent nuclear fuel assemblies had been permanently transferred out of the FCS spent fuel pool and placed in storage within the onsite ISFSI.

Inherent to the decommissioning process, large volumes of low-level radioactive waste are generated and require processing and/or disposal. FCS will transport low-level radioactive waste from the facility to locations such as the waste disposal facility operated by EnergySolutions, LLC. (ES) in Clive, Utah by truck or by mixed mode shipments, such as a combination of truck and rail. The decommissioning of FCS is scheduled to be complete by 2026.

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

By letter dated March 26, 2020 (ADAMS Accession No. ML20085H951), OPPD 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 transfers of low-level radioactive waste from the FCS facility. Section III.E requires that the shipper of any low-level radioactive waste to a licensed land disposal or processing facility must investigate and trace the shipment if the shipper has not received notification of the shipment's receipt by the disposal or processing facility within 20 days after transfer. In addition, Section III.E requires licensees to report such investigations to

the NRC. Specifically, OPPD 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 OPPD to receive notification that the shipment has been received, from 20 to 45 days after transfer for a rail or mixed mode shipment from FCS to the intended recipient, before having to investigate and report such shipments to the NRC.

Experience with waste shipments from FCS by ES indicate that the truck transportation time to the ES Clive Disposal Site can take longer than 20 days to complete. In January 2019, ES, under contract to OPPD, transported the original FCS reactor vessel head, as a specialized over-the-road trailer shipment, to the Clive Disposal Site. The transport started on January 20, 2019 and arrived at the Clive Disposal Site on February 13, 2019. The total transit time between when the trailer was released from the FCS facility until verification of receipt of the trailer at the Clive Disposal Site was 32 days. This was investigated by ES on behalf of FCS and reported to the NRC in a letter, dated February 19, 2019 (ADAMS Accession No. ML20078L422). In October 2019, FCS started a shipment of one of FCS’s original steam generators, again as a specialized over-the-road trailer shipment by ES, to the Clive Disposal Site. The transport started on October 24, 2019 and, at the time of the investigation, was estimated to arrive in Clive, Utah on December 8, 2019. The total estimated transit time between when the trailer was released from the FCS facility until verification of receipt of the trailer at the Clive Disposal Facility was 45 days. This was investigated by ES on behalf of FCS and reported to the NRC in a letter dated November 20, 2019 (ADAMS Accession No. ML19340A027).

### **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.

#### **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 on low-level radioactive waste shipments from FCS described above, found that shipments took longer than 20 days to reach the ES Clive Disposal Site in Clive, Utah once they left the FCS facility, but not longer than 45 days. This was not because they were lost, but simply a result of the complexity involved in shipping large components. In addition, the licensee notes that shipping times beyond 20 days have been encountered due to issues not specifically related to the transport of large components, such as rail cars containing LLW in switchyards waiting to be included in a complete train to the disposal facility. Based on the history of low-level radioactive waste shipments from FCS, the need to investigate, trace and report on shipments that take longer than 20 days is therefore inappropriate. As stated in the request for exemption, for rail shipments, FCS will utilize an electronic data tracking system interchange, or similar tracking system, that will allow for

monitoring the progress of the shipments by the rail carrier on a daily basis in lieu of the 20 day requirement, and will initiate an investigation as provided for in Section III.E after 45 days.

Because of the oversight and monitoring of low-level radioactive waste shipments throughout the entire journey from FCS to a disposal or processing site noted above, it is unlikely that a shipment could be lost, misdirected, or diverted without the knowledge of the carrier or OPPD. 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 is 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 OPPD in its March 26, 2020, letter would not result in an undue hazard to life or property.

### **C. The Exemption is Subject to a Categorical Exclusion**

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 OPPD 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 proposed action presents (i) no significant hazards consideration, (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; and (vi) requests an exemption that involves reporting requirements (10 CFR 51.22(c)(25)(vi)(B)) as well as inspection or surveillance requirements (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 OPPD 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 FCS facility to a licensed land disposal or processing facility.

Dated: June 30th, 2020

For the Nuclear Regulatory Commission.

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