



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 23, 2018

Ms. Mary J. Fisher
Vice President, Energy Production
and Nuclear Decommissioning
Omaha Public Power District
Fort Calhoun Station
9610 Power Lane, Mail Stop FC-2-4
Blair, NE 68008

SUBJECT: FORT CALHOON STATION, UNIT 1 – REVIEW OF POST-SHUTDOWN
DECOMMISSIONING ACTIVITIES REPORT (CAC NO. MF9536;
EPID L-2017-LLL-0008)

Dear Ms. Fisher:

By letter dated March 30, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17089A759), Omaha Public Power District (OPPD, the licensee) submitted to the U.S. Nuclear Regulatory Commission (NRC) the Post-Shutdown Decommissioning Activities Report (PSDAR), including the Site-Specific Decommissioning Cost Estimate (DCE), for Fort Calhoun Station, Unit 1 (FCS), pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.82(a)(4)(i). On November 13, 2016 (ADAMS Accession No. ML16319A254), OPPD certified that all fuel has been permanently removed from the FCS reactor vessel and placed into the FCS spent fuel pool.

The purposes of the PSDAR and DCE are to: (1) inform the public of the licensee's planned decommissioning activities, (2) assist in the scheduling of NRC resources necessary for the appropriate oversight activities, (3) ensure that the licensee has considered all of the costs of the planned decommissioning activities and has considered the funding for the decommissioning process, and (4) ensure that the environmental impacts of the planned decommissioning activities are bounded by those considered in existing environmental impact statements.

Pursuant to 10 CFR 50.82(a)(4)(i), the PSDAR must contain a description of the planned decommissioning activities along with a schedule for their accomplishment, a discussion that provides the reasons for concluding that the environmental impacts associated with site-specific decommissioning activities will be bounded by appropriate previously issued environmental impact statements, and a site-specific DCE, including the projected cost of managing irradiated fuel. Additionally, pursuant to 10 CFR 50.82(a)(3), decommissioning is to be completed within 60 years of permanent cessation of operations. The regulations do not require NRC approval of a licensee's submitted PSDAR.

Consistent with 10 CFR 50.82(a)(4)(ii), the public was offered opportunities to comment on the PSDAR. A notice of receipt of the PSDAR was published in the *Federal Register* (82 FR 18019) on April 14, 2017. The NRC staff requested that all comments be submitted by July 7, 2017, and there were no public comments submitted.

The NRC staff held a public meeting in the vicinity of FCS on May 31, 2017, to describe the decommissioning process, receive comments, and answer questions regarding the PSDAR. A summary of the meeting, dated June 27, 2017, can be found at ADAMS Accession No. ML17167A262. Public questions and comments on the PSDAR and other areas related to the site's decommissioning, including the NRC staff's responses, are available for review in the transcript of the meeting (ADAMS Accession No. ML17160A394).

Public comments from the meeting generally fell into two categories: (1) questions and comments that are within the regulatory purview of the NRC staff's review of the PSDAR, and, thus, were considered by the staff during its review, and (2) questions and comments that, upon review, were found to be outside the regulatory authority of the NRC, or were not relevant to the review performed by the NRC staff (i.e., whether the licensee's PSDAR meets the requirements of 10 CFR 50.82(a)(4)(i)) and, thus, were not considered.

The public questions and comments that the NRC staff considered during its review of the PSDAR are summarized below. Details of the specific questions or comments can be found in the documents referenced above.

- Questions or comments about whether there is reasonable assurance that there will be enough funds to decommission the facility and manage spent fuel until removed by the U.S. Department of Energy.
- Questions or comments about the decommissioning cost and who manages the Decommissioning Trust Fund.
- Questions or comments about whether on-site dry cask storage canisters are safe, robust, and above the flood line.
- Questions or comments about moving the spent fuel to a permanent national repository.

Public comments or questions that, upon review, were found to be outside of the NRC's regulatory purview or outside the scope of the NRC staff's review of the PSDAR, as defined in 10 CFR 50.82(a)(4)(i), are summarized below.

- Questions or comments about whether the current horizontal dry cask storage canisters can be monitored, inspected, or repaired.
- Questions or comments about the need for a decommissioning citizen oversight panel.
- Questions or comments about aging management issues associated with concrete and spent fuel casks.
- Questions or comments about whether spent fuel casks are spaced far enough apart to survive terrorist attacks.
- Questions or comments about how the armed security force will maintain the security for the site.

The NRC staff reviewed the PSDAR and DCE against the requirements in 10 CFR 50.82(a). In addition, the staff used the guidance in Regulatory Guide (RG) 1.185, Revision 1, "Standard

Format and Content for Post-Shutdown Decommissioning Activities Report,” June 2013 (ADAMS Accession No. ML13140A038), in conducting its review and concludes the following.

1. Section 2.0 of the PSDAR, “Description of Planned Decommissioning Activities,” and the DCE provide the applicable information identified in Section C.1 of RG 1.185, Revision 1. The NRC staff’s review found that the licensee adequately described the activities associated with the major periods or milestones related to the decommissioning, as required by 10 CFR 50.82(a)(4)(i) and consistent with RG 1.185, Revision 1. These periods included Preparations for Dormancy, Dormancy, Preparations for Decommissioning, Decommissioning (Dismantling and Decontamination), and Site Restoration.
2. Section 3.0 of the PSDAR, “Schedule of Planned Decommissioning Activities,” and the DCE provide the estimated dates for initiation and completion of major decommissioning activities, as required by 10 CFR 50.82(a)(4)(i) and consistent with Section C.2 of RG 1.185, Revision 1. The NRC staff finds that the schedule for decommissioning activities is adequate to achieve FCS license termination within 60 years of permanent cessation of operations, as required by 10 CFR 50.82(a)(3).
3. Section 4.0 of the PSDAR, “Estimate of Expected Decommissioning and Spent Fuel Management Costs,” and the DCE provide an estimate of the expected decommissioning costs for FCS. By letter dated March 24, 2017 (ADAMS Accession No. ML17083B297), OPPD estimated the total decommissioning cost of FCS (license termination, spent fuel management, and site restoration), to be approximately \$1,383,373,000 (in 2016 dollars). Of that total cost estimate, OPPD estimated the costs associated with long-term irradiated fuel management to be \$405,543,000 (in 2016 dollars). The NRC staff reviewed the cost estimates against the guidance in RG 1.185, Revision 1, Section C.3 and finds that OPPD’s site-specific DCE and long-term irradiated fuel management estimate for FCS are reasonable, are described consistent with the guidance in RG 1.185, Revision 1, provide sufficient details associated with the funding mechanisms, and meet the requirements of 10 CFR 50.82(a)(4)(i).
4. Section 5.0 of the PSDAR, “Environmental Impacts,” provides a discussion of the potential environmental impacts associated with the planned FCS decommissioning activities, as required by 10 CFR 50.82(a)(4)(i) and consistent with Section C.4 of RG 1.185, Revision 1. The PSDAR includes a comparison of the potential environmental impacts from the planned FCS decommissioning activities with impacts from similar activities provided in NUREG-0586, Supplement 1, “Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities,” November 2002, Volumes 1 and 2 (ADAMS Accession Nos. ML023470327 and ML023500228, respectively) (Decommissioning GEIS). A licensee in decommissioning is required to address the environmental impacts associated with site-specific decommissioning activities in both its PSDAR per 10 CFR 50.82(a)(4)(i) and before performing the decommissioning activities per 10 CFR 50.82(a)(6).

The environmental impacts associated with decommissioning activities are generically evaluated in the Decommissioning GEIS. The Decommissioning GEIS provides the significance of these decommissioning environmental impacts (i.e., SMALL, MODERATE, or LARGE) and the applicability of these impacts (i.e., generic or site-specific). For environmental impacts that the Decommissioning GEIS classifies as generic, these impacts are bounded by the generic evaluation in the Decommissioning

GEIS and a licensee can rely on the information in the Decommissioning GEIS as a basis for meeting the decommissioning environmental requirement. For environmental impacts that the Decommissioning GEIS classifies as site-specific, or for decommissioning activities that could exceed the generic environmental impacts analyzed by the Decommissioning GEIS, the licensee cannot rely on the Decommissioning GEIS. The Decommissioning GEIS identifies threatened and endangered species and environmental justice as environmental impacts that must be evaluated on a site-specific basis.

In its PSDAR, OPPD provided a summary of the reasons for reaching the conclusion that the environmental impacts of decommissioning FCS are bounded by the Decommissioning GEIS and by the "Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 12, Regarding Fort Calhoun Station, Unit 1," August 2003 (ADAMS Accession No. ML032230075) (SEIS). With respect to threatened and endangered species, the PSDAR summarized the discussion of threatened and endangered species in the SEIS and stated that OPPD "has administrative controls in place which require that significant project activities undergo an environmental review prior to the activity occurring, which ensures that impacts are minimized through implementation of [best management practices]." With respect to environmental justice, the PSDAR summarized the discussion of environmental justice in the SEIS and stated that potential impacts to minority and low-income populations would mostly consist of radiological effects, but that the radiation and radioactivity in the environmental media monitored around the plant have been well within applicable regulatory limits.

In an October 5, 2017, request for additional information (RAI) (ADAMS Accession No. ML17193A263), the NRC staff identified that the PSDAR did not discuss two of the six federally listed species that may occur within the vicinity of FCS (i.e., the northern long-eared bat [*Myotis septentrionalis*] and the prairie bush-clover [*Lespedeza leptostachya*]), and did not discuss the potential impacts associated with noise from dismantling facilities and with collisions with construction equipment. The staff noted that the impacts to these two federally listed species had not been addressed in any previously issued environmental impact statements. The staff also stated that the PSDAR's discussion of environmental justice was outdated because it referenced 2000 Census data and did not address human health and environmental effects from dismantlement and decontamination activities, including offsite transportation issues, on minority and low-income populations living near FCS.

The licensee responded to the staff's RAI and supplemented its PSDAR in a letter dated December 14, 2017 (ADAMS Accession No. ML17348A623). In its RAI response, OPPD stated that since the NRC's regulations allow decommissioning activities to progress over a period not to exceed 60 years, information on aspects of the decommissioning process will not be available as major deconstruction is expected to occur several decades in the future. The licensee stated that it does not plan to provide a revised PSDAR at this time. Instead, as required by 10 CFR 50.82(a)(7), OPPD will notify the NRC, in writing and send a copy to the affected States, before performing any decommissioning activity inconsistent with, or making any significant schedule change from, those actions and schedules described in the PSDAR and, as required, OPPD will verify that the decommissioning activities meet the requirements of 10 CFR 50.82(a)(6)(i)-(iii), or seek appropriate regulatory approval if needed.

With respect to threatened and endangered species, OPPD stated that there is no current, known occurrence of the northern long-eared bat or prairie bush-clover in the FCS operational areas. The licensee stated that general noise levels during the decommissioning process are not expected to be any more severe than during refueling outages and that any noise levels higher than normal would be temporary; therefore, noise levels are not expected to present an audible intrusion on the surrounding community and environment. Moreover, any impacts to listed species would be prevented because OPPD has procedures protective of listed species. In addition, OPPD stated “[p]rior to planned demolition activities, state permits (as well as updates to the PSDAR) are required which include extensive evaluation of the environmental impact to include the consideration of threatened and endangered species of the specific activity.”

With respect to environmental justice, OPPD stated that more recent Census data (2010) was reviewed with no substantial changes to the number of or the regions within which there are low-income or minority populations in a 50-mile radius around FCS. The health effects to these populations during decommissioning would be bounded by the health effects discussed in the SEIS because decommissioning activities are less impactful than operating activities. Because OPPD is a Nebraska publicly owned entity, there will be little impact to the local revenue as it relates to tax revenue and the availability of public or social services, regardless of the proportion of low-income or minority populations. Finally, traffic would be less than any refueling outage traffic the area has encountered during plant operations and any major activities, when they occur, would be temporary in nature and would occur over extended periods of time such that significant changes to local traffic density or patterns are not expected.

The PSDAR, as supplemented by OPPD’s RAI response, satisfies 10 CFR 50.82(a)(4)(i) because it discusses the reasons for concluding that the environmental impacts associated with site-specific decommissioning activities will be bounded by appropriate previously issued environmental impact statements. The impacts to the two federally listed species that were not discussed in previously issued environmental impact statements will be bounded because OPPD will evaluate the decommissioning activities before performing them and, if these decommissioning activities could result in significant impacts to species not previously reviewed, then OPPD would (1) change the decommissioning activities so that they will not result in significant impacts to species not previously reviewed or (2) submit, and have approved, either a license amendment request or an exemption request with respect to the decommissioning activities so that the environmental impacts of these activities may be reviewed prior to their performance. For example, the staff understands the PSDAR as providing that, prior to performing decommissioning activities that could generate high noise levels (e.g., similar to those generated during refueling outages), OPPD will determine whether these noise levels could result in significant impacts (i.e., a take) with respect to the northern long-eared bat. This is important because the high noise levels may affect the northern long-eared bat (ML16259A103).

Based on this review, the NRC staff finds that the PSDAR, as supplemented, contains the information required by 10 CFR 50.82(a)(4)(i), and is consistent with RG 1.185, Revision 1. In accordance with 10 CFR 50.82(a)(7), OPPD must notify the NRC in writing before performing any decommissioning activity inconsistent with, or making any significant schedule change from, the planned decommissioning activities and schedules described in the PSDAR, including changes that significantly increase the decommissioning costs.

In accordance with 10 CFR Part 2, "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions regarding this letter, please contact me at 301-415-4125 or by e-mail at James.Kim@nrc.gov.

Sincerely,

A handwritten signature in black ink that reads "James Kim". The signature is written in a cursive style with a long horizontal stroke at the end.

James Kim, Project Manager
Special Projects and Process Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-285

cc: Listserv

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