



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

November 3, 2020

Ms. Mary J. Fisher
VP Energy Production
and Nuclear Decommissioning
Omaha Public Power District
444 South 16th Street Mall
Omaha, NE 68102-2247

SUBJECT: FORT CALHOUN STATION, UNIT NO. 1, REVISED POST-SHUTDOWN
DECOMMISSIONING ACTIVITIES REPORT (EPID No. L-2020DPS-0000)

Dear Ms. Fisher:

By letter dated March 30, 2017 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML17089A759), as supplemented by letter dated December 14, 2017 (ADAMS Accession No. ML17348A623), Omaha Public Power District (OPPD) 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 No. 1 (FCS), pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.82(a)(4)(i). The PSDAR described OPPD's selection of the SAFSTOR method for decommissioning FCS.

By letter dated December 16, 2019 (ADAMS Accession No. ML19351E355), as supplemented by letter dated July 16, 2020 (ADAMS Accession No. ML20202A654), OPPD submitted a revised PSDAR to the NRC, including a revised site specific DCE, for FCS pursuant to 10 CFR 50.82(a)(7). The revised PSDAR described OPPD's selection of the DECON method for decommissioning FCS. This letter is to inform you that, based on our review, the NRC staff finds that the revised PSDAR for FCS, as supplemented by the letter from OPPD dated July 16, 2020, contains the information required by 10 CFR 50.82(a)(4)(i) and the NRC staff has completed its review.

The purposes of a 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), a 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 the NRC to approve a licensee's PSDAR.

The NRC staff reviewed the FCS revised PSDAR and its accompanying DCE against the requirements in 10 CFR 50.82(a). In addition, the NRC 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 revised 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: Major Decommissioning Activities, Decontamination and Dismantlement Activities, and Independent Spent Fuel Storage Installation (ISFSI) Operations and Decommissioning.
- 2) Section 3.0 of the revised PSDAR, "Schedule of Planned Decommissioning Activities," provides 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. For the DECON decommissioning scenario the FCS DCE in 2018 Dollars is \$1,084,188,000 which includes \$725,243,000 for license termination and \$358,944,000 for spent fuel management. According to the March 30, 2020 FCS Annual Decommissioning Funding / Irradiated Fuel Management Status Report (ML20091G561), the total OPPD Decommissioning Fund(s) balance as of December 31, 2019 was \$549,034,772. This is the combined total that OPPD maintains in two separate trust accounts, one for the NRC minimum decommissioning amount, as outlined in 10 CFR 50.75(c), and one for other costs including additional radiological, site restoration and spent fuel management. As of December 31, 2019, the balance in the fund for the NRC minimum decommissioning amount was \$317,041,026 and the balance in the funds accumulated for other decommissioning costs was \$231,993,746. The two trust funds are not commingled, and the funds accumulated for the additional decommissioning cost are not included as funds for the NRC minimum decommissioning amount. According to OPPD the funds accumulated for the additional decommissioning costs are available for radiological decommissioning without prior approval by a State regulatory authority and are not subject to disapproval for radiological decommissioning by a State regulatory authority. The total expected future collections for decommissioning are \$540,994,067 beginning in 2020. The revenue source for collections is OPPD "cost-of-service" electric rates. The OPPD decommissioning fund balance at the end of 2019 plus the total expected future decommissioning fund collections is \$1,090,037,839. 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 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 revised 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 revised 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 decommissioning activities that may result in significant environmental impacts per 10 CFR 50.82(a)(6)(ii).

The environmental impacts of decommissioning activities are evaluated in the Decommissioning GEIS. In the Decommissioning GEIS, the NRC staff explains the significance of the impacts and whether the environmental impacts of decommissioning activities are considered generic to all nuclear power plants or site specific. The Decommissioning GEIS identifies activities that can be bounded by the generic evaluations presented in the Decommissioning GEIS. A licensee can therefore rely on information in the Decommissioning GEIS and the site-specific Generic Environmental Impact Statement for License Renewal of Nuclear Plants (NUREG-1437) Supplement 12, Regarding Fort Calhoun Station, Unit 1 (SEIS) (ADAMS Accession No. ML032230075) as a basis for meeting the bounding impacts requirement in 10 CFR 50.82(a)(4)(i). The Decommissioning GEIS also identifies activities that could exceed the generic environmental impacts evaluated in it and associated environmental issues that require site-specific analysis before performing the decommissioning activity. The environmental issues that require site-specific analysis are threatened and endangered species, environmental justice, and cultural and historic resources.

By letter dated May 20, 2020 (ADAMS Accession No. ML20111A215), NRC provided the results of its evaluation of the revised PSDAR to OPPD. This letter contained a request for additional information (RAI) that was needed to determine if the revised PSDAR contains the information, required by the regulations, that the site-specific environmental impacts on threatened and endangered species and cultural and historic resources are adequately addressed in the revised PSDAR.

For all other environmental issues, OPPD provided adequate reasons in its revised PSDAR for reaching the conclusion that the environmental impacts of decommissioning FCS are bounded by the Decommissioning GEIS, by the SEIS, and by NUREG-1496, Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities (ADAMS Accession No. ML042310492).

Threatened and Endangered Species

In the RAI, NRC staff requested copies of supporting environmental documents referenced in the revised PSDAR, additional information on how the FCS

decommissioning activities may affect the threatened northern long-eared bat, and how OPPD would comply with the Endangered Species Act (ESA) if there were determined to be impacts from the decommissioning activities.

OPPD responded to the NRC RAI by letter dated July 16, 2020 (ADAMS Accession No. ML20111A215). In the response, OPPD described a revision of Section 5.1.7 of the revised PSDAR to include the results of an August 2018 acoustic and mist net surveys conducted to assess the presence or absence of the federally threatened northern long-eared bat (*Myotis septentrionalis*) on and near the Fort Calhoun site (ADAMS Accession No. ML20202A654). During mist net surveys, researchers only captured one species, the eastern red bat (*Lasiurus borealis*), which is neither State nor federally listed. However, during acoustic surveys, researchers detected nine species, including the northern long-eared bat. Thus, the northern long-eared bat is present near the site but, the survey found that the site's natural areas contain habitat with only low roosting potential and that no known, occupied maternity roosts are present.

In its revised PSDAR, OPPD determined that decommissioning activities would not affect this species. While NRC is not required to consult with the U.S. Fish and Wildlife Service (FWS) under Section 7 of the Endangered Species Act of 1973, as amended (ESA), for "no effect" determinations, OPPD maintains an Avian Protection Plan that includes a section specifically dedicated to the northern long-eared bat. The plan contains triggers that prompt additional action to ensure that OPPD appropriately considers potential effects on the species prior to action. The plan also incorporates the FWS Mountain Prairie Region's northern long-eared bat conservation measures and specifies actions that personnel should take in the event of accidental or unintentional take or harm of a threatened and endangered species. If, in the future, OPPD determines that its decommissioning activities may affect the northern long-eared bat (i.e., "may affect, but is not likely to adversely affect" or "may affect and is likely to adversely affect" under the ESA), OPPD would notify the NRC so that the NRC could determine whether initiation of ESA Section 7 consultation with the FWS is required.

Environmental Justice

Previously, by letter dated October 5, 2017 (ADAMS Accession No. ML17193A263), the NRC staff requested additional information concerning the environmental justice analysis in OPPD's original PSDAR, submitted March 30, 2017, because the Decommissioning GEIS cannot provide a basis for bounding site-specific impacts for environmental justice impacts. The staff noted that a licensee must provide reasons for concluding that the environmental impacts associated with site-specific decommissioning activities will (or will not) be bounded by previously issued environmental impact statements. The staff also stated that OPPD's environmental justice impact analysis in the PSDAR was incomplete because it used 2000 Census data and did not specifically address human health and environmental effects from dismantlement and decontamination activities, including offsite transportation issues associated with the delivery of dismantlement equipment and the removal of waste material, on minority and low-income populations living near FCS.

By letter dated October 5, 2017, OPPD responded to the RAI. As discussed with NRC staff, OPPD acknowledged that the evaluation of the potential for disproportionate human health and environmental effects from decommissioning activities at Fort Calhoun on minority and low-income populations should be based solely on the

site-specific analysis. 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. OPPD stated, 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 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.

As a result, the NRC staff noted the site-specific environmental justice population analysis presented in OPPD's revised PSDAR uses 2010 Census data and environmental monitoring data from FCS radioactive effluent release reports. Environmental monitoring data from the Fort Calhoun SEIS is the most recent site-specific information on FCS available for use in the revised OPPD PSDAR submittal.

In the revised PSDAR, OPPD examined the geographic distribution of minority and low-income populations within a 20 and 50-mile radius of the FCS site using 2010 Census data. According to OPPD, the minority population within a 20-mile radius comprised 21.2 percent of the total population, and 16.6 percent of the total population within a 50-mile radius. Douglas County is composed of greater than 10 percent black and 10 percent Hispanic populations. Thurston County is composed of the Omaha and Winnebago reservations. Native Americans comprised 55 percent of Thurston County's population according to 2010 data. Earlier census data found three counties in Nebraska (Thurston, Burt, and Douglas) and one in Iowa (Pottawattamie) within the 50-mile region exceeded the NRC thresholds defining low-income populations. According to OPPD, because no member of the general public would be adversely affected during decommissioning, minority and low-income populations are not expected to experience disproportionately high and adverse human health and environmental effects during the decommissioning of Fort Calhoun.

OPPD also discussed environmental monitoring program data from the 2003 Fort Calhoun SEIS in the PSDAR. According to the 2003 SEIS, radiation and radioactivity in the environmental media monitored around the plant have been well within applicable regulatory limits. As a result, the SEIS found that no disproportionately high and adverse human health impacts would be expected in special pathway receptor populations (i.e., minority and or low-income populations) in the region as a result of subsistence consumption of water, local food, fish, and wildlife. OPPD concluded, based on their updated December 2018 environmental report, that the impacts of FCS decommissioning on environmental justice are small and are bounded by the 2003 SEIS. This indicates that the environmental effects of decommissioning activities at FCS would not be detectable or would be so minor that they would neither destabilize nor noticeably alter any important attribute of the environmental resource.

Cultural and Historic Resources

In the revised PSDAR, OPPD indicates that decommissioning activities will be primarily contained to disturbed areas located away from areas of existing or high potential for

archaeological sites. If use of the area during decommissioning could entail ground disturbance, OPPD also has environmental protection procedures pertaining to archaeological and cultural resources that will remain in effect during decommissioning.

The revised PSDAR also indicates that environmental review procedures have been put in place at FCS regarding undertakings that involve land disturbing activities in undisturbed surface and subsurface areas. These environmental protection procedures include contacting the state historic preservation officer (SHPO) to establish the actions necessary to protect known or as of yet undiscovered cultural resources before an action is allowed to occur. Accordingly, OPPD concludes that impacts to cultural and historical resources from decommissioning activities are bounded by the Decommissioning GEIS.

In the RAI, NRC staff requested that the revised PSDAR's designation of the eligibility for listing of the townsite of DeSoto on the National Register of Historic Places (NRHP) be corrected based on records that identify that the DeSoto townsite was formally determined eligible for listing on the NRHP in 1989, and that OPPD determine if, in consultation with the SHPO, FCS itself could be considered an historic property that is eligible for inclusion on the NRHP or Historic American Engineering Record (HAER).

OPPD's response to the NRC's RAI indicated that the licensee had contacted the Nebraska SHPO office in conjunction with updating the Environmental Supplement supporting the PSDAR, and that the Nebraska SHPO's office concluded that "...there will be no historic properties affected by this [decommissioning] Project." OPPD also indicated that confirmation of this position was reaffirmed via a telephone conversation with the Nebraska SHPO in June 2020, and that OPPD did not plan to conduct further consultation with the SHPO regarding this matter. However, OPPD did not specify whether the eligibility of the FCS facility itself for inclusion in the NRHP or the HAER was discussed during this call. The completeness of the PSDAR would benefit from the inclusion and consideration of such information.

Also, it should be noted that in response to NRC's RAI, OPPD changed the discussion in Section 5.1.14 of the revised PSDAR from "It contains remnants of the former Town of Desoto, a historic property that is potentially eligible for listing on the National Register of Historic Places" to "It contains remnants of the former town of Desoto." However, the completeness of the revised PSDAR would also benefit from the inclusion and consideration of the Desoto site's NRHP eligibility information. Accordingly, the NRC staff suggests a more effective revision to the PSDAR would be to remove the word "potentially" from the original wording i.e., "It contains remnants of the former Town of Desoto, a historic property that is ~~potentially~~ eligible for listing on the National Register of Historic Places."

Based on this review, the NRC staff finds that the revised PSDAR for FCS contains the information required by 10 CFR 50.82(a)(4)(i). As required by 10 CFR 50.82(a)(7), OPPD must notify the NRC in writing and send a copy to the State of Nebraska 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. OPPD is also required to verify that the decommissioning activities meet the requirements of 10 CFR 50.82(a)(6)(i) through 10 CFR 50.82(a)(6)(iii) or seek appropriate regulatory approval if needed.

The NRC will continue to conduct inspections at FCS throughout decommissioning under NRC Inspection Manual Chapter 2561, "Decommissioning Power Reactor Inspection Program," to ensure that decommissioning activities are performed safely and in compliance with the Commission's rules and regulations, and the conditions of the license.

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 301-415-6634 or by e mail at Jack.Parrott@nrc.gov.

Sincerely,



Jack D. Parrott, Senior Project Manager
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

cc: Fort Calhoun ListServ

Docket Nos.: 50-285 and 72-54

SUBJECT: FORT CALHOUN STATION, UNIT NO. 1, REVISED POST-SHUTDOWN
DECOMMISSIONING ACTIVITIES REPORT (EPID No. L-2020DPS-0000)
DATE: **NOVEMBER 3, 2020**

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