U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
DIVISION OF SPENT FUEL MANAGEMENT

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT FOR DUKE ENERGY CAROLINAS, LLC'S DECOMMISSIONING FUNDING PLAN SUBMITTED IN ACCORDANCE WITH 10 CFR 72.30(b) FOR H.B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2 INDEPENDENT SPENT FUEL STORAGE INSTALLATIONS

DOCKET NOS. 72-3 AND 72-60
LICENSE NOS. SNM-2502 AND SFGL-26

May 31, 2016

Enclosure

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1.0 INTRODUCTION

Duke Energy Carolinas, LLC (Duke) has submitted a decommissioning funding plan (DFP) to the U.S. Nuclear Regulatory Commission (NRC), for the NRC's review and approval. The NRC has prepared this environmental assessment (EA) and its associated finding of no significant impact (FONSI) in accordance with the NRC regulations at Title 10 of the *Code of Federal Regulations* (10 CFR) Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," that implement the National Environmental Policy Act of 1969 (NEPA), as amended,[1] and the NRC staff guidance in NUREG–1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs." This EA and FONSI document the NRC's compliance with NEPA.

1.1 Background

The NRC regulations at 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste," govern the storage of spent nuclear fuel (spent fuel)[2] generated at commercial nuclear power reactors licensed by the NRC. Spent fuel that has been removed from the reactor's spent fuel pool is stored at a nuclear power plant's independent spent fuel storage installation (ISFSI). The applicable NRC regulation defines an ISFSI as "a complex designed and constructed for the interim storage of spent nuclear fuel, solid reactor-related [Greater than Class C] waste, and other radioactive materials associated with spent fuel."[3]

The NRC requires its licensees to plan for the eventual decommissioning of their licensed facilities prior to license termination. The term "decommission" is defined as the removal of "a facility or site safely from service," and the reduction in "residual radioactivity" to a level that permits either an unrestricted or restricted release of the property and termination of the applicable NRC license.[4] An essential element of decommissioning is ensuring that licensees have adequate funds to pay the various decommissioning costs that may arise. Financial assurances are financial arrangements provided by a licensee, whereby funds for decommissioning will be available when needed.

On June 17, 2011, the NRC published a final rule amending its decommissioning planning regulations (76 *Federal Register* (FR) 35512). The final rule amended the NRC's regulations to improve decommissioning planning and thus, reduced the likelihood that any operating facility would become a legacy site. The statements of consideration for the June 2011 final rule state that a legacy site "is a facility that is decommissioning and has an owner who cannot complete

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[1] 42 U.S.C. 4321 et seq.

[2] The NRC defines "spent fuel" as "fuel that has been withdrawn from a nuclear reactor following irradiation, has undergone at least one year's decay since being used as a source of energy in a power reactor, and has not been chemically separated into its constituent elements by reprocessing. Spent fuel includes the special nuclear material, byproduct material, source material, and other radioactive materials associated with fuel assemblies" (10 CFR 72.3, definition of "Spent Nuclear Fuel or Spent Fuel").

[3] 10 CFR 72.3 (definition of "Independent spent fuel storage installation or ISFSI").

[4] 10 CFR 72.3 (definition of "Decommission"). The NRC's criteria for unrestricted release and restricted release are set forth in 10 CFR 20.1402 and 20.1403, respectively. The NRC defines the term "residual radioactivity" as "radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the licensee's control" (10 CFR 20.1003, definition of "residual radioactivity").

the decommissioning work for technical or financial reasons" (76 FR 35516). According to the environmental assessment (EA) (NRC, 2009) that supported the June 2011 rulemaking, "legacy sites have two common characteristics: (1) subsurface residual radioactivity in amounts greater than anticipated and (2) insufficient funds to remediate the radiological contamination to levels that will meet the NRC's decommissioning criteria." The rulemaking EA further stated that "numerous unremediated minor spills, accumulated over the lifetime of a facility, may lead to unanticipated levels of subsurface contamination that have not been adequately factored into decommissioning costs." The rulemaking EA concluded that the amendments were not expected to have any significant environmental impacts.

The June 2011 final rule amended the NRC regulation, 10 CFR 72.30, which concerns financial assurance and decommissioning for ISFSIs. This regulation now requires each holder of, or applicant for, a license under 10 CFR Part 72 to submit, for NRC review and approval, a DFP. The purpose of the DFP is to demonstrate the licensee's financial assurance, *i.e.*, that funds will be available to decommission the ISFSI. Section 72.30(b) requires that the DFP contain a detailed decommissioning cost estimate (DCE) in an amount reflecting: (1) the cost of an independent contractor to perform all decommissioning activities, (2) an adequate contingency factor, and (3) the cost of meeting the 10 CFR 20.1402 unrestricted use criteria (or the cost of meeting the 10 CFR 20.1403 restricted use criteria, provided the licensee can demonstrate its ability to meet these criteria). The licensee's DFP must also identify the key assumptions contained in the DCE and justify their use. Further, the DFP must describe the method of assuring funds for ISFSI decommissioning, including means for adjusting cost estimates and associated funding levels periodically over the life of the ISFSI. The DFP must also specify the volume of onsite subsurface material containing residual radioactivity that will require remediation to meet the criteria for license termination (either restricted or unrestricted release), and contain a certification that financial assurance for ISFSI decommissioning has been provided in the amount of the DCE. [5] In accordance with 10 CFR 72.13(b) and 10 CFR 72.13(c), the section 72.30(b) is applicable to both specific-licensed and general-licensed ISFSIs.[6]

By letter dated December 13, 2012, Duke submitted a DFP for the ISFSI at H.B. Robinson Steam Electric Plant, Unit 2 for the NRC's review and approval (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12353A033). The H.B. Robinson ISFSI is located in Darlington County, South Carolina. Duke is authorized by NRC, under License Nos. SNM-2502 and SFGL-26, to store spent nuclear fuel at the H.B. Robinson ISFSI. The NRC staff reviewed Duke's DFP and issued a request for additional information (RAI) by letter dated August 1, 2013 (ADAMS Accession No. ML13214A228). Duke responded to the NRC's RAI on September 30, 2013 (ADAMS Accession No. ML13275A203).

In addition to preparing this EA and FONSI, the NRC staff is also conducting a financial review of Duke's submittal to determine compliance with the information required by 10 CFR 72.30(b)

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[5] 10 CFR 72.30(b)(1)-(6).

[6] A specific license for the construction and operation of an ISFSI must be initiated by the submission of an application in accordance with the requirements of Subpart B of 10 CFR Part 72. NRC approval and issuance of a specific license, including the conditions of the license, is governed by Subpart C of 10 CFR Part 72. The specific license is a stand-alone document that is assigned a unique NRC license docketing number. A general license is considered an incident of a 10 CFR Part 50 or 52 reactor license (see 10 CFR 72.210). The conditions of the general license are set forth by regulation in 10 CFR 72.212. The NRC does not issue any license document for a general license nor assign to it any unique NRC license docketing number.

to determine whether Duke has provided reasonable assurance that funds will be available to decommission the ISFSI at H.B. Robinson and meets the license termination criteria of 10 CFR 20.1402 or 20.1403.

1.2 Proposed Action

The proposed federal action is the NRC's review and approval of Duke's DFP submitted in accordance with 10 CFR 72.30(b). Specifically, the NRC must determine whether Duke's DFP contains the information required by 10 CFR 72.30(b) and whether Duke has provided reasonable assurance that funds will be available to decommission the ISFSI. In order to approve the DFP, the NRC will evaluate (i) whether the DCE adequately estimates the cost to conduct the required ISFSI decommissioning activities prior to license termination, including identification of the volume of onsite subsurface material containing residual radioactivity that will require remediation to meet the license termination criteria and, (ii) whether the aggregate dollar amount of Duke's financial instruments provide adequate financial assurance to cover the DCE and that the financial instruments meet the criteria of 10 CFR 72.30(e).

Duke is not requesting any changes to the ISFSI's licensed routine operations, maintenance activities, or monitoring programs as part of the DFP. Duke is not proposing any new construction or land disturbing activities as part of the ISFSI's DFP. The scope of the proposed action concerns only the NRC's review and approval of the Duke's DFP. The scope of this proposed action does not include, and will not result in, the review and approval of any decontamination or decommissioning activity or license termination for the ISFSI or any other part of the H.B. Robinson Steam Electric Plant, Unit 2. Prior to license termination, Duke will be required to demonstrate to the NRC that it has reduced the residual radioactivity at the ISFSI to the levels specified in 10 CFR 20.1402 or 20.1403. Such reduction in residual radioactivity is accomplished through decontamination and other remedial actions. As part of any future decommissioning activities, Duke will submit, for NRC approval, a decommissioning plan (for specific licenses) or license termination plan (for general licenses) in accordance with 10 CFR 72.54 or 10 CFR 50.82, respectively. The NRC would conduct a separate environmental review in support of Duke's decommissioning plan or license termination plan.

1.3 Purpose and Need for the Proposed Action

The proposed action provides a means for Duke to demonstrate that it will have sufficient funding to cover the costs of decommissioning the ISFSI, including the reduction of the residual radioactivity at the ISFSI to the level specified by the applicable NRC license termination regulations concerning release of the property (10 CFR 20.1402 or 10 CFR 20.1403).

2.0 ENVIRONMENTAL IMPACTS

This EA addresses the environmental impacts of the NRC's approval of Duke's DFP, submitted in accordance with 10 CFR 72.30(b). A separate financial review will be conducted by the NRC staff, which will evaluate the adequacy of the DFP, including the amount of the DCE and the method of assuring funds for decommissioning.

The NRC's approval of the DFP will not change the scope or nature of the operation of the ISFSI and will not authorize any changes to licensed operations or maintenance activities. The NRC's approval of the DFP will not result in any changes in the types, characteristics, or quantities of radiological or non-radiological effluents released into the environment from the

ISFSI, or result in the creation of any solid waste. Moreover, the approval of the DFP will not authorize any construction activity or facility modification.

Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA),[7] requires federal agencies to consider the effects of their undertakings on historic properties. In accordance with the NHPA implementing regulations at 36 CFR Part 800, "Protection of Historic Properties," NRC's approval of Duke's DFP constitutes a federal undertaking.[8] The NRC, however, has determined that the approval of the DFP is a type of undertaking that does not have the potential to cause effects on historic properties, assuming such historic properties were present, because the NRC's approval of Duke's DFP will not authorize or result in changes to licensed operations or maintenance activities, or changes in the types, characteristics, or quantities of radiological or non-radiological effluents released into the environment from the ISFSI, or result in the creation of any solid waste. Moreover, the approval of the DFP will not authorize any construction activity, facility modification, or any other land-disturbing activity. Additionally, any future NRC approval of any site-disturbing remediation activities conducted by Duke would require an NRC environmental review, including a Section 106 review. This environmental review would be conducted as part of the NRC's review and approval of Duke's decommissioning plan, for specific licenses (per 10 CFR 72.54), or license termination plan, for general licenses (per 10 CFR 50.82). Therefore, in accordance with 36 800.3(a)(1), no consultation is required under Section 106 of the NHPA.

Under Section 7 of the Endangered Species Act of 1973, prior to taking a proposed action, a federal agency must determine whether (i) endangered and threatened species or their critical habitats are known to be in the vicinity of the proposed action and if so, whether (ii) the proposed Federal action may affect listed species or critical habitats. If the proposed action may affect listed species or critical habitats, the federal agency is required to consult with the U.S. Fish and Wildlife Service (FWS) and/or the U.S. National Marine Fisheries Service (NMFS). In accordance with 50 CFR 402.13, the NRC has engaged in informal consultation with the FWS. The NRC has determined that the proposed action is not likely to adversely affect listed species or their critical habitats because the NRC's approval of Duke's DFP will not authorize or result in changes to licensed operations or maintenance activities, or changes in the types, characteristics, or quantities of radiological or non-radiological effluents released into the environment from the ISFSI, or result in the creation of any solid waste. Moreover, the approval of the DFP will not authorize any construction activity, facility modification, or any other land-disturbing activity. The FWS has concurred with the NRC's determination that the proposed action is not likely to adversely affect listed species or critical habitat (ADAMS Accession No. ML16069A204). Additionally, any future NRC approval of any site-disturbing remediation activities conducted by Duke would require an additional NRC environmental review, including an Endangered Species Act review. This environmental review would be conducted as part of the NRC's review and approval of Duke's decommissioning plan, for specific licenses (per 10 CFR 72.54), or license termination plan, for general licenses (per 10 CFR 50.82).

Therefore, the NRC staff concludes that the approval of the DFP is a procedural and administrative action that will not result in any significant impact to the environment.

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[7] See 16 U.S.C. 470 et seq.
[8] See 36 CFR 800.16(y).

3.0 ALTERNATIVES

In addition to the proposed action, the NRC evaluated the no-action alternative. The no-action alternative is to deny Duke's DFP. A denial of a DFP that meets the criteria of 10 CFR 72.30(b) does not support the regulatory intent of the 2011 rulemaking.[9] As noted in the rulemaking EA (NRC, 2009), not promulgating the 2011 final rule would have increased the likelihood of additional legacy sites. Thus, denying Duke's DFP, which the NRC has found to meet the criteria of 10 CFR 72.30(b), will undermine Duke's decommissioning planning. On this basis, the NRC has concluded that the no-action alternative is not a viable alternative.

4.0 AGENCIES AND PERSONS CONSULTED

The NRC consulted with the State of South Carolina on August 10, 2015 via letter (ADAMS Accession No. ML15224B295). The State had no comments on the proposed action.

In accordance with 50 CFR 402.13, the NRC has consulted with FWS (ADAMS Accession No. ML15224B441). The FWS has concurred with the NRC's determination that the proposed action is not likely to adversely affect listed species or critical habitat (ADAMS Accession No. ML16069A204).

5.0 FINDING OF NO SIGNIFICANT IMPACT

As discussed in Section 2.0 of this EA, the NRC staff has determined that the proposed action, the review and approval of the DFP, submitted in accordance with 10 CFR 72.30(b), will not authorize or result in changes to licensed operations or maintenance activities, or changes in the types, characteristics, or quantities of radiological or non-radiological effluents released into the environment from the ISFSI, or result in the creation of any solid waste. Moreover, the approval of the DFP will not authorize any construction activity, facility modification, or any other land-disturbing activity. The NRC staff has concluded that the proposed action is a procedural and administrative action and as such, that the proposed action will not have a significant effect on the quality of the human environment. Therefore, the NRC staff has determined not to prepare an environmental impact statement for the proposed action but will issue this FONSI. In accordance with 10 CFR 51.32(a)(4), the FONSI incorporates the EA by reference.

6.0 REFERENCES

This FONSI, EA, and the references related to this review are available for public inspection and can be found online at the NRC's Electronic Reading Room or the NRC's webpage, www.nrc.gov. The Electronic Reading Room can be accessed at http://www.nrc.gov/reading-rm/adams.html. From this website, you can access ADAMS, which provides text and image files of NRC's public documents. The ADAMS accession numbers for the documents are provided in this section.

If you do not have access to ADAMS or if there are problems in accessing ADAMS, contact the NRC's public document room staff at 1-800-397-4209 or by email at pdr@nrc.gov.

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[9] If the NRC determined that a given DFP did not meet the criteria of 10 CFR 72.30(b), the NRC would provide the applicant or licensee with an opportunity to supplement its application or would attempt to resolve any outstanding issues through its "Request for Additional Information" process.

76 FR 35512. *Federal Register* Notice. Final Rule "Decommissioning Planning." June 17, 2011.

SECY-09-0042 – Enclosure 3: Environmental Assessment re: Final Rule: Decommissioning Planning (10 CFR Parts 20, 30, 40, 50, 70; and 72; RIN 3150-A155. February 1, 2009. ADAMS Accession Number ML090500648.

2003/08/31-NUREG–1748, Environmental Review Guidance for Licensing Actions Associated With NMSS Programs—Final Report. August 31, 2003. ADAMS Accession Number ML032540811.

Decommissioning Funding Plan For Interim Spent Fuel Storage Installations (ISFSI's). December 13, 2012. ADAMS Accession No. ML12353A033.

Letter To B.C. Waldrep re: Request For Additional Information For Review of the Decommissioning Funding Plans for Duke Energy Independent Spent Fuel Storage Installations. August 1, 2013. ADAMS Accession No. ML13214A228.

Response to NRC Request for Additional Information Dated August 1, 2013 Regarding the Decommissioning Funding Status Report for the Independent Spent Fuel Storage Installations. September 30, 2013. ADAMS Accession No. ML13275A203.