

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

FINAL ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT FOR
THE GE-HITACHI NUCLEAR ENERGY AMERICAS, LLC, INITIAL AND UPDATED
DECOMMISSIONING FUNDING PLANS SUBMITTED IN ACCORDANCE WITH
10 CFR 72.30(B) AND (C) FOR THE MORRIS OPERATION
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

DOCKET NO. 72-01
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1.0 INTRODUCTION

GE-Hitachi Nuclear Energy Americas, LLC, (GEH) submitted an initial decommissioning funding plan (DFP) to the U.S. Nuclear Regulatory Commission (NRC), and updates to the DFP, for the NRC's review and approval. The NRC 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" (NRC, 2003). This EA and FONSI documents 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 a reactor's spent fuel pool is typically stored at an at a nuclear power plant's independent spent fuel storage installation (ISFSI).³ The applicable NRC regulation defines an ISFSI as "a complex designed and constructed for the interim storage of spent nuclear fuel, solid reactor-related waste, and other radioactive materials associated with spent fuel."⁴

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.⁵ 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.

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 The Morris Operation ISFSI is a specific-licensed ISFSI that is not associated with a specific reactor site. Fuel from multiple reactor sites was sent to the Morris site, which was originally constructed to reprocess the fuel (Docket No. 50-268). During cold testing of the facility in 1971, the NRC granted Special Nuclear Materials License No. SNM-1265 (Docket No. 70-1308) for the Morris site to receive spent fuel from commercial nuclear power plants. Reprocessing of spent fuel never occurred, and the NRC subsequently issued a Part 72 specific license for storage of the spent fuel in a wet storage ISFSI at the Morris site, under Special Nuclear Materials License No. SNM-2500 (Docket No. 72-1).

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

⁵ 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").

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 statement of considerations for the June 2011 final rule states that a legacy site "is a facility that is decommissioning and has an owner who cannot complete the decommissioning work for technical or financial reasons" (76 FR 35512, 35516). According to the 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 (hereafter, initial DFP). The purpose of the initial 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 initial 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 initial DFP must also identify and justify using the key assumptions contained in the DCE. Further, the initial 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. Additionally, the initial DFP must 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.⁶

In addition, Section 72.30(c) requires that at the time of license renewal and at intervals not to exceed 3 years, the licensee must resubmit an updated DFP, "with adjustments as necessary to account for changes in cost and the extent of contamination." The resubmitted DFP (hereafter, updated DFP) must update the information submitted with the original or prior approved plan. If the amount of financial assurance will be adjusted downward, this cannot be done until the updated DFP is approved. The updated DFP must also specifically consider the effect of the following events on decommissioning costs: (1) spills of radioactive material producing additional residual radioactivity in onsite subsurface material; (2) facility modifications; (3) changes in authorized possession limits; and (4) actual remediation costs that exceed the previous cost estimate.⁷

The Morris Operation ISFSI is located in Grundy County, Illinois, near Morris, Illinois. GEH is authorized by the NRC, under a specific license (License No. SNM-2500), to store spent nuclear fuel at the Morris Operation ISFSI. By letter dated December 14, 2012, GEH submitted the initial DFP for the Morris Operation ISFSI (GEH, 2012), for NRC's review and approval. By

⁶ 10 CFR 72.30(b)(1)-(6).

⁷ 10 CFR 72.30(c)(1)-(4).

letter dated December 11, 2015, GEH submitted an updated DFP (GEH, 2015). The NRC staff issued a Request for Additional Information (RAI) by letter dated February 28, 2018 (NRC, 2018). By letter dated March 26, 2018, GEH supplemented the 2015 DFP with its RAI response (GEH, 2018a). By letter dated December 14, 2018, GEH submitted an updated DFP (GEH, 2018b).

By letter dated March 6, 2020, GEH submitted an updated DFP (GEH, 2020), requesting the NRC's approval of a reduction in the amount of financial assurance. A teleconference was held between NRC and GEH representatives to discuss the 2020 DFP on April 6, 2021 (NRC, 2021a). Based on that conversation, by letter dated April 21, 2021, GEH supplemented the 2020 DFP (GEH, 2021a). The NRC staff issued an RAI by letter dated June 15, 2021 (NRC, 2021c). On June 17, 2021, GEH supplemented the 2020 DFP (GEH, 2021b).

The NRC staff is reviewing GEH's DFP submittals and supplements for the years 2012, 2015, 2018, and 2020. In addition to preparing this EA and FONSI, the NRC staff is also conducting a financial review of GEH's submittals to determine whether they include the information required by 10 CFR 72.30(b) and (c), and, accordingly, whether GEH has provided reasonable assurance that funds will be available to decommission the Morris Operation ISFSI, including the requirement to meet the license termination criteria of 10 CFR 20.1402 or 10 CFR 20.1403.

1.2 Proposed Action

The proposed Federal action is the NRC staff's review and approval of GEH's initial and updated DFPs submitted in accordance with 10 CFR 72.30(b) and (c). Specifically, the NRC must determine whether the GEH's initial and updated DFPs contain the information required by 10 CFR 72.30(b) and (c) and whether GEH has provided reasonable assurance that funds will be available to decommission the ISFSI. In order to approve the initial DFP, the NRC evaluates (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 GEH's financial instruments provides adequate financial assurance to cover the DCE and that the financial instruments meet the criteria of 10 CFR 72.30(e). In order to approve the updated DFP, the NRC evaluates whether the updated DFP has been adequately adjusted to account for changes in the DCE and the extent of contamination. Specifically, the NRC's review considers whether GEH has accurately updated the information submitted with the initial DFP and has specifically considered the effects of the following on decommissioning costs: spills of radioactive material producing additional residual radioactivity in onsite subsurface material, facility modifications, changes in authorized possession limits, and actual remediation costs that exceed the previous DCE.

GEH is not requesting changes to the ISFSI's licensed routine operations, maintenance activities, or monitoring programs, or proposing new construction or land disturbing activities as part of the initial or updated DFPs. The scope of the proposed action concerns only the NRC's review and approval of GEH's initial and updated DFPs. The scope of this proposed action does not include, and will not result in, the review and approval of decontamination or decommissioning activities or license termination for the ISFSI. Prior to license termination, GEH will need to decontaminate and decommission the ISFSI. As part of future decommissioning activities, GEH will submit, for NRC approval, a decommissioning plan in accordance with 10 CFR 72.54. The NRC staff would conduct a separate environmental review in support of GEH's proposed decommissioning plan.

1.3 Purpose and Need for the Proposed Action

The amended decommissioning planning rule (76 FR 35512) requires applicants and licensees to submit a DFP for NRC review and approval. Accordingly, the purpose and need for the proposed action is for the NRC to confirm that GEH will have sufficient funding to cover the costs of decommissioning the Morris Operation ISFSI.

2.0 ENVIRONMENTAL IMPACT

This EA addresses the environmental impact of the NRC's review and approval of GEH's initial and updated DFPs, submitted in accordance with 10 CFR 72.30(b) and (c). A separate financial review of the DFPs, which evaluates the adequacy of the initial and updated DFPs, including the amount of the DCE and the method of assuring funds for decommissioning, will be documented by the NRC staff.

The NRC's approval of the initial and updated DFPs will not change the scope or nature of the operation of the ISFSI and will not authorize changes to licensed operations or maintenance activities. The NRC's approval of the initial and updated DFPs will not result in 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 solid waste. Moreover, the approval of the initial and updated DFPs will not authorize construction activity or facility modification.

Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA),⁸ 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," the NRC's approval of GEH's initial and updated DFPs constitutes a Federal undertaking.⁹ The NRC, however, has determined that the approval of the initial and updated DFPs 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 GEH's initial and updated DFPs 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 solid waste. Moreover, the approval of the initial and updated DFPs will not authorize construction activity, facility modification, or other land-disturbing activity. Additionally, future NRC approval of site-disturbing remediation activities conducted by GEH 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 GEH decommissioning plan per 10 CFR 72.54. Therefore, in accordance with 36 CFR 800.3(a)(1), no consultation is required under Section 106 of the NHPA.

Under Section 7 of the Endangered Species Act (ESA) of 1973¹⁰, 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. The NRC has determined that the proposed action will have no effect on listed species or their critical habitats because the NRC's approval of GEH's initial and updated DFPs will not authorize or result in

⁸ See 54 U.S.C. 30618

⁹ See 36 CFR 800.16(y).

¹⁰ See 16 U.S.C. 1531 et seq.

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 solid waste. Moreover, the approval of the initial and updated DFPs will not authorize construction activity, facility modification, or other land-disturbing activity.

Future NRC approval of site-disturbing remediation activities conducted by GEH would require an additional NRC environmental review, including an ESA review. This environmental review would be conducted as part of the NRC's review and approval of GEH's decommissioning plan per 10 CFR 72.54.

Therefore, the NRC staff has determined that the approval of the initial and updated DFPs is a procedural and administrative action that will not result in significant impact to the environment.

3.0 ALTERNATIVES

NEPA requires that Federal agencies consider alternatives to the proposed action (Section 102(2)(E) of NEPA). In addition to the proposed action, the NRC evaluated one alternative. The alternative action was to review but deny GEH's initial and updated DFPs (i.e., the no-action alternative). The NRC, however, would then request GEH to supplement or amend its proposed DFP to provide the required information in 10 CFR 72.30(b) and (c) and demonstrate adequate decommissioning financial assurance. The NRC could also take enforcement action, as needed, to reinstate compliance with 10 CFR 72.30(b) and (c). The end result would be the licensee's compliance with 10 CFR 72.30(b) and (c), leading to eventual NRC approval of the initial and updated DFPs. Therefore, for the no-action alternative, the environmental impact would be the same as those evaluated for approving the initial and updated DFPs. Approving the DFPs has no significant impact on the environment as discussed in Section 2.0 of this EA.

4.0 AGENCIES AND PERSONS CONSULTED

The NRC consulted with the Illinois Emergency Management Agency (IEMA, State) on August 17, 2017, via letter (NRC, 2017b). The State did not respond.

The NRC consulted with the State on April 27, 2021, via letter (NRC, 2021b) on the initial and updated DFPs. The State responded by letter dated June 4, 2021 (IEMA, 2021a), in which it provided its comments on the draft EA and FONSI. The NRC responded to the State's comments on July 8, 2021, via letter (NRC, 2021d). The State responded by letter dated July 25, 2021, (IEMA, 2021b), noting that it finds no basis to oppose the NRC's draft FONSI.

The NRC staff has determined that Section 7 consultation under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.) is not required for ISFSI DFP reviews because the proposed action is a procedural and administrative action that will not affect listed species or critical habitat. This determination is documented in a May 15, 2017, Note to File (NRC, 2017a). Further, as discussed in Section 2.0 of this EA and in accordance with 36 CFR 800.3(a)(1), no consultation is required under Section 106 of the NHPA.

5.0 CONCLUSION AND FINDING OF NO SIGNIFICANT IMPACT

Based on its review of the proposed action and in accordance with the requirements in 10 CFR Part 51, the NRC staff has determined that approval of GEH's proposed DFPs, as supplemented, will not significantly affect the quality of the human environment. NRC approval

of the proposed DFPs does not result in changes in licensed activities, maintenance or construction activities, or effect changes in the permitted types or amounts of radiological effluents. Therefore, the NRC staff has determined that pursuant to 10 CFR 51.31, preparation of an environmental impact statement is not required for the proposed action and, pursuant to 10 CFR 51.32, a finding of no significant impact is appropriate.

6.0 REFERENCES

This FONSI, EA, and references related to this action 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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GEH, 2021b. GE Hitachi Nuclear Energy. “Updated GEH Morris Operation (MO) Decommissioning Funding Plan (DFP).” June 17, 2021. ADAMS Accession Nos. ML21168A257 (package), ML21168A258 (cover letter), ML21190A130 (DFP, public), and ML21168A259 (non-public DFP proprietary and security-related information).

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