

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

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT FOR THE  
CONNECTICUT YANKEE ATOMIC POWER COMPANY'S DECOMMISSIONING FUNDING  
PLANS SUBMITTED IN ACCORDANCE WITH 10 CFR 72.30(b) AND (c) FOR HADDAM NECK  
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

DOCKET NO. 72-39  
LICENSE NO. SFGL-21

Enclosure

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## 1.0 INTRODUCTION

Connecticut Yankee Atomic Power Company (CYAPCO) has submitted a decommissioning funding plan (DFP) to the U.S. Nuclear Regulatory Commission (NRC), and an update to the DFP, 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,<sup>1</sup> 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)<sup>2</sup> generated at commercial nuclear power reactors licensed by the NRC. Spent fuel that has been removed from the reactor's spent fuel pool is typically 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."<sup>3</sup>

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.<sup>4</sup> 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 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 35516). According to the

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<sup>1</sup> 42 U.S.C. 4321 et seq.

<sup>2</sup> 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").

<sup>3</sup> 10 CFR 72.3 (definition of "Independent spent fuel storage installation or ISFSI").

<sup>4</sup> 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").

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, “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 the key assumptions contained in the DCE and justify their use. 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.<sup>5</sup>

In addition, 10 CFR 72.30(c) requires that at the time of license renewal and at intervals not to exceed three years, the licensee must resubmit the 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. 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.<sup>6</sup> In accordance with 10 CFR 72.13(b) and 10 CFR 72.13(c), 10 CFR 72.30(b) and (c) are applicable to both specific-licensed and general-licensed ISFSIs.<sup>7</sup>

The Haddam Neck ISFSI is located on the Haddam Neck Plant site, in East Hampton, Connecticut. CYAPCO is authorized by the NRC, under a general license (License No. SFGL-21), to store spent nuclear fuel at the Haddam Neck ISFSI. By letter dated December 17, 2012,

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<sup>5</sup> 10 CFR 72.30(b)(1)-(6).

<sup>6</sup> 10 CFR 72.30(c)(1)-(4).

<sup>7</sup> 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.

CYAPCO submitted an initial DFP for the ISFSI at Haddam Neck for the NRC's review and approval (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12363A024). By letter dated, December 14, 2015, CYAPCO submitted an updated DFP (ADAMS Accession No. ML16020A209). The NRC is reviewing both DFP submittals, the initial and triennial update.

In addition to preparing this EA and FONSI, the NRC staff has also conducted a financial review of CYAPCO's submittals to determine whether they include the information required by 10 CFR 72.30(b) and (c), and, accordingly, whether CYAPCO has provided reasonable assurance that funds will be available to decommission the ISFSI at Haddam Neck, including the requirement to meet 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 CYAPCO's initial and updated DFPs submitted in accordance with 10 CFR 72.30(b) and (c). Specifically, the NRC must determine whether CYAPCO's initial and updated DFPs contain the information required by 10 CFR 72.30(b) and (c) and whether CYAPCO 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 CYAPCO'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 any changes in the DCE and the extent of contamination. Specifically, the NRC's review considers whether CYAPCO 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.

CYAPCO is not requesting any changes to the ISFSI's licensed routine operations, maintenance activities, or monitoring programs, or proposing any new construction or land-disturbing activities as part of the initial or updated DFP. The scope of the proposed action concerns only the NRC's review and approval of CYAPCO's initial and updated DFPs. 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 Haddam Neck. Prior to license termination, CYAPCO 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 activities. As part of any future decommissioning activities, CYAPCO will submit, for NRC approval, a license termination plan in accordance with 10 CFR 50.82. The NRC would conduct a separate environmental review in support of CYAPCO's license termination 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 CYAPCO will have sufficient funding to cover the costs of decommissioning the ISFSI.

## 2.0 ENVIRONMENTAL IMPACTS

This EA addresses the environmental impacts of the NRC's review and approval of CYAPCO's initial and updated DFPs, submitted in accordance with 10 CFR 72.30(b) and (c). A separate financial review has been completed by the NRC staff, which evaluated the adequacy of the initial and updated DFPs, including the amount of the DCE and the method of assuring funds for decommissioning.

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 any changes to licensed operations or maintenance activities. The NRC's approval of the initial and updated DFPs 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 initial and updated DFPs will not authorize any construction activity or facility modification.

Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA),<sup>8</sup> 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 CYAPCO's initial and updated DFPs constitutes a Federal undertaking.<sup>9</sup> 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 CYAPCO'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 any solid waste. Moreover, the approval of the initial and updated DFPs 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 CYAPCO 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 CYAPCO's 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 1973,<sup>10</sup> 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 CYAPCO's initial and updated DFPs will not authorize or result

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<sup>8</sup> See 54 U.S.C. 30618.

<sup>9</sup> See 36 CFR 800.16(y).

<sup>10</sup> See 16 U.S.C. 1531 et seq.

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 initial and updated DFPs will not authorize any construction activity, facility modification, or any other land-disturbing activity.

Any future NRC approval of any site-disturbing remediation activities conducted by CYAPCO 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 CYAPCO's license termination plan (per 10 CFR 50.82).

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 any 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 CYAPCO's initial and updated DFPs (i.e., the no-action alternative). The NRC, however, would then request CYAPCO 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 impacts 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 Connecticut Department of Energy and Environmental Protection on September 2, 2016, via letter (ADAMS Accession No. ML17139C482). The State did not respond.

In accordance with 50 CFR 402.13, the NRC initially consulted with the U.S. Fish and Wildlife Service by letter dated September 2, 2016 (ADAMS Accession No. ML16250A476). The NRC staff subsequently determined that Section 7 consultation is not required because the proposed action is administrative/procedural in nature and will not affect listed species or critical habitat. The NRC staff's no effect determination for ISFSI DFP reviews is documented in a May 15, 2017, Note to File (ADAMS Accession No. ML17135A062).

### **5.0 CONCLUSION AND FINDING OF NO SIGNIFICANT IMPACT**

As described in Section 2.0 of this EA, the NRC staff has determined that the proposed action, the review and approval of the initial and updated DFPs, submitted in accordance with 10 CFR 72.30(b) and (c), 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 initial and updated DFPs 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 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 (FONSI) is appropriate. In accordance with 10 CFR 51.32(a)(4), the FONSI incorporates the EA by reference.

## 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](http://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](mailto:pdr@nrc.gov).

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