

NEI 15-06 [Revision 0]

Use of the Nuclear Decommissioning Trust Fund

October 2016

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Nuclear Energy Institute

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EXECUTIVE SUMMARY

This technical report provides guidance to assist licensees in identifying costs which are appropriately reimbursed from a nuclear decommissioning trust (NDT) consistent with the definition of decommissioning in 10 C.F.R. § 50.2. This report also provides additional guidance on how licensees (or their cost estimate vendor) should clearly identify these activities in the site-specific decommissioning cost estimate and specify the funds that are set aside for these costs in the nuclear decommissioning trust or other appropriate funding mechanism.

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USE OF THE NUCLEAR DECOMMISSIONING TRUST FUND

1 INTRODUCTION

The purpose of this document is to provide additional guidance on the development of decommissioning cost estimates and the appropriate use of decommissioning trust funds established by licensees, with primary focus on disbursement of funds for the purpose of radiological decommissioning (as defined in 10 C.F.R. § 50.2).

Licensees are required to provide financial assurance for radiological decommissioning through meeting the requirements of 10 C.F.R. § 50.75 while a facility is operating. The decommissioning process, including the use of decommissioning funds, is governed primarily by 10 C.F.R. § 50.82. The most common method of meeting financial assurance requirements is with a trust, typically called a Nuclear Decommissioning Trust (NDT).

The requirements in 10 C.F.R. §§ 50.75 and 50.82 primarily address the provision of funding assurance for radiological decommissioning. The guidance provided in this document focuses on radiological decommissioning and does not cover spent fuel management and site restoration, except to the extent that those topics intersect with decommissioning (*e.g.*, preparation of site-specific DCE, commingling of funds). Since the Department of Energy has not met its obligation to remove used fuel from reactor sites, licensees may have completed decontamination and dismantlement of their facility with only an Independent Spent Fuel Storage Installation (ISFSI) remaining under their 10 C.F.R. Part 50 license, or they may have transitioned to an ISFSI-only license under 10 C.F.R. Part 72. 10 C.F.R. § 72.30 imposes specific decommissioning financial assurance and recordkeeping requirements for both general and specific ISFSI licensees.¹ Spent fuel management activities, including the provision of funding for such activities, are governed by 10 C.F.R. §§ 50.54(bb). Site restoration activities are not necessary for license termination and are outside of the NRC's regulatory purview.²

The guidance provided in this document is intended to be applied prospectively by licensees. It is not intended to be used as a tool by licensees or any other party to retrospectively evaluate decisions regarding the use of NDT funds. A number of facility and licensee-specific factors have influenced decisions regarding the use of NDT funds in the past, such as direction provided by rate-regulating authorities and conditions imposed during license transfer proceedings. This document was not developed as a tool to reexamine such decisions. Instead, the guidance that follows should be used prospectively, as a tool to assist power reactor licensees in evaluating decisions regarding the development of site-specific decommissioning cost estimates and use of

¹ Section 72.30(e)(5) states, however, that Part 50 power reactor licensees and ISFSI specific licensees who meet the definition of an "electric utility" (as defined in Part 50) may use the funding assurance methods provided in § 50.75(b), (e), and (h).

² While this guidance does not address spent fuel management and site restoration funding, it does recognize that funding for these purposes may be commingled with funding for radiological decommissioning addressed herein.

NDT funds. It is important to acknowledge additional facility or licensee-specific circumstances or precedent may be relevant when evaluating the use of NDT funds, even if such circumstances or precedent are not explicitly captured in this document.

Finally, the guidance provided in this document is intended to be applied by power reactor licensees that are engaged in, or planning for, decommissioning of the reactor and associated structures. The guidance provided in this document is not intended to apply to ISFSI-only sites that have completed other plant-related radiological decommissioning activities. As discussed above, financial assurance for the decommissioning of ISFSIs is governed by the requirements in 10 C.F.R. § 72.30.

2 DEFINITIONS

- **Decommissioning or Radiological Decommissioning** – means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits—
 - (1) Release of the property for unrestricted use and termination of the license; or
 - (2) Release of the property under restricted conditions and termination of the license.³
- **Spent Fuel Management** – means activities performed to manage inventories of irradiated fuel and Greater than Class C Waste (GTCC) at the reactor site following permanent cessation of operation of the reactor until title and possession of the fuel and GTCC is transferred to the Secretary of Energy for its ultimate disposal in a repository. Funding for spent fuel management activities are addressed in 10 C.F.R. § 50.54(bb).⁴
- **Site Restoration** – means activities performed to prepare the site for its next use or some desired end state beyond license termination. Such activities extend beyond what is required to complete decommissioning as defined in 10 C.F.R. § 50.2.
- **Nuclear Decommissioning Trust (NDT)** – means a method of providing financial assurance, where an account or accounts are segregated from licensee assets and outside the administrative control of the licensee and its subsidiaries or affiliates, such that the amount of funds would be sufficient to pay for decommissioning costs at the time permanent cessation of operations is expected or otherwise sufficient as described in 10 C.F.R. § 50.75(e)(1). Use of NDT funds is governed by 10 C.F.R. § 50.82(a)(8).

³ 10 C.F.R. § 50.2.

⁴ The NRC considers GTCC wastes to be low-level radioactive waste. See “Historical and Current Issues Related to Disposal of Greater-Than-Class C Low-Level Radioactive Waste,” SECY-15-0094 (July 17, 2015). Inclusion of GTCC under the “spent fuel management” definition in this document is not intended to limit either the options for managing GTCC at a permanently defueled facility, or the disposal options that may become available to licensees in the future.

- **Commingling of Funds** – means the inclusion in the NDT of monies accumulated to complete radiological decommissioning, as well as funds accumulated to address spent fuel management, and site restoration.⁵
- **Site-Specific Decommissioning Cost Estimate (DCE)** – means the estimate required to be submitted within 2 years following permanent cessation of operations, pursuant to 10 C.F.R. § 50.82(a)(8)(iii). The purpose of the site-specific decommissioning cost estimate is to calculate the cost required to complete radiological decommissioning of the facility (although the site-specific DCE may also include costs associated with spent fuel management and site restoration). The DCE categorizes the cost by decommissioning period, is used to establish the asset retirement obligation, and provides a basis for financial assurance evaluations. This estimate may also be submitted with the PSDAR to satisfy the requirements of 10 C.F.R. § 50.82(a)(4)(i).⁶
- **Post-shutdown Decommissioning Activities Report (PSDAR)** – means the report required within 2 years following permanent cessation of operations, pursuant to 10 C.F.R. § 50.82(a)(4). The PSDAR is required to be submitted to the NRC and made available for public comment in accordance with 10 C.F.R. § 50.82(a)(4) prior to or within 2 years following permanent cessation of operations. The purpose of the PSDAR is to provide a general overview for the NRC and the public of the licensee's proposed decommissioning activities. Ninety (90) days after NRC has received the PSDAR submittal, the licensee is permitted to perform major decommissioning activities, if the NRC does not object. Additionally, after the 90 day wait period has expired, without objection from the NRC, the licensee is allowed to reimburse radiological decommissioning expenditures from the NDT.

3 NRC REQUIREMENTS AND GUIDANCE APPLICABLE TO DECOMMISSIONING COST ESTIMATES AND FUNDING ASSURANCE DURING DECOMMISSIONING

3.1 NRC REQUIREMENTS APPLICABLE TO PROVIDING DECOMMISSIONING FUNDING ASSURANCE DURING DECOMMISSIONING

After the site-specific DCE is submitted pursuant to § 50.82(a)(4)(i), § 50.82(a)(8)(v) requires an annual financial assurance status report, which must demonstrate that there is funding available

⁵ See "NRC Regulatory Issue Summary 2001-07, Rev. 1 10 CFR 50.75 Reporting and Recordkeeping for Decommissioning Planning," (Jan. 8, 2009).

⁶ "Standard Format and Content of Decommissioning Cost Estimates for Nuclear Power Reactors," Regulatory Guide 1.202 (Feb. 2005) (Reg. Guide 1.202), at pgs. 8-9.

to terminate the 10 C.F.R. Part 50 license.⁷ The financial assurance requirements are based on the DCE. Specifically, § 50.82(a)(8)(v) states:

After submitting its site-specific DCE required by paragraph (a)(4)(i) of this section, and until the licensee has completed its final radiation survey and demonstrated that residual radioactivity has been reduced to a level that permits termination of its license, the licensee must annually submit to the NRC, by March 31, a financial assurance status report. The report must include the following information, current through the end of the previous calendar year:

(A) The amount spent on decommissioning, both cumulative and over the previous calendar year, the remaining balance of any decommissioning funds, and the amount provided by other financial assurance methods being relied upon;

(B) An estimate of the costs to complete decommissioning, reflecting any difference between actual and estimated costs for work performed during the year, and the decommissioning criteria upon which the estimate is based;

(C) Any modifications occurring to a licensee's current method of providing financial assurance since the last submitted report; and

(D) Any material changes to trust agreements or financial assurance contracts.

If the annual financial assurance status report shows a projected shortfall in the amount of remaining funds to complete decommissioning, then 10 C.F.R. § 50.82(a)(8)(vi) requires that the licensee include additional financial assurance to cover the shortfall:

If the sum of the balance of any remaining decommissioning funds, plus earnings on such funds calculated at not greater than a 2 percent real rate of return, together with the amount provided by other financial assurance methods being relied upon, does not cover the estimated cost to complete the decommissioning, the financial assurance status report must include additional financial assurance to cover the estimated cost of completion.

In the case of a delayed decommissioning plan, Regulatory Guide 1.185 has additional specific guidance:

Following submission of a site-specific cost estimate, if the licensee specifies the delayed completion of decommissioning in its PSDAR, it must provide a means of adjusting cost estimates and associated funding levels over the duration of the storage or surveillance period to ensure that the appropriate amount of funding will be available to terminate the

⁷ The regulations at 10 C.F.R. § 50.75(f)(1) and (f)(2) also require decommissioning funding status reports annually beginning at 5 years before projected end of operations and continuing through the decommissioning period until license termination. This requirement applies even before the site-specific DCE is submitted.

license as required by 10 CFR 50.82(a)(8)(iv). The PSDAR should describe that mechanism.

The funding assurance requirements in 10 C.F.R. § 50.82(a)(8) for radiological decommissioning do not apply to an irradiated (*i.e.*, spent) fuel management plan under 10 C.F.R. § 50.54(bb). Further, since site restoration activities are outside the regulatory scope of the NRC, there are no NRC requirements applicable to providing funding assurance for those activities.

3.2 NRC REQUIREMENTS APPLICABLE TO DEVELOPMENT OF SITE-SPECIFIC DECOMMISSIONING COST ESTIMATES

As explained in Regulatory Guide 1.202, the NRC's regulations require the preparation of several DCE's, including:

- The preliminary DCE to be submitted at or about 5 years prior to the projected end of operations;⁸
- The site-specific DCE to be submitted with the Post-Shutdown Decommissioning Activities Report (PSDAR) prior to or within 2 years following permanent cessation of operations;⁹
- The site-specific DCE to be submitted within 2 years following permanent cessation of operations;¹⁰ and
- The updated site-specific estimate of remaining decommissioning activities to be submitted with the License Termination Plan (LTP) (at least 2 years prior to termination of the license).¹¹

The regulations also allow licensees to rely upon a site-specific DCE as the basis for decommissioning funding assurance during operation, provided that DCE is greater than the minimum funding amount calculated pursuant to 10 C.F.R. § 50.75(c).¹²

The guidance provided in this document focuses on the site-specific DCE required pursuant to § 50.82 (a)(8)(iii). This estimate may also be used to comply with § 50.82(a)(4)(i). The regulations at 10 C.F.R. § 50.82(a)(4)(i) require a site-specific DCE be submitted in conjunction with the Post-Shutdown Decommissioning Activities Report (PSDAR):

⁸ 10 C.F.R. § 50.75(f)(3).

⁹ 10 C.F.R. § 50.82(a)(4)(i).

¹⁰ 10 C.F.R. § 50.82(a)(8)(iii).

¹¹ 10 C.F.R. § 50.82(a)(9)(ii)(F).

¹² 10 C.F.R. § 50.75(b)(1).

Prior to or within 2 years following permanent cessation of operations, the licensee shall submit a post-shutdown decommissioning activities report (PSDAR) to the NRC, and a copy to the affected State(s). 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.

Regulatory Guide 1.202, states that this cost estimate may be satisfied by providing either: “(1) the amount of decommissioning funds estimated to be required by 10 CFR 50.75(b) and (c), as currently reported to the NRC on a calendar-year basis at least once every 2 years in accordance with 10 CFR 50.75(f)(1),” or “(2) a site-specific cost estimate.”¹³ Thus, a licensee choosing to utilize option 2 could use the same site-specific DCE to comply with both §§ 50.82(a)(4)(i) and (a)(8)(iii), provided the DCE is submitted with the licensee’s PSDAR.¹⁴

3.3 NRC REQUIREMENTS APPLICABLE TO USE OF THE NDT

Section 50.82(a) identifies permissible uses of the decommissioning trust funds:

(8)(i) Decommissioning trust funds may be used by licensees if—

(A) The withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in § 50.2;

(B) The expenditure would not reduce the value of the decommissioning trust below an amount necessary to place and maintain the reactor in a safe storage condition if unforeseen conditions or expenses arise and;

(C) The withdrawals would not inhibit the ability of the licensee to complete funding of any shortfalls in the decommissioning trust needed to ensure the availability of funds to ultimately release the site and terminate the license.

The regulations in 10 C.F.R. Part 50 do not identify specific activities that are considered “legitimate decommissioning activities.” That said, activities that go beyond the scope of radiological decommissioning (as defined in 10 C.F.R. § 50.2) - such as site restoration and the storage, management, and disposal of spent fuel – are not considered “legitimate decommissioning activities” for the purposes of 10 C.F.R. § 50.82(a)(8)(i)(A). Thus, absent an

¹³ Reg. Guide 1.202, at pg. 1.202-7.

¹⁴ *Id.*

exemption from NRC, funds accumulated for the purpose of radiological decommissioning may not be used to pay for these activities.¹⁵

Licensees should recognize that the NRC's definition of decommissioning provided in 10 C.F.R. § 50.2 is not necessarily consistent with the definitions promulgated by other government agencies (*e.g.*, the IRS or FERC). Thus, licensees may utilize a definition of decommissioning that is different, and often broader, than the NRC's definition in determining the liability required to be reported on a licensee's financial statements (*i.e.*, on its balance sheet).

3.4 AVAILABLE NRC GUIDANCE AND REGULATORY DOCUMENTS REGARDING DEVELOPMENT OF SITE-SPECIFIC COST ESTIMATES AND USE OF NDT

Although there is no prescriptive list of "legitimate decommissioning activities" that may be funded via the NDT, the NRC has published guidance documents that licensees should consider in the development of the site-specific DCE and when making decisions regarding the appropriate use of NDT funds. Licensees should review the applicable guidance documents to determine whether proposed reimbursements from the NDT for decommissioning activities are consistent with the definition of decommissioning in 10 C.F.R. §§ 50.2 and 50.82(a)(8)(i)(A).

Rulemaking Documents (provide explanation and interpretation of NRC regulations at the time rules are promulgated)

- General Requirements for Decommissioning Nuclear Facilities – Final Rule, 53 FR 24018 (June 27, 1988): promulgated 10 C.F.R. §§ 50.2 and 50.75 and significantly revised Section 50.82.
 - References several NRC and Pacific Northwest Laboratory (PNL) studies at 53 FR 24041.
 - Note: As stated in the Final Rule (see 53 FR 24027), "The PNL reports on decommissioning a reference PWR and reference BWR are detailed engineering studies of the conceptual decommissioning of a large PWR (the 1174 MWe Trojan Nuclear Plant is used as the reference plant) and a large BWR (the 1150 MWe WNP-2 plant is used as reference)." Subsequent NUREG/CR reports have been produced as a result of reviews and reevaluations of these reports. (See NUREG/CR-5884 and NUREG/CR-6174 cited below).
- Decommissioning of Nuclear Power Reactors – Final Rule, 61 FR 39278 (July 29, 1996): significant amendments to the decommissioning rules

¹⁵ *But see*, Section 4.2.2 "Use of Commingled Funds."

- Financial Assurance Requirements for Decommissioning Nuclear Power Reactors – Final Rule, 63 FR 50465 (Sept. 22, 1998): amends rules governing financial assurance for decommissioning, for example, requiring periodic reporting.
- Decommissioning Trust Provisions – Final Rule, 67 FR 78332 (Dec. 24, 2002): amended rules governing decommissioning trust funds to account for licensees that are no longer rate regulated. The rulemaking also amends notice requirements for certain decommissioning trust fund withdrawals.
- Decommissioning Planning – Final Rule, 76 FR 35512 (June 17, 2011): amended decommissioning planning rules, including reporting requirements for DCEs and imposing new requirements to report spent fuel management costs and to provide for ISFSI decommissioning funding assurance.

Regulatory Guides (describes to the public methods that the staff considers acceptable for use in implementing specific parts of the agency's regulations, to explain techniques that the staff uses in evaluating specific problems or postulated accidents, and to provide guidance to applicants).

Note: Current revisions are listed below. Licensees should verify they are referencing the most recent revision of any Regulatory Guidance.

- Regulatory Guide 1.159, Assuring the Availability of Funds for Decommissioning Nuclear Reactors, Rev. 2 (Oct. 2011)
- Regulatory Guide 1.184, Decommissioning of Nuclear Power Reactors, Rev. 1 (Oct. 2013)
- Regulatory Guide 1.185, Standard Format and Content for Post-Shutdown Decommissioning Activities Report, Rev. 1 (June 2013)
- Regulatory Guide 1.202, Standard Format and Content of Decommissioning Cost Estimates for Nuclear Power Reactors (Feb. 2005)
- Regulatory Guide 1.179, Standard Format and Content of License Termination Plans for Nuclear Power Reactors, Rev. 1 (June 2011)

NUREG Publications and Other NRC Guidance (guidance or other publications prepared by the NRC Staff)

- Regulatory Issue Summary (RIS) 2001-07, Rev. 1, 10 C.F.R. 50.75 Reporting and Recordkeeping for Decommissioning Planning (Jan. 8, 2009): clarifies the need to preserve the distinction between funds accumulated for radiological

decommissioning, which licensees are required to report, and funds accumulated for other purposes.

- NUREG-1713, Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors (Dec. 2004)
 - This document also includes references to several other supporting studies, including NUREG-0586, NUREG/CR-0130, NUREG/CR-0672, NUREG/CR-5884, and NUREG/CR-6174, and NUREG-1307
- NUREG-1307, Report on Waste Disposal Charges: Changes in Decommissioning Waste Disposal Costs at Low-Level Waste Burial Facilities, Rev. 15 (Jan. 2013) (revised periodically)
- NUREG-0586, Final Generic Environmental Impact Statement [GEIS] on Decommissioning of Nuclear Facilities (Initial Report, Aug. 1988; supp. 1, Nov. 2002).
 - This GEIS supported the 1988 decommissioning rulemaking, and referenced several PNL and other supporting studies, including NUREG/CR-0130 and NUREG/CR-0672 listed below.
- NUREG-1700, Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans, Rev. 1 (Apr. 2003)
- NUREG-1577, Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance, Rev. 1 (Feb. 1999)

NUREG/CR Publications (guidance or other publications prepared by NRC contractors) are studies, typically performed by Pacific Northwest National Laboratory (PNNL), upon which the NRC staff has relied upon to develop nuclear plant decommissioning funding requirements found at 10 C.F.R. 50.75(c). The formula amounts in this section of NRC regulations are based upon these studies.

- NUREG/CR-0130, Technology, Safety and Costs of Decommissioning a Reference Pressurized-Water Reactor Power Station (June 1978, several addenda published, later updated in NUREG/CR-5884)
- NUREG/CR-0672, Technology, Safety and Costs of Decommissioning a Reference Boiling-Water Reactor Power Station (June 1980, several addenda published, later updated in NUREG/CR-6174)

- NUREG/CR-5884, Revised Analyses of Decommissioning for the Reference Pressurized Water Reactor Power Station (November 1995; issued as part of a review and reevaluation of NUREG/CR-0130)
- NUREG/CR-6174, Revised Analyses of Decommissioning for the Reference Pressurized Water Reactor Power Station (July 1996; issued as part of a review and reevaluation of PNL 1980 decommissioning study of WNP-2 (NUREG/CR-0672).
- Draft Pacific Northwest National Laboratory (PNNL) Study, Assessment of the Adequacy of the 10 C.F.R. 50.75(c) Minimum Decommissioning Fund Formula (dated November 2011; referenced in SECY 13-0066, Staff Findings on the Table of Minimum Amounts Required to Demonstrate Decommissioning Funding Assurance, June 20, 2013)

NRC Past Practice. NRC has received numerous decommissioning cost estimates and analyses from nuclear power plant licensees. Many of these estimates were sent in response to NRC specific requests for additional information on decommissioning liabilities. Some were provided in response to specific NRC requests as part of the agency's review of a licensee's compliance with NRC's funding assurance regulations at 10 C.F.R. § 50.75. Additionally, several licensees have submitted five-year, pre-shutdown preliminary decommissioning cost estimates, in compliance with 10 C.F.R. § 50.75(f)(3). NRC staff has reviewed these documents and provided Safety Evaluation Reports (SER), which find costs identified by the decommissioning cost estimates to be reasonable. Even in situations where it is not binding (*e.g.*, submittals and reviews applicable to other licensees), this precedent is considered by the NRC staff and may be persuasive when reviewing subsequent DCE submittals.

The three examples provided below reference the licensees' original five-year, pre-shutdown preliminary decommissioning cost estimate submission to NRC, and NRC's Safety Evaluation Reports to the licensees.

Vermont Yankee

ADAMS Accession No. ML080430658 – Vermont Yankee Nuclear Power Station License No. DPR-28 (Docket No. 50-271) Report pursuant to 10 C.F.R. 50.75(f)(3)

ADAMS Accession No. ML083390193 – Vermont Yankee Nuclear Power Station – Safety Evaluation re: Spent Fuel Management Program and Preliminary Decommissioning Cost Estimate (TAC Nos. MD8035 and MD8051)

Oyster Creek

ADAMS Accession No. ML041130434 – (Oyster Creek) Submittal of Preliminary Decommissioning Cost Estimate

ADAMS Accession No. ML050550242 – Oyster Creek Nuclear Generating Station (OCNGS) – Safety Evaluation re: Preliminary Decommissioning Cost Estimate and Spent Fuel Management Program (TAC Nos. MC2996 and MC4994)

Kewaunee

ADAMS Accession No. ML090300120 – Dominion Energy Kewaunee, Inc. Kewaunee Power Station Report Pursuant to 10 C.F.R. 50.75(f)(3)

ADAMS Accession No. ML090300484 – Decommissioning Cost Estimate Study of the Kewaunee Nuclear Power Plant

ADAMS Accession No. ML091130661 – Kewaunee – Revised RAI re. Preliminary Decommissioning Cost Estimate (TACME253)

ADAMS Accession No. ML092321079 – (Safety Evaluation Report) Kewaunee Power Station – Irradiated Fuel Management Program and Preliminary Decommissioning Cost Estimate (TAC Nos. ME0253 and ME0275)

4 DEVELOPMENT OF THE DECOMMISSIONING COST ESTIMATE AND USE OF THE DECOMMISSIONING TRUST FUND CONSISTENT WITH THE DEFINITION OF DECOMMISSIONING

4.1 GUIDANCE ON DEVELOPMENT OF THE DECOMMISSIONING COST ESTIMATE

The NRC’s regulations ensure adequate decommissioning funding by requiring that the ‘bulk of funds’ for decommissioning be provided during a plant’s operating life, either through the use of the generic minimum funding amount described in 10 CFR 50.75(c) or a site-specific cost estimate that is greater than that amount.¹⁶ As described above in Section 3.2, as the plant nears shutdown the NRC’s requirements call for submittal of site-specific DCEs that describe the costs of radiological decommissioning in greater detail. This approach to providing decommissioning funding assurance appropriately balances the need to ensure that licensees are taking action to fund decommissioning early in the life of a facility, with the reality that such planning can only be meaningfully honed as the decommissioning of the plant draws near.

As discussed in Section 3.2, the guidance provided in this document focuses on the site-specific DCE required pursuant to § 50.82 (a)(8)(iii), which may also be used to comply with § 50.82(a)(4)(i). The primary purpose of this DCE is “to provide the NRC with a detailed assessment that incorporates the cost impact of site-specific factors,” for a nuclear power plant

¹⁶ See “General Requirements for Decommissioning Nuclear Facilities,” 53 Fed. Reg. 24,018, 24,030 (June 27, 1988) (“The amount listed as the prescribed [formula] amount does not represent the actual cost of decommissioning for specific reactors but rather is a reference level established to assure that licensees demonstrate adequate financial responsibility that the bulk of the funds necessary for a safe decommissioning are being considered and planned for early in facility life, thus providing adequate assurance at that time that the facility would not become a risk to public health and safety when it is decommissioned.”); See also, “Staff Findings on the Table of Minimum Amounts Required to Demonstrate Decommissioning Funding Assurance,” SECY-13-0066 (June 20, 2013).

that is nearing, or is within two years following, shutdown.¹⁷ This DCE considers the specific methods that the licensee will employ to decommission the facility and provides specific description of the relevant costs and the timeframes within which they will be incurred. Thus, the DCE serves as an important tool for the NRC to fulfill its main regulatory objective in this area, which is to ensure that adequate funds are available to complete radiological decommissioning and facilitate license termination.

Thus, licensees should make their site-specific DCE as comprehensive as practical, both to comply with the regulatory requirements and to provide a transparent view of the decommissioning project for all stakeholders. Generally, the site-specific DCE should provide:

- A discussion of the chosen decommissioning option (DECON, SAFSTOR, or some combination thereof);
- A discussion of the methodology used to derive the cost estimate;
- A summary of the total decommissioning costs by period (*e.g.*, planning and preparation, plant deactivation, safe storage operations, dismantlement);
- If included in the site-specific DCE, a separate listing of the costs not considered “decommissioning” (*i.e.*, spent nuclear fuel management and site restoration);
- A comparison of the total estimated cost of decommissioning with the minimum financial assurance funding requirement;
- A discussion of plans for adjusting the level of decommissioning funding to demonstrate that funds will be available when needed if the decommissioning trust is not fully funded;¹⁸

Further, licensees should clearly account for and include in the DCE those costs that, consistent with the definition of decommissioning provided in 10 CFR 50.2, are necessary to remove the facility safely from service and reduce residual radioactivity to a level that permits license termination. Such costs include, but are not necessarily limited to:

- The cost of services, supplies and special equipment necessary to remove the facility safely from service, as well as to reduce residual radioactivity to levels that allow license termination;

¹⁷ “Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors,” NUREG-1713 (Dec. 2004), at pg. 21.

¹⁸ Reg. Guide 1.202, at pg. 1.202-9; See also, NUREG-1713, a pg. 21.

- Undistributed costs, such as property taxes, consultancy costs, nuclear liability insurance costs, energy costs, annual maintenance costs for SAFSTOR phases, site termination survey costs, and regulatory costs (e.g., inspections, miscellaneous fees, etc.);¹⁹

For licensees choosing the SAFSTOR option, the NRC's guidance also suggests separating decommissioning costs into the following time periods:

- Pre-decommissioning engineering and planning/plant deactivation (all activities from engineering and planning through defueling and layup to complete the placement of the reactor into permanent shutdown condition)
- Extended safe storage operations (safe storage monitoring of the facility until dismantlement begins); if storage or monitoring of spent fuel is included in the cost estimate, it should be shown separately;
- Final radiological D&D (radiological D&D of radioactive systems and structures required for license termination, including demolition for the purposes of reducing residual radioactivity); if demolition of decontaminated structures and site restoration activities are included in the cost estimate, they should be shown separately.²⁰

Regulatory Guide 1.202 and several of the other documents referenced above in Section 3.4 provide categories of costs, and examples of specific costs that are appropriately included within each of those categories. For example, Regulatory Guide 1.202 suggests tabulating decommissioning costs for both Boiling and Pressurized Water Reactors under the following broad categories of activities:

- Radioactive Component Removal
- Decontamination and Dismantlement
- Management and Support; and
- Low-Level Waste Costs (including packing, shipping, and vendor/burial costs)

Additional detail, including examples of costs that fall within each of these categories is provided in documents, such as NUREG-1713, NUREG/CR-6174, and NUREG/CR-5884. For example, NUREG-1713 describes management and support as including:

- Labor costs of utility support staff;

¹⁹ *Id.*

²⁰ *Id.* at pg. 1.202-11.

- Labor costs of decommissioning contractor staff;
- Energy costs;
- Regulatory costs;
- Small tools;
- Insurance;
- Etc.²¹

NUREG-1713 relies heavily upon the cost distribution tables contained in NUREG/CR-6174 and NUREG/CR-5884 in directing the NRC staff's review of DCEs. Thus, these source documents are especially useful guides for licensees that are developing DCEs.

As described above, submittal of the site-specific DCE triggers annual financial assurance reports that require licensees to show that there are sufficient funds available in the NDT, or provided by another financial assurance method, to complete decommissioning based on the estimated cost to complete those activities as described in the DCE.

As explained in NUREG-1713, costs that are outside the scope of radiological decommissioning, "such as maintenance and storage of spent fuel in the spent fuel pool, the design or construction of spent fuel dry storage facilities, or other activities not directly related to the long-term storage, radiological D&D of the facility, or radiological decontamination of the site" should not be combined with decommissioning costs.²² Although activities associated with management of spent fuel and site restoration are not within the scope of the NRC definition of decommissioning, it is common practice to describe such costs in the DCE. If these non-decommissioning costs are included in the DCE, the licensee should ensure that costs are clearly segregated so that the amount necessary for radiological decommissioning can be clearly identified.

4.2 GUIDANCE ON USE OF DECOMMISSIONING TRUST FUND

4.2.1 USE OF FUNDS FOR DECOMMISSIONING PLANNING

The NRC's regulations authorize licensees to spend up to 3% of the generically prescribed minimum funding amount described in 10 C.F.R. § 50.75(c) on "decommissioning planning," including planning that occurs while the facility is still operating.²³ Appropriate planning

²¹ NUREG-1713, at pg. 26.

²² *Id.*

²³ See 10 C.F.R. § 50.82(a)(8)(ii); "Decommissioning of Nuclear Power Reactors," Regulatory Guide 1.184, Rev. 1. (Oct. 2013)(Reg. Guide 1.184), at pg. 13. Once the licensee has submitted the certifications required by 10 CFR

activities that may be funded using the 3 percent include engineering designs, work package preparation, and licensing activities. Activities that would not be appropriately funded using the 3 percent planning allowance include decontamination, draining of systems, removal of filters, projects designed to demonstrate the feasibility of a particular decommissioning activity, and the decontamination of a building that is no longer in use and would ultimately have to be decontaminated before license termination.²⁴

Regulatory Guide 1.184 also states that the NRC staff “recognizes that during the planning for decommissioning, it is necessary to consider activities leading to license termination and the storage of spent fuel; therefore, the staff’s interpretation of the appropriate use of these planning funds will permit planning for all issues related to the decommissioning of the facility.”²⁵ This section goes on to clarify that amounts “set aside for radiological decommissioning” should not be used for expenses related to maintenance and storage of spent fuel; the design, construction, or decommissioning of spent fuel dry storage facilities directly related to permanent disposal; or other activities not directly related to radiological decontamination, or dismantlement of the facility or site.²⁶ The guidance provided in Regulatory Guide 1.184 acknowledges the integrated manner in which decommissioning planning is undertaken by allowing licensees to utilize the 3% allowance for *all* planning activities related to decommissioning, while also maintaining the distinction between radiological decommissioning and spent fuel management. Licensees should note, however, that the NRC recently issued an inspection finding stating that the 3% planning allowance “cannot be used for spent fuel management planning.”²⁷ Because the inspection finding does not appear to be consistent with the guidance provided in Regulatory Guide 1.184, licensees should communicate with their NRC project manager prior to using the 3% planning allowance to plan for spent fuel management activities to ensure that such expenditures are consistent with the NRC’s expectations in this area.

4.2.2 USE OF FUNDS AFTER SUBMITTAL OF SITE-SPECIFIC DCE

Once a nuclear power plant has permanently shut down, the primary focus of NRC’s decommissioning funding assurance requirements is to ensure that adequate funds are available to remove the facility safely from service, accommodate safe extended storage (if applicable), decontaminate and dismantle the facility, and reduce any residual radioactivity to a level that will allow termination of the license. This purpose is evident in the requirements of 10 C.F.R. § 50.82(a)(8)(i), which limit the use of NDT funds and § 50.82(c)(8)(v), which requires submittal of annual financial assurance status reports.

50.82, and 90-days has passed since the NRC’s receipt of the PSDAR, the licensee may use an additional 20% of the generic minimum amount specified in 10 CFR 50.75. Once the site-specific DCE required by 10 CFR 50.82(a)(8)(iii) is submitted to the NRC, the remainder of the funds may be accessed. *See* § 50.82(a)(8)(ii).

²⁴ Reg. Guide 1.184, at pg. 13.

²⁵ Reg. Guide 1.184, at pg. 6.

²⁶ *Id.*

²⁷ “NRC Inspection Report No. 05000271/2016001, Entergy Nuclear Operations, Inc., Vermont Yankee Nuclear Power Station, Vernon, Vermont, and Exercise of Enforcement Discretion,” EA-16-0049, May 4, 2016.

Generally, the industry considers all *ordinary and necessary business expenses* incurred to remove the facility from service, achieve and maintain safe extended storage (if applicable), decontaminate and dismantle the facility to the extent necessary to allow license termination, and reduce residual radioactivity to a level that will allow license termination as expenses incurred to undertake “legitimate decommissioning activities.” Although the documents discussed in Section 4.1 and listed in Section 3.4 provide many examples of such ordinary and necessary business expenses, no complete, prescriptive list of all allowable expenses exists. That said, if an expense is described in the licensee’s most recent site-specific DCE,²⁸ is consistent with the types of costs identified in the existing NRC guidance on the development of site-specific DCEs, and meets the other criteria provided in 10 C.F.R. § 50.82(a)(8)(i)(B) and (C), then the use of the NDT for that expense is allowed under NRC’s rules.

When determining whether an expense is being incurred to fund a “legitimate decommissioning activity” it is also instructive for licensees to consider activities that the NRC has determined *do not* fall into this category. Such activities include:

- Spent fuel management;
- Site restoration;
- Disposal, during operation, of radiologically contaminated materials;
- Removal and disposal of nonradioactive structures and materials beyond that necessary to facilitate radiological decommissioning;²⁹ and
- Disposal of nonradioactive hazardous waste that is not necessary for termination of the NRC license.

Thus, absent an exemption or some other explicit approval by the NRC, NDT funds that have been collected for the purpose of radiological decommissioning may not be used to fund these activities.

The examples provided in Section 4.2.4 below can be used by licensees to guide decision-making on use of the NDT.

4.2.3 USE OF COMMINGLED FUNDS

The NRC’s regulations do allow the commingling of funds in the NDT that are being accumulated to address radiological decommissioning, with those collected for spent fuel management and site restoration. For example, the supplementary information published with the NRC’s 1996 final rule on the decommissioning of nuclear power reactors states: “The final rule does not prohibit licensees from having separate sub-accounts for other activities in the

²⁸ Although these cost estimates may not be formally “approved” by the NRC, they are reviewed in accordance with the guidance provided in NUREG-1713.

²⁹ See, e.g., Example 3 in Section 4.2.4.

decommissioning trust fund if minimum amounts specified in the rule are maintained for radiological decommissioning.”³⁰

The practice of commingling funds in the NDT is described further in Regulatory Information Summary 2001-07, Rev. 1, which states:

The NRC has not precluded the commingling in a single account of funds accumulated to comply with NRC Radiological Decommissioning requirements and funds accumulated to address State site restoration costs (State costs) and spent fuel management costs, as long as the licensee is able to identify and account for the NRC Radiological Decommissioning funds that are contained within a single account.

Based on the information in RIS 2001-7, Rev. 1, the key to appropriately managing commingled funds is to assure that funds for radiological decommissioning are identified, accounted for, and appropriately reported by the licensee, despite being commingled with funds that are set aside for other purposes (*i.e.*, spent fuel management and site restoration). Licensees that have established and funded subaccounts within the NDT, or established specific accounting that earmarks certain funds within the NDT for purposes other than radiological decommissioning, and have consistently reported the portion of the NDT allocated for radiological decommissioning to the NRC, may use such earmarked funds and subaccounts for their designated purpose. For example, in denying a petition for rulemaking requesting modification of the Commission’s rules to allow withdrawals of NDT funds during operation in order to facilitate disposal of “major radioactive components” (MRC) the NRC explained:

Whatever test might be used to gauge whether disbursements from a decommissioning trust should be allowed, the issue would not be before the NRC if licensees who desired to withdraw funds for MRC disposal had sub-accounts or established specific accounting that certain funds were earmarked for such purpose and were not relied upon to meet decommissioning funding assurance regulations. In connection with the 2002 final rule amending 10 CFR 50.75 regarding decommissioning trust provisions (which, among other things, confirmed the limitations on the use of decommissioning trust funds), the Commission stated that commingling of trust funds is not objectionable “as long as the licensees are able to provide a separate accounting showing the amount of funds earmarked” for other uses not subsumed under the NRC’s definition of decommissioning, [See 67 FR 78339; December 24, 2002]. The notion of licensees establishing sub-accounts “that clearly delineate the purpose of the sub-account” was discussed as early as 1996 in an advance notice of proposed rulemaking [See 61 FR 15427, footnote 2; April 8, 1996]. If minimum required amounts are maintained for radiological decommissioning, subaccounts for other activities are not prohibited by the NRC, [See 61

³⁰ “Decommissioning of Nuclear Power Reactors: Final Rule,” 61 Fed. Reg. 39278, 39285 (July 29, 1996).

*FR 39285; July 29, 1996]. Thus, licensees have had full notice that sub-accounts for the disposal of MRCs during operations could be established as long as decommissioning funding assurance requirements are met. In view of the foregoing, the NRC believes that licensees have had alternatives to address funding the disposal of MRCs during operations. . . .*³¹

So, it is clear that funding spent fuel management and site restoration via the NDT is allowed by NRC, provided such funds are specifically earmarked for those purposes and have not been relied upon to meet NRC's decommissioning funding assurance requirements (*i.e.*, had not previously been reported as being available for radiological decommissioning).

The NRC has indicated, however, that creating subaccounts or using accounting practices to reallocate funds previously reported to the NRC as being available to satisfy the funding assurance requirements in § 50.75 is not permitted, unless the licensee provides documentation to the NRC demonstrating that a rate regulatory authority authorized collection of the funds in question for purposes other than radiological decommissioning.³² Thus, such subaccounts or specific accounting practices should generally be established from the time of initiation of the NDT, or in accordance with direction from a rate regulatory authority. An additional option for licensees that do not meet these conditions is to fund a newly created subaccount with "fresh contributions" that have not previously been relied upon to meet the licensees obligation to fund radiological decommissioning (*i.e.*, have not previously been reported to the NRC as being available for radiological decommissioning).

4.2.4 EXAMPLES

The following illustrative examples are included to supplement the guidance provided above. Before relying upon an example, a licensee should ensure that the example is applicable to its particular circumstances.

Example 1: Utility and Decommissioning Operations Contractor Staffing Costs

A Pressurized Water Reactor (PWR) licensee has included post-shutdown utility and Decommissioning Operations Contractor staffing costs in its most recent DCE and is evaluating whether such costs/expenses may be funded by the NDT.

NUREG/CR-5884, Volume 1, Section 2.2 Study Bases and Assumptions, includes the following:

³¹ See "Petition for Rulemaking: Denial," 73 Fed. Reg. 62,220, 62,222 (Oct. 20, 2008)

³² See Letter from B.L. Mozafari (NRC) to J.A. Stall (Florida Power and Light Company), "St. Lucie Plant, Unit Nos. 1 and 2 – Biennial Decommissioning Funding Report," (Nov. 26, 2008); Letter from C.J. Sanders (NRC) to D.A. Christian, "Millstone Power Station, Unit Nos. 2 and 3 – Biennial Decommissioning Funding Report," (Nov. 24, 2008).

For decommissioning activities immediately following plant shutdown, the staff is drawn largely from the operating personnel of the station, who are very familiar with the facility and its systems. However, the staff required to decommission the reference plant are assumed to be drawn primarily from an offsite contractor, a Decommissioning Operations Contractor (DOC). The cost estimates presented in this reevaluation study assume that the utility contracts with a DOC, based on the assumption that most utilities do not have the work force available and in some instances, the expertise to manage the complete decommissioning operation.³³

NUREG/CR-5884, Table 3.1, identifies the following DECON period-dependent costs (*i.e.*, costs which are based upon the length of the decommissioning period) and undistributed costs (*i.e.*, costs which are allocated to overhead for the period under consideration):

(e.g.) DOC mobilization/demobilization, utility and DOC overhead staff, nuclear insurance, regulatory costs, plant power usage, taxes, laundry services, and environmental monitoring.

NUREG/CR-5884 makes it clear that this list of costs is not meant to be all-inclusive. Table 3.2 and Table 3.3 list the utility and DOC staffing, which includes staffing positions for security and legal (lawyer), and Section 4 reports similar expected costs for SAFSTOR.³⁴

Given the information provided above, the utility and DOC staffing costs are consistent with the licensee's most recent site-specific DCE, as well as the costs described in NUREG/CR-5884. Thus, these costs would be considered to be expenses for "legitimate decommissioning activities" pursuant to 10 C.F.R. § 50.82(a)(8)(i)(A). Provided that the expenditure also complies with §§ 50.82(a)(8)(i)(B) and (C), it would be permissible to fund this expense via the NDT.

Example 2: Period-dependent Costs

A PWR licensee has included post-shutdown regulatory costs, property taxes, and nuclear insurance in its most recent DCE and is evaluating whether such costs/expenses may be funded by the NDT.

Regulatory costs, which include both state and NRC regulatory fees for the reference plant, are shown in NUREG/CR-5884 Table 3.26 for one of the decommissioning periods (dismantlement). Property taxes, nuclear insurance and regulatory costs are discussed extensively in Appendix B, Sections B.9, B.10 and B.13, respectively.³⁵

³³ See also, NUREG/CR-6174, Vol. 1, at Section 2.2 for Boiling Water Reactors (BWR).

³⁴ See also, NUREG/CR-6174, Vol. 1, at Tables 3.1, 3.2, 3.3, and Section 4 for BWR.

³⁵ See also, NUREG/CR-6174, Vol. 1, at Table 3.27, and Appendix B Sections 9, 10, and 13 for BWR.

NUREG-1713 Table 1 identifies various decommissioning expenses from NUREG/CR studies that include consultant/other staff, regulatory costs, monitoring costs, nuclear liability insurance, and property taxes.

NUREG/CR-5884 Appendix I, Regulatory Considerations for Decommissioning, expands upon regulatory costs expected during the decommissioning process, and also includes costs for Security and Safeguards Plans and Environmental Plans (see Volume 2, page I.7).

Given the information provided above, post-shutdown regulatory costs, property taxes, and nuclear insurance are consistent with the licensee's most recent site-specific DCE, as well as the costs described in NUREG/CR-5884 and NUREG-1713. Thus, these costs would be considered to be expenses for "legitimate decommissioning activities" pursuant to 10 C.F.R. § 50.82(a)(8)(i)(A). Provided that the expenditure also complies with §§ 50.82(a)(8)(i)(B) and (C), it would be permissible to fund this expense via the NDT.

Example 3: Asbestos Removal Costs

A PWR licensee has included asbestos removal costs in its most recent DCE and is evaluating whether such costs/expenses may be funded by the NDT. Although the licensee has provided estimates of asbestos removal costs in its most recent decommissioning cost estimate, the licensee has not established designated subaccounts for site restoration, or otherwise identified and accounted for expenses related to non-radiological decommissioning in its NDT.

Asbestos removal is discussed in NUREG/CR-5884, Section 3.4:

Removal and disposal of residual asbestos is carried out simultaneously with the initial radiation survey activities. While perhaps 50,000 lb of asbestos is present in the site buildings, the bulk of that material is non-friable and is located outside of the three main buildings. Preliminary estimates developed by Portland General Electric suggest a total cost of about \$165,000 for removal and disposal of these materials. These costs are classified as cascading costs in this report. These costs do not include the cement asbestos boards contained in the cooling tower. These latter materials are removed during demolition of clean structures and are discussed in Appendix L.

As noted in a footnote at the bottom of the page, cascading costs are defined as those costs associated with the removal of non-contaminated and releasable material in support of the decommissioning process (e.g., if it is considered necessary to remove portions of the top floors or a roof to get at a bottom floor nuclear component).

The licensee would need to carefully evaluate the costs associated with asbestos removal to determine whether the removal of non-contaminated and releasable asbestos is being undertaken in support of the decommissioning process (i.e., is necessary to complete

radiological decommissioning of the facility). If so, given the discussion provided above, the asbestos removal costs are consistent with the licensee's most recent site-specific DCE, as well as the "cascading costs" described in NUREG/CR-5884. Thus, these costs would be considered to be expenses for "legitimate decommissioning activities" pursuant to 10 C.F.R. § 50.82(a)(8)(i)(A). Provided that the expenditure also complies with § 50.82(a)(8)(i)(B) and (C), it would be permissible to fund this expense via the NDT.

On the other hand, removal of non-contaminated and releasable asbestos that is not necessary to support radiological decommissioning (e.g., removal of asbestos boards contained in cooling towers) would be considered a site restoration cost and, given the facts provided above, could not be funded using the NDT.³⁶

Example 4: Indirect and Overhead Costs

A PWR licensee has included certain indirect and overhead costs in its most recent DCE and is evaluating whether such costs/expenses may be funded by the NDT. Such expenses include a portion of corporate support staff that supports the decommissioning plant, executive salaries, labor benefits, legal and IT support.

NUREG-1713 Table 1 identifies various decommissioning expenses from NUREG/CR studies that include consultant/other staff, regulatory costs, monitoring costs, nuclear liability insurance, and property taxes.

While not directly applicable to commercial nuclear plant licensees, NRC provides additional detail in NUREG-1757, Consolidated Decommissioning Guidance, Financial Assurance, Recordkeeping and Timeliness, Volume 3, Revision 1, February 2012, page A-24, as to what costs a materials licensee may incur during decommissioning, which is typical of those nuclear plant licensees are likely to encounter during decommissioning. In discussing labor costs, NRC notes:

The term "overhead" typically includes costs that are not directly traceable to any particular product produced or project conducted by the firm. Thus, overhead typically includes "period" costs, such as insurance, utilities, rent, supplies, property taxes, depreciation, and the costs of any wages, salaries, and benefits incurred as a result of the corporation's officers and support staff (e.g., accounting staff, legal staff, janitorial staff, security staff).

³⁶ The NRC has acknowledged that the agency's decommissioning rules do not prohibit the establishment subaccounts within the NDT to fund activities other than radiological decommissioning. See 61 Fed. Reg. 39, 278, 39,285 (July 29, 1996). This example describes a situation where the licensee has not established such a subaccount or otherwise communicated to the NRC that a portion of the funds collected in the NDT are earmarked for purposes other than radiological decommissioning

Given the information provided above, indirect and overhead costs are consistent with the licensee's most recent site-specific DCE, as well as the costs described in NUREG-1713 and NUREG-1757. Thus, these costs would be considered to be expenses for "legitimate decommissioning activities" pursuant to 10 C.F.R. § 50.82(a)(8)(i)(A). Provided that the expenditure also complies with §§ 50.82(a)(8)(i)(B) and (C), it would be permissible to fund this expense via the NDT.

Example 5: Economic Development and Community Costs

A licensee is considering whether costs related to economic development and local transition assistance for the host community may be funded by the NDT. These costs were not included in the licensee's most recent DCE, and the licensee has not established designated subaccounts for site restoration, or otherwise identified and accounted for expenses related to non-radiological decommissioning in its NDT. The licensee has, however, agreed to fund these activities.

The guidance documents cited in this document generally do not include "economic development" or other forms of local transition assistance for host communities, although this type of support has been seen in some decommissioning projects. These are payment streams that are negotiated outside of the State or locality's legal taxing authority.

Given the information provided above, economic development or local transition assistance are not identified in any of the available guidance as costs associated with "legitimate decommissioning activities." Thus, these costs would not meet the criteria in 10 C.F.R. § 50.82(a)(8)(i)(A) and, given the facts provided above, could not be funded via the NDT.³⁷

Example 6: Spent Fuel Management Activities

A licensee that has recently ceased operations and defueled the reactor vessel is evaluating whether costs associated with spent fuel management activities may be funded by the NDT. Although the licensee has provided estimates of spent fuel management costs in its most recent decommissioning cost estimate, the licensee has not established designated subaccounts for spent fuel management, or otherwise identified and accounted for expenses related to non-radiological decommissioning in its NDT.³⁷ The NRC's current position is that activities associated with

³⁷ The NRC has acknowledged that the agency's decommissioning rules do not prohibit the establishment subaccounts within the NDT to fund activities other than radiological decommissioning. See 61 Fed. Reg. 39, 278, 39,285 (July 29, 1996). This example describes a situation where the licensee has not established such a subaccount or otherwise communicated to the NRC that a portion of the funds collected in the NDT are earmarked for purposes other than radiological decommissioning.

³⁸ The NRC has acknowledged that the agency's decommissioning rules do not prohibit the establishment subaccounts within the NDT to fund activities other than radiological decommissioning. See 61 Fed. Reg. 39, 278, 39,285 (July 29, 1996). This example describes a situation where the licensee has not established such a subaccount or otherwise communicated to the NRC that a portion of the funds collected in the NDT are earmarked for purposes other than radiological decommissioning.

spent fuel management fall outside of the definition of decommissioning provided in 10 C.F.R. § 50.2.³⁸

Given the information provided above, the spent fuel management costs could not be funded via the NDT without an exemption or other explicit permission from the NRC. The critical fact in the scenario above is that the licensee has not established designated subaccounts for spent fuel management, or otherwise identified and accounted for expenses related to non-radiological decommissioning in its NDT. The NRC's current position is that in such a situation, the licensee would need to obtain an exemption from the requirements in 10 CFR §§ 50.75 and 50.82 prior to utilizing NDT funds for such activities.³⁹

³⁹ See “Southern California Edison Company; San Onofre Nuclear Generating Station, Units 2 and 3, Exemption; issuance,” 79 Fed. Reg. 55,019 (Sept. 15, 2014); “Duke Energy Florida, Inc.; Crystal River Unit 3 Nuclear Generating Plant, Exemption; issuance,” 80 Fed. Reg. 5,795 (Feb. 3, 2015); “Entergy Nuclear Operations, Inc.; Vermont Yankee Nuclear Power Station, Exemption; issuance,” 80 Fed. Reg. 35,992 (June 23, 2015).

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APPENDIX A – SUPPLEMENTAL INFORMATION REGARDING RELATED ISSUES

Related Issue: Caution about Financial Reporting Requirements

Licensees that prepare financial statements under GAAP reporting rules will record the obligation to decommission the facility in those statements as an Asset Retirement Obligation (ARO). The methodology used for calculation the ARO is defined in accounting literature and is not necessarily consistent with the NRC conceptions of decommissioning costs. As is apparent from the following description of how the ARO is calculated and maintained over time, a licensee's ARO may differ from metrics like the NRC minimum decommissioning formulae amount or the DCE. Licensees should be aware that several metrics to calculate decommissioning liability exist.

Under ASC 410-20 (the standard for how companies prepare their financial statements), the decommissioning liability is computed by developing expected scenarios for decommissioning the plant and producing expected cash flows for each scenario. Each of the cash flow scenarios is weighted based on the likelihood of that outcome and the present value of the combined cash flow stream is calculated using a Credit Adjusted Risk Free (CARFR). Examples of possible scenarios that may be probabilistically weighted include: license renewal followed by SAFSTOR, license renewal followed by prompt decommissioning, or SAFSTOR at the end of current license. If the likelihood of a scenario changes, or the potential scenarios themselves change, then the probabilities must be updated to adjust the liability. A new CARFR is applied, but only to the incremental increase in cash flows (existing cash flows are discounted at the original rate).

Related Issue: Review of Collection Schedules

It may be appropriate for licensees to review the basis for collections that were deposited into the NDT. While there is not necessarily an NRC regulatory requirement to match the use of funds with the stated purpose that funds were collected, the decisions in rate-making proceedings may contain assumptions about what costs were considered when collection schedules were set. This information may address (1) questions about whether the NDT includes funds collected for spent fuel management or site restoration and (2) disputes involving intergenerational issues between ratepayers subject to collections during plant operation, ratepayers subject to collections after cessation of operations and ratepayers receiving refunds of any over collection.

Related Issue: **Merchant and Cost of Service Environments**

Under NRC regulations, the NRC examines the overall financial viability of an entity during initial licensing, a license transfer, or when there is evidence of safety concerns that potentially stem from financial distress. Since current NRC regulations allow certain funding assurance mechanisms that only apply to plants under cost of service regulation, the NRC already makes a regulatory distinction between plants in different environments.

In the case of a license transfer to a merchant entity, NRC can impose conditions (typically an NDT that meets the NRC minimum, a financing mechanism to ensure liquidity for the period between an unplanned shutdown and access to the NDT, and a reasonable projection of financial viability over a five year horizon) or deny the transfer. In the case of safety concerns arising from financial distress during operation, the regulatory framework allows the NRC to require plant shutdown and allows the NRC to force the licensee to either find capital to resolve the safety issue, or declare permanent cessation of operations and proceed into decommissioning.

As explained in the Decommissioning Planning – Final Rule (76 FR 35512): “Deregulation of the electric industry now permits a reactor licensee to operate as a merchant plant not subject to rate regulation or rate recovery of costs of service. When it ceases operation, it may have no sales revenues. The licensee may be organized as a separate company or a subsidiary of a holding company to isolate the risks and rewards of selling electricity on the open market. Without access to rate relief, with no sales revenues, and with the licensee’s owner protected by limited liability, shortfalls in decommissioning funding may jeopardize timely completion of decommissioning. This final rule provides NRC regulatory authority to perform oversight to assure that the licensee anticipates potential shortfalls and takes steps to control costs to stay within its budget or obtain additional funds.”

Five plants at four sites have recently entered decommissioning. Three plants are in a cost of service framework and two are in a merchant framework. All these plants have put forward plans to manage the decommissioning projects within the regulations and, as of mid-2015, there is no basis to conclude that the current regulatory framework is inadequate.

Related Issue: **Other Regulatory Agencies/Authorities**

There are other constraints on the licensee beyond NRC regulations, which could drive a licensee to decide that some costs incurred during decommissioning will not be funded by the NDT, but may seem appropriately included in the DCE. For licensees utilizing a tax qualified trust, IRS regulations are a major factor in how the licensee will decide what can be reimbursed from the NDT and this will vary from licensee to licensee depending on their specific business model, the

manner in which tax rules apply to that business model, and how their recordkeeping systems work (mainly for allocated costs).

For licensees in cost of service regulation, the entity responsible for that regulation (e.g. Public Utility Commission) will likely influence use of the funds. Beyond that, the licensee may have agreements with host states or communities about the use of NDT funds or there may be other unique factors. Including these costs in the DCE, even if they will not be paid for through NDT funds, is consistent with the guidance to make the DCE as complete as reasonable. However, there is no requirement to do so and licensees should consider identifying them as non-NRC radiological decommissioning costs which are not subject to the NRC radiological decommissioning financial assurance requirements.

Recent experience for licensees undergoing decommissioning suggests that different functional disciplines within the licensee's organization must be involved in the reimbursement process to ensure all requirements are fully understood and observed. At a minimum, the following perspectives should be considered:

NRC Regulations: This would typically involve the regulatory assurance/licensing organization or legal staff of the licensee and would ensure compliance with NRC regulations and guidance.

Tax Regulations: Most licensees have a decommissioning trust that is qualified under IRS regulations at 26 C.F.R. § 1.468(A) and certain guidance about the criteria for reimbursement (e.g. economic performance) exists. Representatives of the licensee's tax department should be involved in ensuring compliance. There is little precedent regarding breaches of IRS qualified fund rules and the consequences could potentially be significant.

State/Local Regulations: For licensees operating under cost of service regulation or having any continued obligations to ratepayers, the relevant part of the licensee's external affairs/regulatory affairs or legal department should be involved to ensure compliance with any applicable regulations or other requirements.

Financial Review: Appropriate staff should review each reimbursement request to determine if the costs being reimbursed were appropriate, accurate and consistent with the DCE. While DCEs will not contain the granularity to provide dollar by dollar verification, this practice will provide additional validation of the licensee's standard approval authorization process.

Management Review: It is suggested that in addition to the technical reviews for compliance that the preceding groups would provide, that the licensee also review the

reimbursement for appearance of impropriety. This may be especially important when other divisions of the licensee are providing services to the decommissioning project.

Review of reimbursement may also provide an early indication of whether the project is incurring any material costs that were not contemplated in the DCE, or if costs are occurring at a time or in an amount inconsistent with DCE. This early indication of a variance from the DCE will be a valuable tool in project management.

Licensees should consider having each of these internal organizations review the DCE to ensure the planned reimbursement of costs incurred are consistent with the NRC, IRS, FERC and State regulations governing use of the NDT funds for decommissioning activities. Following submittal of the PSDAR, it will also be necessary to provide ongoing reviews of any activities that may result in a significant change from the actions and schedules described in the PSDAR (refer to 10 C.F.R. § 50.82(a)(7)) or activities for which additional detail has been made available.

Licensees should keep records of all reimbursements to support audits and to allow progress reports on the decommissioning project to be prepared, both for internal review and potential publication, to provide additional data on the adequacy of financial assurance. This audit process should focus on assuring that there is a clear accounting for funds in each of the decommissioning categories – NRC radiological decommissioning, spent fuel management, ISFSI decommissioning, and site restoration.