



Nebraska Public Power District

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NLS2018056
December 17, 2018

ATTN: Document Control Desk
Director, Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Subject: Independent Spent Fuel Storage Installation Decommissioning Funding Plan
Cooper Nuclear Station, Docket No. 50-298, DPR-46
Cooper Nuclear Station ISFSI, Docket No. 72-66

Dear Sir or Madam:

The purpose of this correspondence is to provide Nebraska Public Power District's Independent Spent Fuel Storage Installation (ISFSI) Decommissioning Funding Plan for Cooper Nuclear Station (CNS) in accordance with 10 CFR 72.30, Financial Assurance and Recordkeeping for Decommissioning. The enclosure to this letter provides an escalated valuation of the detailed cost estimate for decommissioning the ISFSI at CNS, based on an amount reflecting the work being performed by an independent contractor, an adequate contingency factor, and release of the facility and the dry storage system for unrestricted use, as specified in 10 CFR Part 20.1402.

Additionally, the enclosure provides identification of the key assumptions contained in the cost estimate and also the volume of onsite subsurface material containing residual radioactivity, if any, that will require remediation to meet the criteria for license termination. Also provided are updated specific responses to the provisions of 10 CFR 72.30(c)(1)-(4) which were the subject of a Request for Additional Information from the Nuclear Regulatory Commission related to the 2015 ISFSI decommissioning funding submittal.

The enclosure also presents information related to demonstrating the adequacy of decommissioning funding for ultimate ISFSI decommissioning.

Finally, attached is the certification required pursuant to 10 CFR 72.30(b)(6) that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning.

This letter contains no new regulatory commitments.

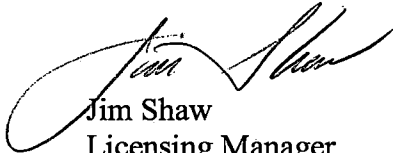
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Should you have any questions concerning this matter, please contact me at (402) 825-2788.

Sincerely,



Jim Shaw
Licensing Manager

/jo

Attachment: Certification of Financial Assurance

Enclosure: 10 CFR 72.30 ISFSI Decommissioning Cost Estimate

cc: Regional Administrator w/ attachment and enclosure
USNRC - Region IV

Cooper Project Manager w/ attachment and enclosure
USNRC - NRR Plant Licensing Branch IV

Senior Resident Inspector w/ attachment and enclosure
USNRC - CNS

NPG Distribution w/o attachment and enclosure

CNS Records w/ attachment and enclosure

Attachment
Certification of Financial Assurance

CERTIFICATION OF FINANCIAL ASSURANCE

NRC License: DPR-46

**Nebraska Public Power District
Cooper Nuclear Station**
P.O. Box 98
72676 648 A
Brownville NE 68321

Issued to: U.S. Nuclear Regulatory Commission
Subject: Independent Spent Fuel Storage Installation


Certification:

I hereby certify that Nebraska Public Power District is the licensee for the Cooper Nuclear Station Independent Spent Fuel Storage Installation (Cooper ISFSI), and that the undersigned is authorized to provide this Certification of Financial Assurance with respect to the decommissioning of the Cooper ISFSI.

During the operation of this ISFSI spent nuclear fuel will be stored in storage casks licensed under 10 CFR Part 72. Pursuant to contracts with the Department of Energy the spent fuel and casks will ultimately be removed from the ISFSI location, at which time the ISFSI will be decommissioned in accordance with NRC regulations.

I further certify that financial assurance in an amount sufficient to fund ISFSI decommissioning at the time of such decommissioning exists, as described in the Enclosure to the letter to which this Certification is attached. That amount is premised on a site-specific decommissioning cost estimate provided in that Enclosure.

Cooper Nuclear Station ISFSI \$ 6,670,000 (inclusive of contingency)



Name

Traci L. Bender

Title: Vice President & Chief Financial Officer

Date 12-14-2018



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Enclosure

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Enclosure

Independent Spent Fuel Storage Installation (ISFSI) Decommissioning Funding Plan

Cooper Nuclear Station, Docket No. 50-298, DPR-46

Cooper Nuclear Station ISFSI, Docket No. 72-66

10 CFR 72.30 ISFSI Decommissioning Cost Estimate

10 CFR 72.30 ISFSI Decommissioning Funding Plan

1. Background and Introduction

The Nuclear Regulatory Commission (NRC) issued its final rule on Decommissioning Planning on June 17, 2011,^[1] with the rule becoming effective on December 17, 2012. Subpart 72.30, "Financial assurance and recordkeeping for decommissioning," requires that each holder of, or applicant for, a license under this part must submit for NRC review and approval a decommissioning funding plan that contains information on how reasonable assurance will be provided that funds will be available to decommission the Independent Spent Fuel Storage Installation (ISFSI).

Correspondingly Nebraska Public Power District (NPPD) submitted the requisite plan to the NRC on or about December 17, 2012. A subsequent plan was submitted on December 17, 2015, with response to a Request for Information being submitted on April 11, 2018. This is the third submittal on this same topic.

In accordance with the rule, this enclosure provides an escalated valuation of the previously submitted detailed cost estimate for decommissioning the ISFSI at Cooper Nuclear Station (CNS) in an amount reflecting:

1. The work is performed by an independent contractor;
2. An adequate contingency factor; and
3. Release of the facility and dry storage systems for unrestricted use, as specified in 10 CFR Part 20.1402

This enclosure also provides:

1. Identification of the key assumptions contained in the cost estimate; and
2. The volume of onsite subsurface material containing residual radioactivity, if any, that will require remediation to meet the criteria for license termination.
3. Reconfirmation of the NPPD responses to the NRC's RAI's, submitted on April 11, 2018.

Finally, in Section 7 of this enclosure, Nebraska Public Power District (NPPD) provides a description of the method of assuring funds for decommissioning the ISFSI, including means for adjusting the cost estimate and associated funding levels over the life of the plant.

¹ U.S. Code of Federal Regulations, Title 10, Parts 20, 30, 40, 50, 70 and 72 "Decommissioning Planning," Nuclear Regulatory Commission, Federal Register Volume 76, Number 117 (p 35512 et seq.), June 17, 2011.

The material in Sections 1 – 6, and Tables 1 and 2, herein, were prepared based on evaluations conducted by TLG Services, Inc. Section 7, containing the financial assurance information, was prepared by NPPD.

2. Spent Fuel Management Strategy

The operating license for CNS is currently set to expire on January 18, 2034. Approximately 5,927 spent fuel assemblies are currently projected to be generated over the life of the plant. Because of the breach by the Department of Energy (DOE) of its contract to remove fuel from the site, an ISFSI has been constructed and spent fuel transferred to dry storage modules located on the ISFSI, to support continued plant operations. Based upon the current projection of the DOE's ability to remove spent fuel from the site, this estimate assumes that the current ISFSI will be expanded after shutdown to store the used fuel that remained in the spent fuel pool in order to support plant decommissioning. The ISFSI is operated under a Part 50 General License (in accordance with 10 CFR 72, Subpart K^[2]).

Because of the DOE's breach, it is envisioned that the spent fuel pool will contain a significant number of spent fuel assemblies at the time of expiration of the current operating license in 2034, assuming the plant operates to that date, including assemblies off-loaded from the reactor vessel. To facilitate immediate dismantling operations or safe-storage operations, the fuel that cannot be transferred directly to the DOE from the pool is assumed to be packaged in dry storage modules for interim storage at the ISFSI. Once the spent fuel pool is emptied, the spent fuel pool systems and fuel pool areas can be either decontaminated and dismantled or prepared for long-term storage.

Completion of the ISFSI decommissioning process is dependent upon the DOE's ability to remove spent fuel from the site. DOE's repository program assumes that spent fuel allocations will be accepted for disposal from the nation's commercial nuclear plants, with limited exceptions, in the order (the "queue") in which it was discharged from the reactor.^[3] NPPD's current spent fuel management plan for the CNS spent fuel is based in general upon: 1) a 2030 start date for DOE initiating transfer of commercial spent fuel to a federal facility (not necessarily a final repository), and 2) expectations for spent fuel receipt by the DOE for the CNS fuel. The DOE's generator allocation/receipt schedules are based upon the oldest fuel receiving the highest priority. Assuming a maximum rate of transfer of 3,000 metric tons of uranium/year,^[4] the spent fuel is projected to be fully removed from the CNS site in 2072. This also assumes that the 1,054 spent fuel assemblies NPPD has in storage at General Electric's wet-pool ISFSI in Morris, Illinois are shipped first, starting in 2032.

² U.S. Code of Federal Regulations, Title 10, Part 72, Subpart K, "General License for Storage of Spent Fuel at Power Reactor Sites."

³ U.S. Code of Federal Regulations, Title 10, Part 961.11, Article IV – Responsibilities of the Parties, B. DOE Responsibilities, 5.(a) ... DOE shall issue an annual acceptance priority ranking for receipt of SNF and/or HLW at the DOE repository. This priority ranking shall be based on the age of SNF and/or HLW as calculated from the date of discharge of such materials from the civilian nuclear power reactor. The oldest fuel or waste will have the highest priority for acceptance, except as ..."

⁴ "Acceptance Priority Ranking & Annual Capacity Report," DOE/RW-0567, July 2004.

NPPD believes that one or more monitored retrievable storage facilities could be put into place within a reasonable time. In January 2013, the DOE issued the “Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste,” in response to the recommendations made by then acting administration’s Blue Ribbon Commission and as “a framework for moving toward a sustainable program to deploy an integrated system capable of transporting, storing, and disposing of used nuclear fuel...”^[5]

The report stated that “[W]ith the appropriate authorizations from Congress, the Administration currently plans to implement a program over the next 10 years that: ...[A]dvances toward the siting and licensing of a larger interim storage facility to be available by 2025 that will have sufficient capacity to provide flexibility in the waste management system and allows for acceptance of enough used nuclear fuel to reduce expected government liabilities; and...”

For purposes of this estimate, NPPD is using a more conservative 2030 start date for DOE.

NPPD’s position is that the DOE has a contractual obligation to accept the spent fuel earlier than the projections set out above consistent with its contract commitments. No assumption made in this study should be interpreted to be inconsistent with this claim.

3. ISFSI Decommissioning Strategy

At the conclusion of the spent fuel transfer process the ISFSI will be promptly decommissioned (similar to the power reactor DECON alternative).

For purposes of providing an estimate for a funding plan, financial assurance is expected to be provided on the basis of a prompt ISFSI decommissioning scenario. In this estimate the ISFSI decommissioning is considered an independent project, regardless of the decommissioning alternative identified for the nuclear power plant.

4. ISFSI Description

The design and capacity of the CNS ISFSI is based upon a NUHOMS®-61BT dry storage system. The NUHOMS® system is comprised of a dry storage canister (DSC) with 61 spent fuel assembly capacity and a horizontal storage module (HSM), Model 202. The DSCs are assumed to be transferred directly to the DOE and not returned to the station. Some of the remaining HSMs are assumed to have residual radioactivity due to some minor level of neutron-induced activation as a result of the long-term storage of the spent fuel. The cost to dispose of residual radioactivity, and verify that the remaining facility and surrounding environs meet the NRC’s radiological limits established for unrestricted use, form the basis of the ISFSI decommissioning estimate.

⁵ “Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste,” U.S. DOE, January 11, 2013

NPPD's current spent fuel management plan for the CNS spent fuel would result in 73 HSMs being placed on an expanded storage pad at the site. This represents 75% of the total spent fuel projected to be generated during the currently licensed operating period. This projected configuration is based upon the 2030 DOE spent fuel program start with a 2037 DOE start date for the fuel at the CNS site, a 3,000 MTU / year pickup rate, and a 52 module capacity for the ISFSI pad built to support plant operations. This scenario would allow the spent fuel storage pool to be emptied within approximately five and one-half years following the permanent cessation of operations.

Table 1 provides the significant quantities and physical dimensions used as the basis in developing the ISFSI decommissioning estimate.

5. Key Assumptions / Estimating Approach

The decommissioning estimate is based on the configuration of the ISFSI expected after all spent fuel and GTCC material has been removed from the site. The configuration of the ISFSI is based on the station operating until the end of its current license (2034) and the DOE's spent fuel acceptance assumptions, as previously described. For purposes of this analysis the current pad (265 feet by 42 feet) will be expanded to accommodate the 73 modules.

The dry storage vendor, Transnuclear, Inc., does not expect the horizontal storage modules to have any interior or exterior radioactive surface contamination.^[6] It is expected that this assumption would be confirmed as a result of good radiological practice of surveying potentially impacted areas after each spent fuel transfer campaign. Any neutron activation of the steel and concrete is expected to be extremely small.^[7] This assumption is adopted for this analysis.

The decommissioning estimate is based on the premise that the DSC support structure within some of the HSMs and surrounding HSM concrete will contain low levels of neutron-induced residual radioactivity that would necessitate remediation at the time of decommissioning. As an allowance, nine of the 73 HSMs are assumed to be affected, i.e., contain residual radioactivity. The allowance quantity is based upon the number of DSCs required for the final core off-load (i.e., 548 offloaded assemblies/unit, 61 assemblies per DSC) which results in a total of nine HSMs that contain residual radioactivity. It is assumed that these are the final HSMs offloaded; consequently they have the least time for radioactive decay of the neutron activation products.

It is not expected that there will be any concrete activation of, and/or residual contamination left on the concrete ISFSI pad. It is expected that this assumption would be confirmed as a result of good radiological practice of surveying potentially impacted areas after each spent fuel transfer campaign. Therefore, it is assumed for this analysis

⁶ Updated Final Safety Analysis Report for the Standardized NUHOMS® Horizontal Modular Storage System for Irradiated Nuclear Fuel, Transnuclear Inc., NUH-003, Rev. 12, at page 3.5-1 dated February 1, 2012, [ML12037A013]

⁷ Ibid. at page 9.6-1

that the ISFSI pad will not be contaminated. As such, only verification surveys are included for the pad in the decommissioning estimate.

There is no known subsurface material in the proximity of the ISFSI containing residual radioactivity that will require remediation to meet the criteria for license termination.

Decommissioning is assumed to be performed by an independent contractor. As such, essentially all labor, equipment, and material costs are based on national averages, i.e., costs from national publications such as R.S. Means' Building Construction Cost Data (adjusted for regional variations), and laboratory service costs are based on vendor price lists. Those craft labor positions that are expected to be provided locally, are consistent with fully burdened contractor labor rates used in the most recently developed CNS decommissioning cost estimate. NPPD, as licensee, will oversee the site activities; the estimate includes NPPD's labor and overhead costs.

Low-level radioactive waste packaging, transport and disposal costs are based on rates consistent with the most recently developed decommissioning cost estimate (as adjusted to year 2017 dollars).

Contingency has been added at an overall rate of 25%. This is consistent with the contingency evaluation criteria referenced by the NRC in NUREG-1757.^[8]

Bottom line total costs are reported in 2018 dollars and based upon a decommissioning analysis prepared for CNS in 2015. The 2015 costs estimate is escalated for three years to a 2018 value using a 3% annual escalation factor. This escalation factor is consistent with NPPD's decommissioning funding plan for CNS.

The estimate is limited to costs necessary to terminate the ISFSI's NRC license and meet the 10 CFR §20.1402 criteria for unrestricted use. Disposition of released material and structures is outside the scope of the estimate.

The effects since the last submittal of the ISFSI decommissioning funding plan, of the following events listed in 10 CFR 72.30(c)(1)-(4) have been specifically considered and it has been determined that they have no impact on the previously submitted information in the decommissioning cost estimate:

- (1) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material: There have been no radioactive spills at the ISFSI.
- (2) Facility modifications: There have been no facility modifications in the past three years that affect the decommissioning cost estimate. However, for purposes of bounding the decommissioning cost estimate reflected in the 2015 analysis: 1) future expansion of the ISFSI is assumed in the current estimate based upon

⁸ "Consolidated Decommissioning Guidance, Financial Assurance, Recordkeeping, and Timeliness," U.S. Nuclear Regulatory Commission's Office of Nuclear Material Safety and Safeguards, NUREG-1757, Volume 3, Revision 1, February 2012.

continuing delays by the DOE in removing the spent fuel from the site, and 2) the potential volume of low-level radioactive waste volume generated from HSMs disposition is correspondingly assumed to increase.

- (3) Changes in authorized possession limits: There are no changes in authorized possession limits that affect the decommissioning cost estimate.
- (4) Actual remediation costs that exceed the previous cost estimate: No actual remediation costs have been incurred; therefore, no actual remediation costs exceed the previous cost estimate.

There are no changes to the preceding substantive responses to the associated questions with this submittal.

6. Cost Estimate

The estimated cost to decommission the ISFSI and release the facility for unrestricted use is provided in Table 2. This underlying estimate from the decommissioning cost study previously submitted is unchanged from the prior submittals. The cost has been organized into three phases, including:

- An initial planning phase - empty HSMs are characterized and the specifications and work procedures for the decontamination (DSC support structure removal) developed.
- The remediation phase - residual radioactivity is removed, packaged in certified waste containers, transported to the low-level waste site, and disposed of at low-level waste.
- The final phase - license termination surveys, independent surveys are completed, and an application for license termination submitted.

In addition to the direct costs associated with a contractor providing the decommissioning services, the estimate also contains costs for the NRC (and NRC contractor to perform the verification survey), NPPD's oversight staff, site security (industrial), and other site operating costs.

For estimating purposes it should be conservatively assumed that all expenditures will be incurred following plant decommissioning and all spent fuel removal. Based on best available information, NPPD expects that the DOE will complete the pickup of spent fuel at CNS by 2072.

7. Financial Assurance

ISFSI operations at CNS are in response to the DOE's failure to remove spent nuclear fuel from the site in a timely manner. The costs for management of the spent fuel are costs for which the DOE is responsible under federal law and the Standard Contract. It is therefore expected that, once the ISFSI is no longer needed, the cost to decommission the ISFSI would be a DOE-reimbursable expense. Until such time that the costs can be recovered from the DOE, NPPD will rely upon the money available in its

decommissioning trust fund to terminate the ISFSI license and release the facility for unrestricted use.

Using the decommissioning trust fund is reasonable based on the following:

- Although the decommissioning trust fund is for radiological decommissioning (i.e., post-shutdown) costs only, the ISFSI decommissioning is a radiological cost. Also, to the extent that the trust fund balance exceeds costs required for Part 50 radiological decommissioning, these funds would be available to address costs incurred by NPPD, including ISFSI decommissioning costs.
- The projected minimum certification amount, calculated pursuant to 10 CFR 50.75(c) required to demonstrate reasonable assurance of funds for decommissioning CNS is \$619,817,000 (2017 dollars), based upon the NRC's latest figures for calculating that value.^[9]
- Based upon CNS's decommissioning trust fund balance as of December 31, 2017 as reported in Nebraska Public Power District's 2018 Decommissioning Funding Annual Report (internal) and considering a 2.5% real rate of return^[10] on the fund between December 31, 2017 and the start of CNS decommissioning the trust fund would contain a \$375,431,150 surplus (refer to Table 3) beyond the NRC minimum funding formula provided in 10CFR50.75(c). This surplus is more than sufficient to complete the future decommissioning of the ISFSI (estimated cost provided in Table 2).
- NPPD will continue to assess the decommissioning fund status in accordance with the NRC requirements (e.g. 10CFR 50.75(b)(2), 10CFR 50.75(f)(1), 10CFR72.30(c)) and projected surplus, to account for the continued assurance of adequate funds for ISFSI decommissioning. Any adjustments to the cost estimate and funding levels will be made in connection with the triennial filing required pursuant to 10CFR72.30(c). To the extent any specific regulatory actions are necessary at the time of withdrawal from the trust fund of the amount necessary for ISFSI decommissioning, NPPD will pursue such actions.
- In addition to the projected excess in decommissioning funds that would be available for the diminimus level of funding required for ISFSI decommissioning, NPPD could additionally rely on its available cash and investments that total over \$1.3 billion (including \$618.0 million in liquid assets). This information was provided to the NRC with NPPD's guarantee of deferred premiums, pursuant to 10 CFR 140.21, submitted by letter dated July 17, 2018, "Licensee Guarantees of Payment of Deferred Premiums", Cooper Nuclear Station, Docket No. 50.298, DPR-46.

⁹ "Report on Waste Burial Charges," U.S. Nuclear Regulatory Commission's Office of Nuclear Reactor Regulation, NUREG-1307, Rev. 16, March 2017.

¹⁰ The assumed annual real rate of return is 2.50 percent. The District's Board of Directors (as the licensee's rate setting authority) has approved this assumption for the decommissioning funding plan for Cooper Nuclear Station through the adoption of a Board Resolution, dated June 13, 2008, as part of its official business.

- NPPD provides this information because it further demonstrates the availability of funding to pay for ISFSI decommissioning. NPPD is not here submitting this information in the form of a guarantee under 10 CFR 72.30(e)(2), but may do so in the future.

**Table 1
Significant Quantities and Physical Dimensions**

ISFSI Pad

Item	Length (ft)	Width (ft)	Residual Radioactivity
Current ISFSI Pad	265	42	No

ISFSI Horizontal Storage Module – Model 202

Item	Value	Notes (all dimensions are nominal)
Outside Height (inches)	222	Without vent cover
Outside Length (inches)	248	Without shield walls
Outside Width (inches)	116	Without shield walls
Quantity (total)	73	Spent Fuel (excluding GTCC modules)
Quantity (with residual radioactivity)	9	Equivalent to the number of HSMs used to store last complete core offload)
HSM Low-Level Radioactive Waste (pounds)	2,808,891	Concrete and steel
Other Low-Level Radioactive Waste (pounds)	1,562	DAW, filters and other secondary waste
Low-Level Radioactive Waste (packaged density)	146	Average weight density

Table 2
ISFSI Decommissioning Costs and Waste Volumes

	(thousands, 2015 dollars)						Waste Volume	Hours	
	Removal	Packaging	Transport	Disposal	Other	Total	(cubic feet)	Craft	Oversight and Contractor
Decommissioning Contractor									
Planning (characterization, specs and procedures)	-	-	-	-	219	219	-	-	1,096
Remediation (HSM disposition)	406	4	795	1,303	-	2,508	19,245	3,757	-
License Termination (radiological surveys)	-	-	-	-	967	967	-	8,164	-
Subtotal	406	4	795	1,303	1,186	3,694	19,245	11,921	1,096
Supporting Costs									
NRC and NRC Contractor Fees and Costs	-	-	-	-	405	405	-	-	776
Insurance	-	-	-	-	110	110	-	-	-
Energy	-	-	-	-	43	43	-	-	-
Non-Labor Overhead	-	-	-	-	26	26	-	-	-
Security (industrial)	-	-	-	-	327	327	-	-	5,013
NPPD Oversight Staff	-	-	-	-	278	278	-	-	3,803
Subtotal	-	-	-	-	1,189	1,189	-	-	9,592
Total (w/o contingency)	406	4	795	1,303	2,375	4,883	19,245	11,921	10,688
Total (w/25% contingency)	508	5	994	1,628	2,969	6,104			
Updated Total (w/25% contingency and adjusted by 3% annually to 2018 dollars)						\$6,670			

Table 3

2018 Annual Report on Financial Assurance for Decommissioning
In Accordance with 10 CFR 50.75(f)(1)

Date: April 17, 2018

Station: Cooper Nuclear Station

Owner/licensee making the report: Nebraska Public Power District

Nebraska Public Power District (the “District”) is a public corporation and political subdivision of the state of Nebraska. The District has the power and is required to fix, establish, and collect adequate rates and other charges for electrical energy and any and all commodities or services sold or furnished by it. The District is accordingly authorized to establish its own rates and other charges through which it can recover its cost of service. The District is governed by an 11-member Board of Directors who are popularly elected from the District’s chartered territory. The Board of Directors is the rate making authority for the District.

Percentage Ownership: 100

10 CFR 50.75(b) & (c) Decommissioning Estimate (2017 Dollars): \$619,817,000¹

Decommissioning Fund² Total as of 12/31/2017: \$600,941,473

Schedule of Future Annual Fund Projected Earnings and the NRC Minimum Decommissioning Cost in Constant 2017 dollars³

Year	Beginning Balance	Funding Contribution	Decommissioning Funding Requirement Year-Beginning	Projected Earnings Credit Applying Approved Real Rate of Return	Ending Balance	NRC Minimum 2017 Dollars
2018	\$600,941,473	-	0	\$15,023,537	\$615,965,010	\$619,817,000
2019	\$615,965,010	-	0	\$15,399,125	\$631,364,135	\$619,817,000
2020	\$631,364,135	-	0	\$15,784,103	\$647,148,238	\$619,817,000
2021	\$647,148,238	-	0	\$16,178,706	\$663,326,944	\$619,817,000
2022	\$663,326,944	-	0	\$16,583,174	\$679,910,118	\$619,817,000
2023	\$679,910,118	-	0	\$16,997,753	\$696,907,871	\$619,817,000
2024	\$696,907,871	-	0	\$17,422,697	\$714,330,568	\$619,817,000

¹ This updated estimate is based upon NRC decommissioning minimum certification escalation requirements in 10 CFR 50.75(c)(1) and (2) and guidance per NUREG 1307 for a BWR the size (2,419 MW thermal) of Cooper Nuclear Station. The calculation utilizes the waste burial factor for Unaffiliated and Compact-Affiliated States with no Disposal Facility in Revision 16 of NUREG 1307 and Labor (final) and Energy (preliminary) escalation factors derived from December 2017 Midwest regional data of the U.S. Department of Labor Bureau of Labor Statistics.

² This is the total amount (market value) in the external sinking fund (as described in 10 CFR 50.75) available to cover the costs of NRC-defined decommissioning.

³ These figures will be recalculated on an annual basis in accordance with 10 CFR 50.75 (b) and (c). The above amounts reflect the current projected annual contributions (including fund earnings), as necessary, to fully fund the decommissioning trust by the end of the operating license (license expiration January 18, 2034), and taking into account a pro rata credit during the dismantlement period (recognizing both cash expenditures and earnings) over the first seven years after shutdown on a constant dollar basis (see 10 CFR 50.75(e)(1)(ii)). Please note that all submissions by the District prior to 2015 in accordance with 10 CFR 50.75(f)(1) have been provided on a nominal dollar basis. This change is responsive to RAI #3 included in a May 23, 2013 email from Lynnea Wilkins, NRC Project Manager.

Year	Beginning Balance	Funding Contribution	Decommissioning Funding Requirement Year-Beginning	Projected Earnings Credit Applying Approved Real Rate of Return	Ending Balance	NRC Minimum 2017 Dollars
2025	\$714,330,568	-	0	\$17,858,264	\$732,188,832	\$619,817,000
2026	\$732,188,832	-	0	\$18,304,721	\$750,493,553	\$619,817,000
2027	\$750,493,553	-	0	\$18,762,339	\$769,255,892	\$619,817,000
2028	\$769,255,892	-	0	\$19,231,397	\$788,487,289	\$619,817,000
2029	\$788,487,289	-	0	\$19,712,182	\$808,199,471	\$619,817,000
2030	\$808,199,471	-	0	\$20,204,987	\$828,404,458	\$619,817,000
2031	\$828,404,458	-	0	\$20,710,111	\$849,114,569	\$619,817,000
2032	\$849,114,569	-	0	\$21,227,864	\$870,342,434	\$619,817,000
2033	\$870,342,434	-	0	\$21,758,561	\$892,100,994	\$619,817,000
2034	\$892,100,994	-	\$88,545,286	\$20,088,893	\$823,644,601	
2035	\$823,644,601	-	\$88,545,286	\$18,377,483	\$753,476,798	
2036	\$753,476,798	-	\$88,545,286	\$16,623,288	\$681,554,800	
2037	\$681,554,800	-	\$88,545,286	\$14,825,238	\$607,834,752	
2038	\$607,834,752	-	\$88,545,286	\$12,982,237	\$532,271,702	
2039	\$532,271,702	-	\$88,545,285	\$11,093,160	\$454,819,578	
2040	\$454,819,578	-	\$88,545,285	\$9,156,857	\$375,431,150	

Rate Assumptions

Rates of escalation used in estimating future decommissioning costs

- 3%

Rates of Earnings on Decommissioning Funds Post-tax⁴

- 5.5%

Contracts Relied Upon to Demonstrate Decommissioning Funding Assurance [50.75(e) (1) (v)]: None

Modifications to the District's Current Method of Providing Financial Assurance: None

Material Changes to Decommissioning Trust Agreement: None

NOTE 1: The District continues to maintain its Decommissioning Trust Fund investments in fixed income securities as required by Nebraska State Statutes.

⁴ The assumed annual real rate of return is 2.50 percent. The District's Board of Directors (as the licensee's rate setting authority) has approved this assumption for the decommissioning funding plan for Cooper Nuclear Station through the adoption of a Board Resolution, dated June 13, 2008, as part of its official business. There has been no change to that Board Resolution, which was submitted as part of the July 14, 2011, RAI response.