



10 CFR 50.75
10 CFR 50.82

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Fort Calhoun Station, Unit No. 1
Renewed Facility Operating License No. DPR-40
NRC Docket No. 50-285

Fort Calhoun Station
Independent Spent Fuel Storage Installation
NRC Docket No. 72-054

Subject: Fort Calhoun Station, Unit No. 1, 2019 Annual Decommissioning Funding / Irradiated Fuel Management Status Report

References:

1. Letter from OPPD (T. Burke) to USNRC (Document Control Desk), "Certification of Permanent Cessation of Power Operations," dated August 25, 2016 (LIC-16-0067) (ML16242A127)
2. Letter from OPPD (T. Burke) to USNRC (Document Control Desk), "Certification of Permanent Removal of Fuel from the Removal of Fuel from the Reactor Vessel," dated November 13, 2016 (LIC-16-0074) (ML16319A254)
3. Letter from OPPD (M. J. Fisher) to USNRC (Document Control Desk), "Fort Calhoun Station, Unit No. 1, Post-Shutdown Decommissioning Activities Report," dated March 31, 2017 (LIC-17-0033)(ML17089A759)
4. Letter from OPPD (M. J. Fisher) to USNRC (Document Control Desk), "Fort Calhoun Station Irradiated Fuel Management Plan," dated March 31, 2017 (LIC-17-0031) (ML17093A594)
5. Letter from USNRC (J. S. Kim) to OPPD (M. J. Fisher) "Fort Calhoun Station, Unit 1-Review of Post-Shutdown Decommissioning Activities Report (CAC NO. MF9536; EPID I-2017-LLL-0008)," dated March 23, 2018 (NRC-18-018) (ML18011A687)

In accordance with 10 CFR 50.75(f)(1), 10 CFR 50.82(a)(8)(v), 10 CFR 50.82(a)(8)(vi), and 10 CFR 50.82(a)(8)(vii), Omaha Public Power District (OPPPO) is submitting the annual status of decommissioning funding, status of funding for managing irradiated fuel, and the financial assurance status report.

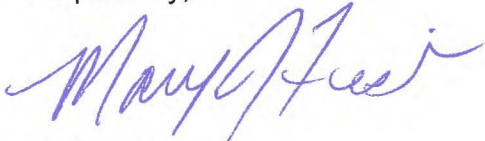
In References 1 and 2, OPPD certified permanent cessation of power operation and permanent removal of fuel from the reactor vessel for the Fort Calhoun Station, Unit 1, (FCS). In Reference 3, OPPD submitted its Post-Shutdown Decommissioning Activities Report (PSDAR) containing a site-specific Decommissioning Cost Estimate (DCE) pursuant to 10 CFR 50.82(a)(4)(i) and 10 CFR 50.82(a)(8)(iii). In Reference 4, OPPD submitted its Irradiated Fuel Management Plan as required by 10 CFR 50.82(a)(4)(i). In Reference 5, the NRC found that the PSDAR contained the necessary information required by 10 CFR 50.82(a)(4)(i) and was consistent with the guidance of Regulatory Guide 1.185, revision 1.

Enclosure 1 provides the 2019 Annual Decommissioning Funding / Irradiated Fuel Management Status Report.

No commitments to the NRC are made in this letter.

If you should have any questions about the enclosed reports, please contact Mr. Bradley H. Blome, Director Licensing & Regulatory Assurance, at 402-533-6041.

Respectfully,



Mary J. Fisher
Vice President, Energy Production & Nuclear Decommissioning

MJF/cac

Enclosures:

1. 2019 Annual Decommissioning Funding / Irradiated Fuel Management Status Report
- c: S. A. Morris, NRC Regional Administrator, Region IV
J. D. Parrott, NRC Senior Project Manager
C. D. Steely, NRC Senior Health Physicist, Region IV

ENCLOSURE 1

OMAHA PUBLIC POWER DISTRICT

FORT CALHOUN STATION UNIT NO.1

**2019 ANNUAL DECOMMISSIONING FUNDING / IRRADIATED FUEL MANAGEMENT
STATUS REPORT**

As of December 31, 2018

**OMAHA PUBLIC POWER DISTRICT
FORT CALHOUN STATION UNIT NO. 1
2019 ANNUAL
DECOMMISSIONING FUNDING / IRRADIATED FUEL MANAGEMENT STATUS REPORT
as of December 31, 2018**

10 CFR 50.75 (f) and 50.82(8)

As required by 10 CFR 50.75 (f) and 50.82(8), OPPD reports the following information:

A. Current Decommissioning Cost Estimate

Pursuant to 10 CFR 50.75(c), the 2019 estimated NRC minimum decommissioning amount to decommission Fort Calhoun Station Unit No 1 is **\$434,916,000**. See Attachment A for the detailed decommissioning cost calculation and Attachment B for the applicable indices. Although required by 50.75(c) OPPD does not use this calculation for any other decommissioning cost estimates or evaluations. The estimate is superseded by the requirements of 10 CFR 50.82(8). Additional reporting requirements required by 10 CFR 50.82(8) are documented in Attachment C.

As required by 10 CFR 50.82, OPPD has completed a site-specific decommissioning cost analysis. Based on the decommissioning cost analysis (completed in 2018), the total estimated cost to decommission Fort Calhoun Station Unit No. 1 is **\$1,213,203,000** in 2018 dollars. Of that total cost estimate, the current site-specific cost estimate for license termination expenses (LTE) of Fort Calhoun Station Unit No. 1 is **\$832,492,000**, the current separate estimate of site restoration is **\$49,149,000** and the current separate estimate of spent fuel management costs is **\$331,562,000**.

The total cost estimate was reported as **\$1,295,453,000** (2017 dollars) in the Decommissioning Cost Estimate as required by 10 CFR 50.82(a)(8)(iii) (reference 1). The cost estimate included monies anticipated to be spent for operating license termination (radiological remediation), interim spent fuel storage and site restoration activities.

B. Current Decommissioning Fund Balance

The total OPPD Decommissioning Fund(s) balance as of December 31, 2018 was **\$465,956,000**. OPPD maintains two separate trust accounts, one for the NRC minimum decommissioning amount as outlined in 10 CFR 50.75 (c) and one for other costs including additional radiological, site restoration and spent fuel management as determined by the consultant cost study. As of December 31, 2018, the balance in the fund for the NRC minimum decommissioning amount was **\$295,783,000**. As of December 31, 2018, the balance in the funds accumulated for other decommissioning costs was **\$170,173,000**.

The two trust funds are not commingled and the funds accumulated for the additional decommissioning cost are not included as funds for the NRC minimum decommissioning amount. The funds accumulated for the additional decommissioning costs including additional radiological, site restoration and spent fuel management are available for radiological decommissioning without prior approval by a State regulatory authority and are not subject to disapproval for radiological decommissioning by a State regulatory authority.

C. Annual Decommissioning Collections

There were no annual collections for 2016. The annual collections for 2017 and 2018 were \$147,469,000 and \$156,000,000, respectively. The total expected future collections for decommissioning are \$679,850,000 beginning in 2019 as shown in Attachment C, Column 1. The revenue source for collections is OPPD "cost-of-service" electric rates.

D. Rates Used to Escalate Decommissioning Costs and Fund Balances

The rates used for the escalation of the site-specific decommissioning cost estimate and earnings rates on the Decommissioning Fund through the completion of decommissioning are shown in Attachment D. Congressional Budget Office data provided the basis for the decommissioning cost estimate inflation rate forecasts. Decommissioning costs are inflated using a blending of the Congressional Budget Office's forecasts for Consumer Price Index, All-Urban and Employment Cost Index, Total Private Compensation. Decommissioning trust earnings are projected using Barclay's forecasted yield on 5-year Treasury notes.

E. Contracts to Help Fund Decommissioning

OPPD does not have any contracts pursuant to 10 CFR 50.75 (e)(1)(ii)(C) and is not relying on contracts with a "non-bypassable charge" to fund decommissioning.

F. Modifications to Method of Providing Financial Assurance

There have been no modifications to OPPD's method of providing financial assurance since the decommissioning funding plan began in 1982 and continued pursuant to NRC Regulations in 1990.

G. Changes in the Decommissioning Funding Plan Trust Agreement

The Decommissioning Funding Plan Trust Agreement previously had a fund audit to cover the period July 1 through June 30. To align the Decommissioning Trust Fund audit with Omaha Public Power District's audit, the audit period for the Trust Fund was changed to January 1 through December 31. This change became effective January 1, 2018.

Additionally, the Trust Agreement previously stated Omaha Public Power District would submit to the NRC an annual accounting statement received from the Trustee on an annual basis. The Trust Agreement was changed to state that Omaha Public Power District will submit an annual accounting statement when requested by the NRC.

References:

1. Letter from OPPD (M. J. Fisher) to USNRC (Document Control Desk), "Fort Calhoun Station, Unit No. 1, Post-Shutdown Decommissioning Activities Report," dated March 31, 2017 (LIC 17 0033) (ML17089A759)
2. Letter from OPPD (M. J. Fisher) to USNRC (Document Control Desk), "Fort Calhoun Station Irradiated Fuel Management Plan," dated March 31, 2017 (LIC-17-0031) (ML17093A594)

ATTACHMENT A

**OMAHA PUBLIC POWER DISTRICT
 FORT CALHOUN STATION UNIT NO. 1
 2019 ANNUAL DECOMMISSIONING FUNDING STATUS REPORT TO NRC**

2019 Escalation of the Minimum Decommissioning Amount (MDA) Estimate
 Based on Nuclear Regulatory Commission (NRC) Formulas and Application to OPPD

The NRC accepted OPPD's Decommissioning Funding Plan in 1990. As part of the Decommissioning Funding Plan, OPPD calculates the MDA using the NRC formula as follows:

NRC Formula for MDA

For a PWR (10 CFR 50.75©(1)(i))

Between 1200 MWt and 3400 MWt \$(75 = 0.0088P) million

\$75 million + \$8800(P) = MDA for a Pressurized Water Reactor (PWR) Plant

where: P = MWt reactor rating
 Fort Calhoun = 1500
 MDA expressed in 1986 Dollars (to be escalated)
 = 75 million +(8800*1500)
 88,200,000 =MDA in 1986 \$'s

Escalation of Cost Adjustment Factors

Adjustment factor defined in 10 CFR 50.75 (c)(2)

Estimated Decommissioning Cost in Year 20XX = MDA X (0.65 (L) + 0.13 (E) + 0.22 (B))

Where: **"L" is the Labor factor.** The Labor factor is obtained from the "Employment Cost Indexes", published by the U.S. Department of Labor - Bureau of Labor Statistics. Specifically, the appropriate regional data from the table "Employment Cost Index for total compensation, for private industry workers, by bargaining status, census region and division, and metropolitan area status" should be used. For OPPD, data from the Midwest Region is used.

"E" is the Energy factor. The Energy factor is to be obtained from the following two component formula specifically weighted for PWR plans:

$$0.58P + 0.42F = E \text{ (Energy Factor)}$$

Where: "P" is the component for electric power, and "F" is the component for fuel oil.

Both "P" and "F" are values of current Producer Price Indices (PPI Codes 0543 and 0573, respectively) divided by the corresponding indexes for January 1986. All PPI values are based on a value of 100 for the year 1982.

"B" is the Waste Burial factor. The Waste Burial factor is obtained from the most recent version of the NRC report, NUREG-1307, Report on Waste Burial Charges.

$L_{(current)} = 2.75$	$L_{(current)}/ECI=Base L_{(2005)}/100$	$L_x/132.3 \text{ Dec '18}=2.08 \text{ Dec '05}/100$
$E_x \text{ (PWR)}= 2.43$	$0.58P_x + 0.42F_x$	$(.58*2.10)+(.42*2.87)$
	$P_x=240.2(P) \text{ Dec '18}/114.2 \text{ Jan '86}$	2.10
	$F_x = 235.1(P) \text{ Dec '18}/81.9 \text{ Jan '86}$	2.87
$B_x= 12.85$	NRC NUREG-1307, Rev.17 (Appendix B, (B.1))	

Computation:

Estimated Decommissioning Cost in Year 20XX = MDA X (0.65 (L) + 0.13 (E) + 0.22 (B))

MDA (1986 Dollars) = \$ 88,200,000

$L_x = 2.75$

$E_x = 2.43$

$B_x = 12.85$

$= 88,200,000 * ((0.65 * 2.75) + (.13 * 2.43) + (.22 * 12.85))$

\$ 434,915,984 MDA Estimate escalated to 2018 \$'s

Decommissioning Funding Status Report
 OMAHA PUBLIC POWER DISTRICT

ATTACHMENT B

Summary Information as of December 31, 2018
 10 CFR 50.82 (a) (8) (v)-(vii)

Decommissioning Trust Fund Balances 50.75(f)(1) 50.82(a)(8)(v)(A)

Year	Type of Trust	Fund Balance	Comments
2018	Decommissioning Trust '90 Plan	\$ 295,782,535	As of 12/31/18
2018	Decommissioning Suppl '92 Plan	\$ 170,173,499	As of 12/31/18
		\$ 465,956,034	

Other Financial Assurance Methods Being Relied Upon 50.75(f)(1)

NONE

Prior Years Decommissioning Expenditures 50.82(a)(8)(v)(A)

Year	Decom Expenditures	Spent Fuel	Total	Comments
2016	\$ 574,826	\$ -	\$ 574,826	2016 Cost in as Spent Dollars
2017	\$ 115,251,711	\$ 4,475,227	\$ 119,726,938	2017 Cost in 2017 Dollars
2018	\$ 83,845,046	\$ 30,408,102	\$ 114,253,148	2018 Cost in 2018 Dollars
TOTAL	\$ 199,671,583	\$ 34,883,329	\$ 234,554,912	

Prior Year Expenditures Variance to Estimated Cost 50.82(a)(8)(v)(B)

Year	Decom Expenditures	Spent Fuel	Total	Comments
2018 Estimated	\$ 66,797,768	\$ 34,050,302	\$ 100,848,070	
2018 Actual	\$ 83,845,046	\$ 30,408,102	\$ 114,253,148	
	\$ 17,047,278	\$ (3,642,200)	\$ 13,405,078	

Variance: Due to timing difference of accruals versus actuals, and projects completed earlier than estimated.

Remaining Decommissioning Estimated Cost 50.82(a)(8)(v)(B) /(vii)(B)

Year	Decom Expenditures	Spent Fuel	Total	Comments
2019	\$ 881,641,181	\$ 331,562,113	\$ 1,213,203,294	Estimated in 2018 Dollars

Decommissioning Criteria Upon Which the Estimate is Based 50.75(f)(1) 50.82(a)(8)(v)(B)

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Any Modification to Method of Providing Financial Assurance 50.75(f)(1) 50.82(a)(8)(v)(C)

NONE

Any Material Changes to Trust Agreement Since Previous Report 50.75(f)(1) 50.82(a)(8)(v)(D)

No material changes. See Section G.

Need for Additional Financial Assurance 50.75(f)(1) 50.82(a)(8)(vi) (vii)(C)

See Attachment D, Column 1, Annual Decommissioning Fund Collections

OMAHA PUBLIC POWER DISTRICT
 FORT CALHOUN STATION UNIT NO. 1
 2019 ANNUAL DECOMMISSIONING FUNDING STATUS REPORT

ATTACHMENT C

Decommissioning Fund Annual Collections, Earnings, Expenditures and Balances

Year	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
	Total Annual Decommissioning Fund Collections ¹						Earnings on Trust Funds
2018						\$ 295,782,535	\$ 170,173,499
2019	\$ 143,000,000	\$ 12,203,164	\$ 57,618,615	\$ 37,119,643	\$ -	\$ 302,430,168	\$ 223,990,771
2020	\$ 150,000,000	\$ 13,933,053	\$ 64,240,231	\$ 47,524,701	\$ -	\$ 309,333,887	\$ 269,255,174
2021	\$ 155,000,000	\$ 17,033,603	\$ 6,767,208	\$ 7,612,616	\$ -	\$ 317,365,082	\$ 418,877,757
2022	\$ 150,000,000	\$ 21,912,325	\$ 6,979,810	\$ 7,851,777	\$ -	\$ 325,921,319	\$ 567,402,258
2023	\$ 81,850,000	\$ 26,093,292	\$ 7,191,004	\$ 8,089,356	\$ -	\$ 688,844,665	\$ 297,141,845
2024	\$ -	\$ 28,482,357	\$ 7,420,505	\$ 8,346,694	\$ -	\$ 701,375,274	\$ 297,326,394
2025	\$ -	\$ 29,787,627	\$ 7,616,450	\$ 8,567,952	\$ -	\$ 714,734,665	\$ 297,570,228
2026	\$ -	\$ 31,163,575	\$ 7,834,376	\$ 8,813,103	\$ -	\$ 728,964,063	\$ 297,856,926
2027	\$ -	\$ 32,390,869	\$ 8,057,139	\$ 9,063,695	\$ -	\$ 743,967,122	\$ 298,123,902
2028	\$ -	\$ 33,715,490	\$ 8,306,047	\$ 9,342,764	\$ -	\$ 759,801,209	\$ 298,356,494
2029	\$ -	\$ 34,935,138	\$ 8,522,131	\$ 9,586,777	\$ -	\$ 776,438,565	\$ 298,545,368
2030	\$ -	\$ 35,483,950	\$ 8,847,212	\$ 9,952,468	\$ -	\$ 793,299,451	\$ 298,368,752
2031	\$ -	\$ 36,029,418	\$ 9,133,219	\$ 10,274,206	\$ -	\$ 810,431,036	\$ 297,859,160
2032	\$ -	\$ 36,573,304	\$ 9,405,774	\$ 10,579,753	\$ -	\$ 827,856,009	\$ 297,021,964
2033	\$ -	\$ 37,117,482	\$ 9,636,919	\$ 10,840,832	\$ -	\$ 845,626,240	\$ 295,891,464
2034	\$ -	\$ 37,662,464	\$ 9,894,733	\$ 11,130,854	\$ -	\$ 863,726,114	\$ 294,428,467
2035	\$ -	\$ 38,207,219	\$ 10,156,253	\$ 11,425,044	\$ -	\$ 882,162,839	\$ 292,617,664
2036	\$ -	\$ 38,734,025	\$ 10,446,439	\$ 12,746,688	\$ -	\$ 900,918,490	\$ 289,402,912
2037	\$ -	\$ 39,287,806	\$ 9,374,963	\$ 11,639,828	\$ -	\$ 921,388,019	\$ 287,206,398
2038	\$ -	\$ 39,904,800	\$ 9,614,794	\$ 10,889,353	\$ -	\$ 942,295,360	\$ 285,699,711
2039	\$ -	\$ 40,533,154	\$ 9,860,890	\$ 11,705,610	\$ -	\$ 963,648,721	\$ 283,313,003
2040	\$ -	\$ 41,145,412	\$ 10,141,068	\$ 12,586,482	\$ -	\$ 985,428,306	\$ 279,951,279
2041	\$ -	\$ 41,768,812	\$ 10,373,351	\$ 11,748,465	\$ -	\$ 1,007,697,002	\$ 277,329,579
2042	\$ -	\$ 42,413,561	\$ 10,640,794	\$ 12,051,362	\$ -	\$ 1,030,435,349	\$ 274,312,638
2043	\$ -	\$ 43,060,489	\$ 10,916,645	\$ 12,363,780	\$ -	\$ 1,053,650,439	\$ 270,877,612
2044	\$ -	\$ 43,708,011	\$ 11,231,557	\$ 12,718,764	\$ -	\$ 1,077,318,436	\$ 266,967,305
2045	\$ -	\$ 44,356,663	\$ 11,492,114	\$ 13,015,535	\$ -	\$ 1,101,509,682	\$ 262,625,073
2046	\$ -	\$ 45,007,060	\$ 11,789,936	\$ 13,352,836	\$ -	\$ 1,126,203,716	\$ 257,795,327
2047	\$ -	\$ 45,646,752	\$ 12,094,444	\$ 14,357,005	\$ -	\$ 1,151,410,483	\$ 251,783,862
2048	\$ -	\$ 46,273,404	\$ 12,440,809	\$ 14,764,459	\$ -	\$ 1,177,104,504	\$ 245,157,978
2049	\$ -	\$ 46,909,432	\$ 12,727,259	\$ 14,414,412	\$ -	\$ 1,203,362,916	\$ 238,667,326
2050	\$ -	\$ 47,532,327	\$ 13,055,976	\$ 16,210,124	\$ -	\$ 1,230,161,543	\$ 230,134,926
2051	\$ -	\$ 48,152,318	\$ 13,393,184	\$ 15,168,614	\$ -	\$ 1,257,509,742	\$ 222,377,247
2052	\$ -	\$ 48,803,568	\$ 13,776,742	\$ 14,852,018	\$ -	\$ 1,285,378,692	\$ 214,683,105
2053	\$ -	\$ 49,438,830	\$ 14,093,952	\$ 16,730,569	\$ -	\$ 1,313,853,186	\$ 204,822,920
2054	\$ -	\$ 50,045,431	\$ 14,457,968	\$ 17,162,683	\$ -	\$ 1,342,905,805	\$ 194,195,082
2055	\$ -	\$ 50,645,378	\$ 14,831,386	\$ 17,605,958	\$ -	\$ 1,372,546,239	\$ 182,762,681
2056	\$ -	\$ 51,236,314	\$ 15,256,132	\$ 18,105,618	\$ -	\$ 1,402,741,883	\$ 170,441,602
2057	\$ -	\$ 51,804,504	\$ 15,607,405	\$ 19,377,943	\$ -	\$ 1,433,585,920	\$ 156,416,722
2058	\$ -	\$ 52,349,537	\$ 16,010,510	\$ 19,878,433	\$ -	\$ 1,465,047,246	\$ 141,415,990
2059	\$ -	\$ 50,701,794	\$ 165,403,270	\$ -	\$ 2,370,403	\$ 1,345,676,085	\$ 143,715,272
2060	\$ -	\$ 44,192,043	\$ 320,241,331	\$ -	\$ 4,364,645	\$ 1,064,913,749	\$ 144,063,674
2061	\$ -	\$ 34,073,346	\$ 366,781,961	\$ -	\$ 4,725,658	\$ 727,486,496	\$ 144,056,654
2062	\$ -	\$ 24,865,294	\$ 241,536,612	\$ -	\$ 8,138,647	\$ 506,153,600	\$ 140,579,585
2063	\$ -	\$ 17,271,753	\$ 247,774,979	\$ -	\$ 8,348,851	\$ 271,108,082	\$ 136,773,026
2064	\$ -	\$ 9,867,702	\$ 217,077,103	\$ -	\$ 6,030,335	\$ 59,444,544	\$ 135,196,827
2065	\$ -	\$ 4,653,729	\$ 59,859,559	\$ -	\$ 49,919,945	\$ 567,827	\$ 88,947,769
2066	\$ -	\$ 1,475,937	\$ 577,127	\$ -	\$ 89,809,221	\$ (0)	\$ 605,185
	\$ 679,850,000	\$ 1,738,583,512	\$ 2,150,507,885	\$ 559,568,770	\$ 173,707,706		

¹ Annual Decommissioning Fund Collections for 2018 were \$156,000,000 with Decommissioning Expenditures of \$114,253,148..

² In 2023, a lump sum payment of \$363,847,000 will be transferred from the Decommissioning Supplemental Fund to fund the Decommissioning Trust.

³ All collections and expenditures flow through the Decommissioning Supplemental Trust through 2023. Beginning in 2024, LTE expenses are paid out of the Decommissioning Trust (90) fund.

ATTACHMENT D

Decommissioning Funds Annual Inflation and Earning Rates

Year	Inflation Rate	Earnings Rate
2019	2.99%	2.49%
2020	3.31%	2.55%
2021	3.28%	2.63%
2022	3.14%	2.73%
2023	3.03%	2.82%
2024	2.94%	2.91%
2025	2.89%	3.01%
2026	2.86%	3.10%
2027	2.84%	3.18%
2028	2.84%	3.26%
2029	2.85%	3.33%
2030	3.81%	3.33%
2031	3.23%	3.33%
2032	2.74%	3.33%
2033	2.70%	3.33%
2034	2.68%	3.33%
2035	2.64%	3.33%
2036	2.61%	3.33%
2037	2.58%	3.33%
2038	2.56%	3.33%
2039	2.56%	3.33%
2040	2.56%	3.33%
2041	2.57%	3.33%
2042	2.58%	3.33%
2043	2.59%	3.33%
2044	2.60%	3.33%
2045	2.60%	3.33%
2046-2066	2.59%	3.33%