ADP CR3, LLC

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10 CFR 50.82
10 CFR 50.75

March 27, 2024
3F0324-01

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Subject: Crystal River 3 – Annual Decommissioning and Irradiated Fuel Management Financial Status Report for 2023

References:

1. Letters, ADP CR3, LLC to USNRC, "Crystal River Unit 3 Nuclear Generating Plant Notification of Revised Post-Shutdown Decommissioning Activities Report, dated June 26, 2019, and Supplemental Information in Support of Revised Post Shutdown Decommissioning Activities Report and Decommissioning Cost Estimate, dated December 26, 2019 (ML19177A232 and ML20006F022)

2. Letter, USNRC to Duke Energy Florida, LLC, "Crystal River Unit 3 Nuclear Generating Plant Order Approving Transfer of Licensed Authority from Duke Energy Florida, LLC to ADP CR3, LLC and draft conforming administrative license amendment (EPID L-2019-LLA-0135)," dated April 1, 2020 (ADAMS Accession Nos. ML20069A023, ML20069A024. ML20069A025, ML20069A026, ML20069A027, ML20101G582 and ML20101G583)

3. Letter, USNRC to Duke Energy Florida, LLC, "Crystal River Unit 3 Nuclear Generating Plant – Issuance of Amendment No. 258 RE: Order Approving Transfer of Licensed Authority from Duke Energy Florida, LLC to ADP CR3, LLC and Conforming License Amendment (EPID L-2019-LLA-0135)," dated October 1, 2020 (ML20253A343)

4. Letter, ADP CR3 to USNRC, "Crystal River 3 ISFSI Decommissioning Trust," dated October 28, 2020 (ML20302A453)

5. Letter, ADP CR3 to USNRC, "Crystal River 3 – Notification of Revised Decommissioning Cost Estimate", dated May 26, 2022 (ADAMS Accession No. ML22148A001)

Dear Sir or Madam:

10 CFR 50.75(f)(1) requires each shutdown power reactor licensee to annually report to the NRC the status of their decommissioning financial assurance by March 31.

10 CFR 50.82(a)(8)(v) & (vii) require that after submitting its site-specific decommissioning cost estimate pursuant to 10 CFR 50.82(a)(4)(i), a licensee must annually submit to the NRC, by March 31, a report on the status of its decommissioning expenditures, remaining costs and funding assurance levels, as well as a report on the status of its funding for managing irradiated fuel.

A change to the spent fuel management strategy was described by Duke Energy Florida, LLC (DEF), ADP CR3, LLC (ADP CR3), and ADP SF1, LLC (ADP SF1) in the application for license transfer and was approved by the NRC in Reference 2. Under the terms of the license transfer, ADP CR3 became the NRC operator licensee responsible for all activities under the Crystal River Unit 3 Nuclear Plant (CR3) license. Under a Purchase and Sale Agreement (PSA) with DEF as part of the license transfer, ADP SF1 acquired the ISFSI, its associated equipment, the high-level radioactive and greater than Class C (GTCC) waste, and title to the spent nuclear fuel. DEF also assigned to ADP SF1 its Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste with the U.S. Department of Energy (DOE). ADP SF1 entered into an operating agreement with ADP CR3, to possess and maintain the ISFSI, its associated equipment, and spent nuclear fuel.

As the NRC owner licensee, DEF continues to own the CR3 facility, with the exception of the assets described above, and its nuclear decommissioning trust (NDT). In addition to maintaining the NDT, DEF is responsible for disbursement of funds to pay for the costs of decommissioning as work is completed.

As a result of the PSA, after October 1, 2020, funding for spent fuel management costs for CR3 is no longer provided by the NDT. Funding for spent fuel management is provided by the ADP SF1 parent companies, NorthStar and Orano. The projected irradiated fuel management costs were submitted with the revised PSDAR in Reference 1, and an updated cash flow analysis was included in last year's Annual Decommissioning and Irradiated Fuel Management Financial Status Report. In addition, ADP updated the Decommissioning Cost Estimate (DCE) in May 2022 – Reference 5. A dedicated ISFSI Decommissioning Trust Fund has been established by ADP SF1 in accordance with the Order approving the license transfer as described in Reference 4.

Accordingly, ADP CR3, LLC, hereby submits the status of its decommissioning financial assurance (Attachment 1), the estimated costs to complete decommissioning and financial assurance demonstration (Attachment 2), and the projected cash flow analysis for irradiated fuel management (Attachment 3) for Crystal River Nuclear Plant. All or most of the spent fuel management costs are a liability of the U.S. Government as a result of its breach of the spent fuel disposal contract.

This letter contains no new regulatory commitments.

Should you have any questions concerning this letter, or require additional information, please contact me at 682.503.2240.

Sincerely,

ADP CR3, LLC

Scott E. State, P.E.
Chief Nuclear Officer

Attachments:

Attachment 1 – CR3 Annual Decommissioning Financial Status Report for 2023
Attachment 2 – CR3 Estimate of Costs to Complete Decommissioning and Financial Assurance Demonstration
Attachment 3 – CR3 Projected Cash Flow Analysis for Irradiated Fuel Management

cc: NMSS Project Manager
Regional Administrator, Region I

ADP CR3, LLC

DOCKET NUMBERS 50-302 / 72-1035
LICENSE NUMBER DPR – 72

ATTACHMENT 1

CR3 ANNUAL DECOMMISSIONING FINANCIAL STATUS REPORT FOR 2023

ADP CR3, LLC
Status of Decommissioning Funding Crystal River Nuclear Plant
As of December 31, 2023 – 10 CFR 50.75(f)(1) and 10 CFR 50.82(a)(8)(v)

10 CFR 50.75(f)(1) *(Thousands of Dollars)*

1. Minimum Financial Assurance (MFA)	$173,042 [Note 1]
2. ISFSI Obligation as of 12/31/2023	$4,587 [Note 2]
3. Decommissioning Trust Fund Balance as of 12/31/2023	$422,671 [Note 3]
4. A schedule of the annual amounts remaining to be collected	$9,158 [Note 4]
5. Assumptions used in determining rates of escalation in decommissioning costs, rates of earnings on decommissioning funds, and rates of other factors used in funding projections.	2% annual real rate of return per 10 CFR 50.75(e)(1)(i)
6. Any contracts upon which the licensee is relying pursuant to 10 CFR 50.75(e)(1)(v)	None
7. Modifications occurring to a licensee's current method of providing financial assurance since the last submitted report	None
8. Any material changes to trust agreements	None

Note 1: This amount is based upon total DECON expenditures for radiological remediation and license termination set forth in the updated Decommissioning Funding Assurance Plan and PROMPT DECON analysis provided in Attachment 2. This is the amount of decommissioning funds estimated to be required for remaining License Termination Costs.

Note 2: ISFSI Obligation is funded by the ISFSI Decommissioning Trust Account (See Table 3.1) and based on the ISFSI demolition site-specific cost estimate dated March 30, 2022.

Note 3: NDT Balance - $382,410 plus Provisional Trust Balance $40,261.

Note 4: Reflects ADP contributions pursuant to the terms of the Decommissioning Services Agreement (DSA) dated May 8, 2019, and as amended October 1, 2020.

ADP CR3, LLC
Status of Decommissioning Funding Crystal River Nuclear Plant
As of December 31, 2023 – 10 CFR 50.75(f(1) and 10 CFR 50.82(a)(8)(v)

10 CFR 50.82(a)(8)(v) & (vi) *(Thousands of Dollars)*

1. Cumulative decommissioning spending through 12/31/2023	$467,978 [Note 1]
2. 2023 decommissioning spending	$77,480 [Notes 2 and 3]
3. Decommissioning Trust Fund & Provisional Trust Fund Total as of 12/31/2023	$422,671 [Note 4]
4. Additional planned contributions to the Provisional Trust Account	$9,158 [Note 5]
5. Estimated costs to complete from the latest estimate.	$173,042 *(See #1 above in 10 CFR 50.75 information)* ADP CR3 has projected the cost of managing irradiated fuel until title to the fuel and possession of the fuel is transferred to the Department of Energy based on the assumption that DOE pickup of fuel no later than 2037. The cost analysis is provided in Attachment 3.
6. Estimate based on unrestricted release of the site per 10 CFR 20.1402	See Attachment 2
7. Modifications to Financial Assurance Since Last Report	None
8. Any material changes to trust agreements	None

See Notes on the following page…..

Note 1: Cumulative Spending ($390,498) per report, dated March 30, 2023 (3F0323-02) plus 2023 decommissioning spending $77,480.

Note 2: Represents the amount actually disbursed from the fund for calendar year 2023.

Note 3: The amount of the decommissioning costs incurred in 2023 ($82,697) was less than that forecasted ($95,399) in our previous year annual funding letter. The delta of $12,702 can be attributed to project timing optimization.

Forecast vs. Actual Decommissioning Costs	**2023 Forecast**	**2023 Actual**	**2023 Variance**
License Termination - ADP	$92,803	$80,101	-$12,702
License Termination - DEF	$1,541	$1,541	$0
Site Restoration	$1,055	$1,055	$0
Totals	**$95,399**	**$82,697**	**-$12,702**

Actual 2023 Payments from NDF	$77,480
Unpaid Invoices at 12.31.2023	$5,217

The departure from the forecasted to actual spending results in no change to the original total decommissioning costs but does reflect a change in the sequence in which the costs were incurred.

Note 4: NDT Balance - $382,410 plus Provisional Trust Balance $40,261.

Note 5: Reflects ADP contributions and distributions pursuant to the terms of the Decommissioning Services Agreement (DSA) dated May 8, 2019, and as amended October 1, 2020.

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ATTACHMENT 2

CR3 ESTIMATE OF COSTS TO COMPLETE DECOMMISSIONING AND FINANCIAL ASSURANCE DEMONSTRATION

CR3 ESTIMATE OF COSTS TO COMPLETE DECOMMISSIONING AND FINANCIAL ASSURANCE DEMONSTRATION

Table 2.1

Crystal River Unit 3 Nuclear Power Station - PROMPT DECON Methodology

Annual Cash Flow Analysis - Total License Termination and Site Restoration - TABLE 2.1

(Thousands of 2024 Dollars) - See column definitions below

	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9
Year	License Termination Cost (ADP-Contractor)	License Termination Cost (DEF-Owner)	Site Restoration Cost	Total Expenses	Beginning of Period Funded Balance (NDF + PT)	NDT Withdrawals	Net Incremental Contributions & (Distributions) Provisional Trust	Annual Earnings on Fund	End-Of-Year Fund Balance
2024	$88,687	$1,572	$1,693	$91,952	**$422,671**	$91,952	$5,423	$6,723	$342,865
2025	$49,268	$1,603	$5,988	$56,859	$342,865	$56,859	$3,735	$5,795	$295,536
2026	$21,154	$1,635	$25,836	$48,625	$295,536	$48,625	$0	$4,938	$251,848
2027	$0	$680	$0	$680	$251,848	$21,919	-$50,000	$3,599	$183,528
2028	$0	$694	$0	$694	$183,528	$694	$0	$3,657	$186,491
2029	$0	$708	$0	$708	$186,491	$708	$0	$3,716	$189,499
2030	$0	$722	$0	$722	$189,499	$722	$0	$3,776	$192,552
2031	$0	$736	$0	$736	$192,552	$736	$0	$3,836	$195,652
2032	$0	$751	$0	$751	$195,652	$751	$0	$3,898	$198,799
2033	$0	$766	$0	$766	$198,799	$766	$0	$3,961	$201,994
2034	$0	$781	$0	$781	$201,994	$781	$0	$4,024	$205,237
2035	$0	$797	$0	$797	$205,237	$797	$0	$4,089	$208,529
2036	$0	$813	$0	$813	$208,529	$813	$0	$4,154	$211,870
2037	$0	$829	$0	$829	$211,870	$829	$0	$4,221	$215,262
2038	$0	$846	$0	$846	$215,262	$846	$0	$4,288	$218,704
TOTAL	**$159,109**	**$13,933**	**$33,517**	**$206,559**		**$227,797**	**-$40,843**	**$64,674**	

Table 2.1 Definitions:

(Thousands of Dollars)

Column 1:	**License Termination Cost -** (ADP-Contractor) Reflects the Total Annual License Termination Plan cost for ADP (Contractor) in 2024 dollars at a 2% escalation rate.
Column 2:	**License Termination Cost –** (DEF-Owner) Reflects the Total Annual License Termination Plan cost for DEF (Owner) in 2024 dollars at a 2% escalation rate.
Column 3:	**Site Restoration Cost:** Reflects the Annual Site Restoration Plan cost in 2024 dollars at a 2% escalation rate.
Column 4:	**Total Expenses** Reflects Total Expenses (Column 1 plus Column 2 plus Column 3)
Column 5:	**Beginning of Period Funded Balance** Reflects the Funded Balance as of January 1 of each year thereafter. The Funded Balance includes the Nuclear Decommissioning Trust (NDT), plus the Provisional Trust (PT) • January 1, 2024, Beginning of Period Funded Balance equals $422,671, which includes $382,410 NDT Balance plus $40,261 PT Balance
Column 6:	**NDT Withdrawals** Reflects the annual expenditures from the NDT in 2024 dollars at a 2% escalation rate. • $21,919 estimated withdrawal on January 1, 2027, reflects Total Expenses ($680) plus final payment for achievement of the ISFSI-Only Interim End-State Conditions ($21,239) pursuant to Section 9.3.4 of the Decommissioning Services Agreement (DSA) dated May 29, 2019, and Amended October 1, 2020.
Column 7:	**ADP Net Incremental Contributions (Distributions) – Provisional Trust** Reflects ADP incremental contributions and (distributions) pursuant to the terms of the DSA.
Column 8:	**Annual Earnings on Funds** Reflects earnings on funds remaining in the trust. A 2% Earnings rate is used over a 0% cost escalation rate. The annual 2% earnings are calculated on the Beginning Balance (Column 5) minus 100% of withdrawals (Column6) plus 100% of contributions (Columns 7) multiplied by the 2% annual earnings rate.
Column 9:	**End of Year Fund Balance** Reflects the End-of-Year Trust Fund Balance. - (Column 5 minus Column 6 plus Column 7 plus Column 8)

ADP CR3, LLC

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ATTACHMENT 3

CR3 PROJECTED CASH FLOW ANALYSIS FOR IRRADIATED FUEL MANAGEMENT

CR3 PROJECTED CASH FLOW ANALYSIS FOR IRRADIATED FUEL MANAGEMENT

Table 3.1

Crystal River Unit 3 Nuclear Power Station - PROMPT DECON Methodology						
Annual Cash Flow Analysis - ISFSI Decommissioning - TABLE 3.1 (Thousands of 2024 Dollars) - See column definitions below						
	Column 1	**Column 2**	**Column 3**	**Column 4**	**Column 5**	**Column 6**
Year	**Spent Fuel Management - ISFSI Demo**	**Beginning of Period Fund Balance**	**ADP Withdrawals**	**ADP Distributions**	**Annual Earnings on Fund**	**End-Of-Year Fund Balance**
2024	$0	**$4,072**	$0	$0	$81	$4,154
2025	$0	$4,154	$0	$0	$83	$4,237
2026	$0	$4,237	$0	$0	$85	$4,322
2027	$0	$4,322	$0	$0	$86	$4,408
2028	$0	$4,408	$0	$0	$88	$4,496
2029	$0	$4,496	$0	$0	$90	$4,586
2030	$0	$4,586	$0	$0	$92	$4,678
2031	$0	$4,678	$0	$0	$94	$4,771
2032	$0	$4,771	$0	$0	$95	$4,867
2033	$0	$4,867	$0	$0	$97	$4,964
2034	$0	$4,964	$0	$0	$99	$5,063
2035	$0	$5,063	$0	$0	$101	$5,165
2036	$0	$5,165	$0	$0	$103	$5,268
2037	$4,587	$5,268	$4,587	-$681	$0	$0
TOTAL	**$4,587**		**$4,587**	**-$681**	**$1,196**	

Table 3.1 Definitions:

Column 1:	**Spent Fuel Management – ISFSI Demo** Reflects the Total ISFSI Decommissioning cost in 2024 dollars at a 2% escalation rate.
Column 2:	**Beginning of Period Funded Balance** Reflects the Funded Balance as of January 1 of each year.
Column 3:	**ADP NDT Withdrawals** Reflects the annual expenditures from the NDT in 2024 dollars at a 2% escalation rate.
Column 4:	**ADP Distributions** Reflects distribution of residual ISFI Decommissioning funds upon completion of the ISFSI decommissioning.
Column 5:	**Annual Earnings on Funds** Reflects earnings on funds remaining in the trust. A 2% Earnings rate is used over a 0% cost escalation rate. The annual 2% earnings are calculated on the Beginning Balance (Column 2) minus 100% of withdrawals (Columns 3) minus 100% of distributions (Columns 5) multiplied by the 2% annual earnings rate.
Column 6:	**End of Year Fund Balance** Reflects the End-of-Year Trust Fund Balance. - (Column 2 minus Column 3 plus Column 4 plus Column 5)

CR3 PROJECTED CASH FLOW ANALYSIS FOR IRRADIATED FUEL MANAGEMENT

Table 3.2

Crystal River Unit 3 Nuclear Power Station - PROMPT DECON Methodology

Annual Cash Flow Analysis - Irradiated Fuel Management - Table 3.2

(Thousands of 2024 Dollars) - See column definitions below

	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Year	Spent Fuel Management Costs	Beginning of Period Fund Balance	ADP Withdrawals	ADP Incremental Contributions (Distributions)	DOE Cost Recovery	Annual Earnings on Fund	End-Of-Year Fund Balance
2024	$7,016	**$0**	$7,016	$7,576	$0	$11	$571
2025	$6,852	$571	$6,852	$6,280	$35,430	$0	$35,430
2026	$7,076	$35,430	$7,076	-$24,004	$13,846	$87	$18,282
2027	$10,538	$18,282	$10,538	$0	$7,076	$155	$14,976
2028	$10,749	$14,976	$10,749	$0	$10,538	$85	$14,850
2029	$10,964	$14,850	$10,964	$0	$10,749	$78	$14,712
2030	$11,183	$14,712	$11,183	$0	$10,964	$71	$14,564
2031	$11,407	$14,564	$11,407	$0	$11,183	$63	$14,403
2032	$11,635	$14,403	$11,635	$0	$11,407	$55	$14,230
2033	$11,867	$14,230	$11,867	$0	$11,635	$47	$14,045
2034	$12,105	$14,045	$12,105	$0	$11,867	$39	$13,846
2035	$12,347	$13,846	$12,347	$0	$12,105	$30	$13,634
2036	$12,594	$13,634	$12,594	$0	$12,347	$21	$13,408
2037	$76,244	$13,408	$76,244	$0	$62,835	$0	$0
TOTAL	**$212,575**		**$212,575**	**-$10,148**	**$221,982**	**$741**	

Note: The amount of the Spent Fuel Management costs incurred in 2023 ($9,739) was less than that forecasted ($10,531) in our previous year annual funding letter. The delta of $792 can be attributed to gained efficiencies at the project level which reduced the overall cost to the project from what was expected

Table 3.2 Definitions:

(Thousands of Dollars)

Column 1:	**Spent Fuel Management Costs** Reflects the Total Annual Spent Fuel Management cost in 2024 dollars at a 2% escalation rate.
Column 2:	**Beginning of Period Funded Balance** Reflects the Funded Balance as of January 1 of each year.
Column 3:	**ADP Withdrawals** Reflects the annual expenditures from the Irradiated Fuel Management Account in 2024 dollars at a 2% escalation rate paid by ADP SF1 pursuant to the SNF Services Agreement dated October 1, 2020.
Column 4:	**ADP Incremental Contributions (Distributions)** Reflects ADP incremental contributions and (distributions).
Column 5:	**DOE Cost Recovery** Reflects Cost Recovery from DOE for breach of the Standard Contract in 2024 dollars at a 2% escalation rate. • Conservatively assumes recovery of approximately 91% of costs, net of legal costs and disallowed costs • Year 2025: $35,430 recovery reflects initial NorthStar DOE settlement for costs incurred from 2020 thru 2023 • Year 2026: $13,846 recovery reflects initial NorthStar DOE settlement for costs incurred from 2024 thru 2025 • Year 2037: $62,835 reflects NorthStar DOE settlement for costs incurred in 2036 and 2037. (excludes recovery DOE Fuel Loading Costs - $21,415 incurred in 2037)
Column 6:	**Annual Earnings on Funds** Reflects earnings on funds remaining in the account. A 2% Earnings rate is used over a 0% cost escalation rate. The annual 2% earnings are calculated on the Beginning Balance (Column 2) minus 100% of withdrawals (Column 3) plus 100% of contributions (Columns 4) multiplied by the 2% annual earnings rate.
Column 7:	**End of Year Fund Balance** Reflects the End-of-Year Trust Fund Balance. - (Column 2 minus Column 3 plus Column 4 plus Column 5 plus Column 6)