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Serial: RA-13-014
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10 CFR 50.4
10 CFR 50.75

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555-001

Brunswick Steam Electric Plant, Units 1 and 2
Docket Numbers 50-325, and 50-324/Renewed License Numbers DPR-71, and DPR-62

Crystal River Unit 3 Nuclear Generating Plant
Docket Number 50-302/License Number DPR-72

Shearon Harris Nuclear Power Plant, Unit 1
Docket Number 50-400/Renewed License Number NPF-63

H. B. Robinson Steam Electric Plant, Unit 2
Docket Number 50-261/Renewed License Number DPR-23

Subject: Duke Energy Progress, Inc., and Duke Energy, Florida, Inc.; Response to NRC
Request for Additional Information Regarding the 2013 Biennial Decommissioning
Financial Assurance Report

By letter dated May 29, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML13135A206), the U. S. Nuclear Regulatory Commission (USNRC) issued a Request for Additional Information (RAI) related to the Biennial Decommissioning Financial Assurance Report submitted by Duke Energy Progress, Inc., formerly known as Carolina Power & Light Company, doing business as Progress Energy Carolinas, Inc., and Duke Energy Florida, Inc., formerly known as Florida Power Corporation, doing business as Progress Energy Florida, Inc., for Brunswick Steam Electric Plant, Units 1 and 2, Crystal River Unit 3 Nuclear Generating Plant, Shearon Harris Nuclear Power Plant, Unit 1, and H. B. Robinson Steam Electric Plant, Unit 2 (ADAMS) Accession Number ML13091A025). Response to the NRC Staff's RAI is provided in the enclosure to this letter.

There are no regulatory commitments associated with this letter.

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Should you have questions regarding the responses to the NRC Staff's RAI, please contact Paul Guill at (704) 382-4753 (paul.guill@duke-energy.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Michael J. Annacone", with a long horizontal flourish extending to the right.

Michael J. Annacone,
Vice President - Organizational Effectiveness &
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Enclosure

CC (with enclosure):

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J. A. Hickey, Senior Resident Inspector
H. B. Robinson Steam Electric Plant, Unit No. 2

J. D. Austin, Senior Resident Inspector
Shearon Harris Nuclear Power Plant, Unit 1

ENCLOSURE

**Duke Energy Progress, Inc.
Duke Energy Florida, Inc.**

**Brunswick Steam Electric Plant, Units 1 and 2
Crystal River Unit 3 Nuclear Generating Plant
Shearon Harris Nuclear Power Plant, Unit 1
H. B. Robinson Steam Electric Plant, Unit 2**

**RESPONSE TO NRC RAI REGARDING THE 2013
BIENNIAL DECOMMISSIONING FINANCIAL
ASSURANCE REPORT**

RAI-1: Citation for real rate of returns

On March 28, 2013, Progress Energy reported various levels of assumed cost escalation rates and assumed earnings rates for the various co-owners and portions of the trust funds; however, Progress Energy did not provide the Public Service Commission of South Carolina the Order that was issued on September 23, 2011, that authorizes Progress Energy to use a real rate of return greater than 2 percent for the South Carolina portion of the qualified decommissioning trust fund. Progress Energy also did not provide the citation(s) for the Crystal River co-owners that allows for a greater than 2 percent real rate of return.

As stated in 10 CFR 50.75(f)(1),

the information in [the DFS] report must include [...] the assumptions used regarding rates of escalation in decommissioning costs, rates of earnings on decommissioning funds, and rates of other factors used in funding projections ...

Provide the citation (e.g., an Order by the rate-regulatory authority) by the regulatory entity that allows for the assumptions used regarding rates of escalation in decommissioning costs, rate of earnings on decommissioning funds and rates of other factors assumed in your DFS report for all owners of Brunswick, Harris, Crystal River, and HBRSEP.

Response to RAI-1:

The Public Service Commission of South Carolina Order that authorizes Progress Energy to use a real rate of return greater than 2 percent for the South Carolina portion of the qualified decommissioning trust fund is Order Number 2011-661 dated September 23, 2011, in Docket Number 2011-224-E (<http://dms.psc.sc.gov/pdf/orders/A7546AFC-9D0B-549D-AAD4FA003DA443B1.pdf>). Other rates provided by Progress Energy are unchanged from previous submittals.

A number of the co-owners of Brunswick, Harris and Crystal River units assumed greater than a 2 percent real rate of return on part or all of their decommissioning funds. These co-owners are municipally owned or cooperative electric providers that set their own rates and assumptions regarding needs for decommissioning. The rates provided in the March 28, 2013, Biennial Decommissioning Financial Assurance Report were those provided by the co-owners and thus, in themselves, represent the citation of the "rate setting authority."

RAI-2: Amounts accumulated:

In its March 28, 2013, report, Progress Energy provided the amount of decommissioning funds accumulated at the end of the calendar year preceding the date of the report for items included in 10 CFR 50.75(b) and (c), but did not indicate if the amount stated was the before or after-tax balance.

The provisions of 10 CFR 50.75(f)(1) and (2) require the licensee to report the amount of funds accumulated to the end of the calendar year preceding the report.

Indicate if the amounts of decommissioning funds identified within the DFS report are the after-tax amount of funds accumulated through December 31, 2012. If not, provide the after-tax amounts of decommissioning funds accumulated through December 31, 2012, for Brunswick, Harris, Crystal River, and HBRSEP.

Response to RAI-2:

The amounts reported by Progress Energy in the March 28, 2013, Biennial Decommissioning Financial Assurance Report for Brunswick, Harris, Crystal River and HBRSEP are net of 2012 tax obligations.

The remaining co-owners of Brunswick, Harris, and Crystal River are tax exempt; therefore, the amounts reported by them in the March 28, 2013, Biennial Decommissioning Financial Assurance Report are net of taxes.

RAI-3: Site-Specific Study

Per 10 CFR 50.75(e)(1)(i) and (ii), the licensee must specifically describe the safe storage period in order to take credit for projected future earnings when it uses a site-specific estimate as the basis for using the prepayment or external sinking fund methods of financial assurance.

In the March 31, 2013, submittal, Progress Energy referenced the Crystal River site-specific study that was submitted on November 29, 2011, but did not provide the site-specific cost estimate in 2012 dollars.

Provide the site-specific cost estimate in 2012 dollars for Crystal River, that was previously submitted to the NRC on November 29, 2011 pursuant to 10 CFR 50.75(f)(3). The site specific cost estimate should include a summary schedule of annual expenses, projected earnings, and end-of-year fund balances, expressed in 2012 dollars.

Response to RAI-3:

Table 1 provides a summary of annual expenses, projected earnings, and end-of-year fund balances expressed in 2012 dollars, inflated from the previously-submitted November 29, 2011, Crystal River site-specific cost estimate. The inflation rate was computed by escalating the principal components of the cost estimate, a methodology suggested in Regulatory Guide 1.159, *Assuring the Availability of Funds for Decommissioning Nuclear Reactors*, using US Bureau of Labor and Statistics inflation indices for most components and observed inflation over time in revisions to NUREG-1307, *Report on Waste Burial Charges*, for burial.

TABLE 1
Funding Requirements for License Termination - SAFSTOR Scenario

Annual escalation = 0%			
Annual earnings = 2%			
RAI request:	Annual expenses	Projected Earnings	End-of-year Fund Balances
Year	License Termination Cost in 2012 Dollars - 1.91% inflation (in millions)	Annual Earnings on Decommissioning Trust Fund at 2% (in millions)	All Owners - Decommissioning Trust Fund Escalated at 2% (minus 100% of expenses) (in millions)
2012			\$690.648
2013		\$13.813	\$704.461
2014		\$14.089	\$718.550
2015		\$14.371	\$732.921
2016	\$4.136	\$14.658	\$743.444
2017	\$54.425	\$14.869	\$703.888
2018	\$44.244	\$14.078	\$673.722
2019	\$5.714	\$13.474	\$681.482
2020	\$5.729	\$13.630	\$689.382
2021	\$5.714	\$13.788	\$697.456
2022	\$5.714	\$13.949	\$705.691
2023	\$5.631	\$14.114	\$714.174
2024	\$5.584	\$14.283	\$722.874
2025	\$5.569	\$14.457	\$731.762
2026	\$5.569	\$14.635	\$740.828
2027	\$5.569	\$14.817	\$750.075
2028	\$5.584	\$15.001	\$759.493
2029	\$5.569	\$15.190	\$769.113
2030	\$5.569	\$15.382	\$778.926
2031	\$5.569	\$15.579	\$788.935
2032	\$5.584	\$15.779	\$799.130
2033	\$5.569	\$15.983	\$809.544
2034	\$5.569	\$16.191	\$820.165
2035	\$5.569	\$16.403	\$830.999
2036	\$5.584	\$16.620	\$842.035
2037	\$5.569	\$16.841	\$853.307
2038	\$5.569	\$17.066	\$864.803
2039	\$5.569	\$17.296	\$876.530
2040	\$5.584	\$17.531	\$888.477
2041	\$5.569	\$17.770	\$900.677
2042	\$5.569	\$18.014	\$913.121
2043	\$5.569	\$18.262	\$925.814
2044	\$5.584	\$18.516	\$938.747
2045	\$5.569	\$18.775	\$951.953
2046	\$5.569	\$19.039	\$965.422
2047	\$5.569	\$19.308	\$979.161

TABLE 1
Funding Requirements for License Termination - SAFSTOR Scenario

Annual escalation = 0%			
Annual earnings = 2%			
<i>RAI request:</i>	<i>Annual expenses</i>	<i>Projected Earnings</i>	<i>End-of-year Fund Balances</i>
Year	License Termination Cost in 2012 Dollars - 1.91% inflation (in millions)	Annual Earnings on Decommissioning Trust Fund at 2% (in millions)	All Owners - Decommissioning Trust Fund Escalated at 2% (minus 100% of expenses) (in millions)
2048	\$5.584	\$19.583	\$993.161
2049	\$5.569	\$19.863	\$1,007.455
2050	\$5.569	\$20.149	\$1,022.035
2051	\$5.569	\$20.441	\$1,036.906
2052	\$5.584	\$20.738	\$1,052.060
2053	\$5.569	\$21.041	\$1,067.532
2054	\$5.569	\$21.351	\$1,083.313
2055	\$5.569	\$21.666	\$1,099.410
2056	\$5.584	\$21.988	\$1,115.815
2057	\$5.568	\$22.316	\$1,132.563
2058	\$5.538	\$22.651	\$1,149.676
2059	\$5.538	\$22.994	\$1,167.132
2060	\$5.552	\$23.343	\$1,184.923
2061	\$5.538	\$23.698	\$1,203.083
2062	\$5.538	\$24.062	\$1,221.607
2063	\$5.538	\$24.432	\$1,240.501
2064	\$5.552	\$24.810	\$1,259.759
2065	\$5.538	\$25.195	\$1,279.417
2066	\$5.538	\$25.588	\$1,299.467
2067	\$5.538	\$25.989	\$1,319.919
2068	\$5.552	\$26.398	\$1,340.765
2069	\$5.538	\$26.815	\$1,362.043
2070	\$5.538	\$27.241	\$1,383.746
2071	\$7.697	\$27.675	\$1,403.723
2072	\$45.525	\$28.074	\$1,386.273
2073	\$100.652	\$27.725	\$1,313.346
2074	\$110.011	\$26.267	\$1,229.602
2075	\$73.588	\$24.592	\$1,180.606
2076	\$37.621	\$23.612	\$1,166.597
2077	\$0.123	\$23.332	\$1,189.805
2078	\$0.075	\$23.796	\$1,213.526
Total	\$768.121		