Progress Energy

Crystal River Nuclear Plant
Docket No. 50-302
Operating License No. DPR-72

Ref: 10 CFR 54

November 29, 2011
3F1111-01

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

Subject: Crystal River Unit 3 – Submittal of Program for Maintenance of Irradiated Fuel and Preliminary Decommissioning Cost Analysis in Accordance with 10 CFR 50.54 (bb) and 10 CFR 50.75(f)(3)

Reference: CR-3 to NRC letter, 3F1208-01, dated December 16, 2008, "Crystal River Unit 3 – Application for Renewal of Operating License"

Dear Sir:

Pursuant to 10 CFR 50.54(bb), a licensee of a nuclear power plant that is within five years of the expiration of the reactor operating license shall submit to the NRC the program by which the Licensee intends to manage and provide funding for the management of all irradiated fuel at the reactor facility following permanent cessation of reactor operations until title and possession of the irradiated fuel is transferred to the U. S. Department of Energy for ultimate disposal. The Program for Maintenance of Irradiated Fuel at Crystal River Unit 3 (CR-3) is included as Enclosure 1 to this letter. Pursuant to 10 CFR 50.75(f)(3), a licensee of a nuclear power plant that is within five years of the expiration of the reactor operating license shall submit a preliminary decommissioning cost estimate to the NRC. The Preliminary Decommissioning Cost Estimate for CR-3 is included as Enclosure 2.

Additionally, it should be noted that Progress Energy Florida (PEF) has submitted, by the reference letter, an application for License Renewal pursuant to 10 CFR 54. The CR-3 operating license is scheduled to expire on December 3, 2016. Therefore, PEF requests that the NRC schedule the review of the enclosed information following a final decision on the License Renewal application.

No new regulatory commitments are contained in this submittal.

If you have any questions regarding this submittal, please contact Mr. Mike Heath, Supervisor, License Renewal, at (910) 457-3487, e-mail at mike.heath@pgnmail.com.

Sincerely,

Jon A. Franke
Vice President
Crystal River Unit 3

JAF/dwh

Enclosures: 1. 10 CFR 50.54(bb) Program for Maintenance of Irradiated Fuel
2. Preliminary Decommissioning Cost Estimate for the Crystal River Unit 3 Nuclear Generating Plant

xc: NRC Regional Administrator, Region II
NRC CR-3 Project Manager
NRC License Renewal Project Manager
Senior Resident Inspector
Chairman, Florida Public Service Commission
D. Alexander

A140
NRR

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PROGRESS ENERGY FLORIDA, INC.

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72

ENCLOSURE 1

10 CFR 50.54(bb) PROGRAM FOR MAINTENANCE OF IRRADIATED FUEL

10 CFR 50.54(bb) Program for Maintenance of Irradiated Fuel

1. Background and Introduction

Florida Power Corporation, doing business as Progress Energy Florida, Inc., a subsidiary of Progress Energy, Inc., is seeking renewal of the operating license for the Crystal River Unit 3 Nuclear Generating Plant (Crystal River), currently set to expire at midnight on December 3, 2016. An application for the renewal of Facility Operating License No. DPR-72, for an additional 20-year period, was submitted to the Nuclear Regulatory Commission (NRC) on December 16, 2008. The application is currently under review.

However, pursuant to 10 CFR 50.54(bb), licensees of nuclear power plants that are within five years of the expiration of the reactor operating license shall submit written notification to the NRC for its review and preliminary approval of the program by which the licensee intends to manage and provide funding for the caretaking of all irradiated fuel at the reactor following permanent cessation of operation of the reactor until title to and possession of the irradiated fuel is transferred to the U.S. Department of Energy (DOE) for ultimate disposal. Since Progress Energy has submitted an application for License Renewal pursuant to 10 CFR 54, Progress Energy requests that the NRC schedule the review of this information following a final decision on the License Renewal application.

2. Spent Fuel Management Strategy

Completion of the decommissioning process is dependent upon the DOE's ability to remove spent fuel from the site in a timely manner. 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. Progress Energy's current spent fuel management plan for the Crystal River spent fuel is based in general upon: 1) a 2020 start date for DOE initiating transfer of commercial spent fuel to a federal facility and 2) expectations for spent fuel receipt by the DOE for the Crystal River fuel. Progress Energy projects that the Crystal River fuel could be completely removed from the site as early as 2057, based on an oldest fuel first priority and the DOE achieving an annual rate of transfer (3,000 metric tons of uranium per year) as reflected in DOE's latest Acceptance Priority Ranking and Annual Capacity Report dated June 2004 (DOE/RW-0567).

The assumed 2020 DOE start date is nominally based on the last position stated by the DOE. On July 15, 2008, the then-Director of the DOE's Office of Civilian Radioactive Waste Management testified before Congress that DOE, "could be ready to begin accepting spent nuclear fuel by 2020," - based on continued program funding.[1] The current administration has cut the budget for the geological repository program, but the administration has also appointed a Blue Ribbon Commission on America's Nuclear Future to make recommendations for a new plan for nuclear waste disposal. That Commission's charter includes a requirement that the Commission consider "options for safe storage of used nuclear fuel while final disposition pathways are selected and deployed." Progress Energy believes that one or more monitored retrievable storage facilities could be put into place following a Blue Ribbon Commission recommendation for the same, within a relatively short time frame, at least by 2020. For example, a facility such as that licensed by the NRC to Private Fuel Storage could be used by the

DOE to store fuel until a final disposition is determined. In any event, at this time, there is no basis for the use of another proposed start date for DOE performance.

The NRC requires (in 10 CFR 50.54(bb)) that licensees establish a program to manage and provide funding for the caretaking of all irradiated fuel at the reactor site until title of the fuel is transferred to the DOE. Interim storage of Crystal River spent fuel, until the DOE takes receipt, will be in the Crystal River auxiliary building's storage pool, and/or at an Independent Spent Fuel Storage Installation (ISFSI) being constructed on the Crystal River site.

Crystal River is projected to generate 1,508 spent fuel assemblies through the end of its currently licensed operations in 2016. To date, the DOE has failed to remove fuel from the site, provide interim storage casks, identify an acceptable/compatible interim storage system, or identify what casks it will use in the future for the transfer of fuel from the site. Because of this failure of the DOE, Progress Energy is constructing an ISFSI within the owner controlled area to support continued plant operations. The ISFSI will be operated under the site's general license. The current plan, in mitigation of the DOE's breach, is to put Crystal River spent fuel into on-site dry storage pending delivery of the fuel to the DOE.

For the purpose of this plan, Progress Energy will assume that the assemblies stored in the auxiliary building's spent fuel storage pool at the time of shutdown will be moved into dry storage modules on the ISFSI pad by 2023. From there, they will be loaded into a DOE-supplied transport cask for transport to DOE's site.

Progress Energy believes this plan would be workable for transfer of fuel to the DOE. The use of the assumptions in this plan should not be construed by the DOE or any other party as a statement that Progress Energy believes this approach would or should be used when the DOE ultimately performs its obligations under the contract to bring a cask suitable to Crystal River. Progress Energy advances this plan only because the DOE has not identified its cask system, and the system's attributes, including but not limited to its weight, fuel capacity, and loading and handling requirements.

This plan assumes that, starting in 2024, that the dry shielded canisters (DSCs) are periodically off-loaded into DOE transport casks such that all Crystal River canisters are removed from the site by the year 2057. Progress Energy's analysis conservatively assumes, for purposes only of this report, that the Company does not employ DOE spent fuel disposal contract allowances for up to 20% additional fuel designation for shipment to the DOE each year.

In the event that Crystal River does cease operations in 2016, Progress Energy will continue to comply with existing NRC licensing requirements, including the operation and maintenance of the systems and structures needed to support continued operation of the spent fuel pool and ISFSI, as necessary, under the decommissioning scenario ultimately selected. In addition, Progress Energy will also comply with applicable license termination requirements in accordance with 10 CFR 50.82 with respect to plant shutdown and post-shutdown activities including seeking such NRC approvals and on such schedules as necessary to satisfy these requirements consistent with the continued storage of irradiated fuel.

3. Cost Considerations

The total cost to decommission Crystal River is delineated in the "Preliminary Decommissioning Cost Estimate."[2] In this document, decommissioning costs are allocated into the three major categories of license termination, spent fuel management and site restoration. The allocations are reproduced in Table 1 (Summary of Major Cost Contributors). All costs are reported in 2011 nominal dollars.

The timing of the spent fuel management expenditures ($271.910 million) is shown in Table 2. The expenditures include direct costs (e.g., for dry storage modules, spent fuel handling, packaging and transferring the spent fuel) as well as indirect costs such as program management and oversight, security, pool and ISFSI operating costs, fees, insurance, etc., projected to be incurred over the post-operations storage period.

The significant contributors to the direct cost of Crystal River spent fuel management are identified in Table 3. As shown, costs are included for the procurement of DSCs, as well as the loading and transfer activities associated with transferring the spent fuel from the pool to the ISFSI pad, and the eventual transfer of the fuel at the ISFSI to the DOE. The direct cost of $107.557 million is a subset of the $271.910 million shown in Table 2. The timing of the direct spent fuel management expenditures ($107.557 million) is shown in Table 4.

It must also be noted that these figures will vary based on actual DOE performance, including the actual cask provisions and requirements that the DOE settles upon. At this time, the DOE has not identified any transport casks or requirements. Therefore, there is considerable uncertainty as to the actual costs that may have to be incurred; and uncertainty as to whether the DOE will agree to bear certain of those costs. Major scheduling milestones are identified in Table 5.

At shutdown, the Crystal River spent fuel pool is expected to contain freshly discharged assemblies from the most recent refueling cycles. It is assumed, for purposes of this cost estimate, that Crystal River will transfer spent fuel directly from its pool to the ISFSI. The transfer would occur over a six and one-half year period following the permanent cessation of Crystal River operations. The Crystal River spent fuel will be moved into DSCs and placed out on the ISFSI. It is assumed that this time period (six and one-half years) is sufficient to meet the decay heat requirements for dry storage.

To support decommissioning operations, Progress Energy anticipates loading 38 DSCs with Crystal River assemblies stored in the auxiliary building's spent fuel pool. The DSCs will then be placed in storage casks at the ISFSI. The decommissioning scenario assumes that the existing ISFSI has sufficient capacity to accommodate the pool inventory at shutdown.

In the absence of identifiable DOE cask requirements, for purposes of this plan only, the design and capacity of the DSCs is based upon Transnuclear, Inc.'s standardized NUHOMS® commercial dry cask storage system (specifically, NUHOMS-32PTH1). The NUHOMS-32PTH1 dry storage canister has a capacity of 32 fuel assemblies at a unit cost of approximately $1.2 million. An additional cost of $256,000 is allocated for the concrete horizontal storage module (HSM). It should be noted that Progress Energy's contract with the DOE requires the DOE to provide transport casks to Progress Energy, but for present purposes, this estimate conservatively includes those costs.

An average unit cost of approximately $700,000 was estimated for the labor and equipment to load, seal and transfer each DSC from the storage pool to the ISFSI. A unit cost of approximately $100,000 was estimated for the final transfer of the DSC at the ISFSI into a DOE transport cask. It is not known what the loading, sealing and transport costs will be for actual DOE-supplied equipment, because the DOE has not identified that equipment. It is assumed, for purposes of this plan only, that the DOE will accept the NUHOMS' DSCs and will not require offloading of the fuel to the DOE-supplied equipment.

Operation of the Crystal River spent fuel pool is discontinued in 2023 once the fuel has been transferred to dry storage. ISFSI operations will continue until such time that the DOE is able to complete the transfer of the fuel from the site (currently anticipated to be in 2057).

4. ISFSI Decommissioning

With the spent fuel removed from the site, the ISFSI is available for decommissioning. It is assumed that once the DSCs containing the spent fuel assemblies have been removed, any required decontamination is performed on the HSMs, and the license for the facility terminated, the HSMs can be dismantled using conventional techniques for the demolition of reinforced concrete. The concrete storage pad can then be removed and the area regraded.

The cost estimated to decontaminate any activated HSMs to the extent necessary to release the facilities for conventional demolition is estimated at $1.8 million. Conventional demolition of the HSMs and pad, and restoration of the affected area of the site is estimated at $0.9 million.

5. Plan for Funding Spent Fuel Management

As of September 30, 2011, the aggregate trust fund balance for Crystal River was approximately $578.0 million.[2] For the purpose of this funding analysis, this value was also used as the assumed year-end 2011 balance.

The cost to decommission Crystal River is estimated at approximately $1,077.6 million (in 2011 dollars).[3] The estimate is based upon a scenario under which the unit would cease operating in 2016 and be placed in safe-storage. Decommissioning would be complete no later than 60 years after cessation of permanent operations.

Approximately 70.0% of the total or $753.717 million is estimated to be required to terminate the operating license and 25.2% of the total or $271.910 million to manage the spent fuel until such time that it can be transferred to the DOE (the remaining 4.8% is associated with site restoration activities).

The decommissioning funding plan is shown in Table 6. To demonstrate the adequacy of the existing funds to cover both license termination and spent fuel management, the fund balance going forward is escalated at 2% per year. The results of this analysis demonstrate that the balance in the decommissioning trust is adequate to fund both the license termination and spent fuel management costs.

Although the decommissioning trust fund is for radiological decommissioning cost only, to the extent that the trust fund balance exceeds costs required for radiological decommissioning, these funds would be available to address costs incurred by the licensee including spent fuel management costs. The licensee acknowledges the need for an exemption pursuant to 10 CFR 50.12(a) to use radiological decommissioning trust funds for anything beyond decommissioning activities as defined in 10 CFR 50.2.

It should be noted that the projected expenditures for spent fuel management identified in the decommissioning cost analysis do not consider the outcome of the litigation (including compensation for damages) with the DOE with regards to the delays incurred by Progress Energy in the timely removal of the spent fuel from the site. Progress Energy views the extended spent fuel management costs to be damages that should be paid by the government because of the DOE's breach of the spent fuel disposal contract. In addition, this analysis assumes no license renewal, which is another conservatism.

6. References

1. Statement of Edward F. Sproat, III, Director Office of Civilian Radioactive Waste Management, U.S. Department of Energy, Before the Subcommittee on Energy and Air Quality Committee on Energy and Commerce U.S. House of Representatives, July 15, 2008.

2. Total decommissioning funds available include Progress Energy Florida's share (91.8%) as well as that of the nine minority owners: City of Alachua, City of Bushnell, City of Gainesville, City of Kissimmee, City of Leesburg, City of Ocala, Orlando Utilities Commission, Seminole Electric Cooperative, and City of New Smyrna Beach.

3. "Preliminary Decommissioning Cost Estimate for the Crystal River Unit 3 Nuclear Generating Plant," Document E11-1651-001, TLG Services, Inc., November 2011.

Table 1
Summary of Major Cost Contributors
(thousands, 2011 dollars)

	License Termination	Spent Fuel Management	Site Restoration	Total
Decontamination	12,409	-	-	12,409
Removal	70,577	1,110	29,387	101,075
Packaging	22,676	5	-	22,681
Transportation	11,885	37	-	11,922
Waste Disposal	46,212	32	-	46,245
Off-site Waste Processing	23,246	-	-	23,246
Program Management [1]	232,016	55,211	18,794	306,020
Site Security	123,271	57,985	2,422	183,679
Spent Fuel Pool Isolation	11,822	-	-	11,822
Spent Fuel Expenditures [2]	-	129,013	-	129,013
Insurance and Regulatory Fees	60,074	966	-	61,040
Energy	12,703	589	199	13,491
Radiological Surveys	15,110	-	-	15,110
Property Taxes	66,779	19,826	611	87,216
Utility Site Indirect	15,180	3,862	283	19,326
Corporate Allocations	10,718	3,272	267	14,257
Miscellaneous Equipment/Services	19,039	-	6	19,045
Total [3]	753,717	271,910	51,969	1,077,596

[1] Includes engineering costs

[2] Excludes program management costs (staffing) and security but includes capital costs for the multi-purpose dry storage containers and storage overpacks, packaging and handling (transfer of the fuel from the Crystal River pool to the ISFSI, and the multi-purpose canisters from the ISFSI to the DOE)

[3] Columns may not add due to rounding

Table 2
Schedule of Annual Expenditures
Spent Fuel Management Allocation
(thousands, 2011 dollars)

Year	Labor	Equipment & Materials	Energy	LLRW Disposal	Other	Total
2016	0	0	0	0	146	146
2017	0	0	0	0	1,838	1,838
2018	5,296	2,640	68	0	10,298	18,302
2019	9,205	4,589	118	0	16,543	30,455
2020	9,231	4,601	118	0	16,588	30,538
2021	9,205	4,589	118	0	16,543	30,455
2022	9,205	4,589	118	0	16,543	30,455
2023	5,157	2,005	50	0	7,545	14,757
2024	2,208	120	0	0	980	3,309
2025	2,202	120	0	0	978	3,300
2026	2,202	120	0	0	978	3,300
2027	2,202	120	0	0	978	3,300
2028	2,208	120	0	0	980	3,309
2029	2,202	120	0	0	978	3,300
2030	2,202	120	0	0	978	3,300
2031	2,202	120	0	0	978	3,300
2032	2,208	120	0	0	980	3,309
2033	2,202	120	0	0	978	3,300
2034	2,202	120	0	0	978	3,300
2035	2,202	120	0	0	978	3,300
2036	2,208	120	0	0	980	3,309
2037	2,202	120	0	0	978	3,300
2038	2,202	120	0	0	978	3,300
2039	2,202	120	0	0	978	3,300
2040	2,208	120	0	0	980	3,309
2041	2,202	120	0	0	978	3,300
2042	2,202	120	0	0	978	3,300
2043	2,202	120	0	0	978	3,300
2044	2,208	120	0	0	980	3,309
2045	2,202	120	0	0	978	3,300
2046	2,202	120	0	0	978	3,300
2047	2,202	120	0	0	978	3,300
2048	2,208	120	0	0	980	3,309
2049	2,202	120	0	0	978	3,300
2050	2,202	120	0	0	978	3,300
2051	2,202	120	0	0	978	3,300

Table 2 (continued)
Schedule of Annual Expenditures
Spent Fuel Management Allocation
(thousands, 2011 dollars)

Year	Labor	Equipment & Materials	Energy	LLRW Disposal	Other	Total
2052	2,208	120	0	0	980	3,309
2053	2,202	120	0	0	978	3,300
2054	2,202	120	0	0	978	3,300
2055	2,202	120	0	0	978	3,300
2056	2,208	120	0	0	980	3,309
2057	2,196	119	0	0	975	3,290
2058	0	0	0	0	0	0
2059	0	0	0	0	0	0
2060	0	0	0	0	0	0
2061	0	0	0	0	0	0
2062	0	0	0	0	0	0
2063	0	0	0	0	0	0
2064	0	0	0	0	0	0
2065	0	0	0	0	0	0
2066	0	0	0	0	0	0
2067	0	0	0	0	0	0
2068	0	0	0	0	0	0
2069	0	0	0	0	0	0
2070	0	0	0	0	0	0
2071	0	0	0	0	0	0
2072	124	82	0	29	1,347	1,583
2073	0	0	0	0	0	0
2074	0	0	0	0	0	0
2075	0	0	0	0	0	0
2076	156	435	0	3	193	788
2077	0	0	0	0	0	0
2078	79	239	0	0	20	338
Total	122,583	27,839	589	32	120,866	271,910

Note: Columns may not add due to rounding

Table 3
Significant Cost Contributors
(2011 dollars)

Spent Fuel Management - Direct Expenditures	Cost [1]
Spent Fuel Transfer Facility	3,450,000
Horizontal Storage Module Installation (for 38 HSMs)	4,370,000
Capital Costs for ISFSI DSCs and HSMs	63,627,200
Loading and Transfer Costs from Pool to ISFSI	30,590,000
DSC Transfer Costs from ISFSI to DOE (48 DSCs)	5,520,000
Total	107,557,200

[1] Contingency has been added to all costs (15%)

Table 4
Estimated Expenditures for Spent Fuel Packaging, Storage and Canister Transfer *
(2011 dollars)

Year	Spent Fuel Transfer Facility	Horizontal Storage Module Installation	Capital Costs for DSCs and HSMs	Pool to ISFSI Loading and Transfer	ISFSI to DOE DSC Transfer	Total
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
2020	-	1,150,000	16,744,000	8,050,000	-	25,944,000
2021	-	1,150,000	16,744,000	8,050,000	-	25,944,000
2022	-	1,150,000	16,744,000	8,050,000	-	25,944,000
2023	-	920,000	13,395,200	6,440,000	-	20,755,200
2024	3,450,000	-	-	-	345,000	3,795,000
2025	-	-	-	-	230,000	230,000
2026	-	-	-	-	230,000	230,000
2027	-	-	-	-	230,000	230,000
2028	-	-	-	-	345,000	345,000
2029	-	-	-	-	-	-
2030	-	-	-	-	230,000	230,000
2031	-	-	-	-	230,000	230,000
2032	-	-	-	-	-	-
2033	-	-	-	-	230,000	230,000
2034	-	-	-	-	230,000	230,000
2035	-	-	-	-	-	-
2036	-	-	-	-	-	-
2037	-	-	-	-	345,000	345,000
2038	-	-	-	-	230,000	230,000
2039	-	-	-	-	-	-
2040	-	-	-	-	-	-
2041	-	-	-	-	345,000	345,000
2042	-	-	-	-	-	-
2043	-	-	-	-	230,000	230,000
2044	-	-	-	-	-	-
2045	-	-	-	-	345,000	345,000
2046	-	-	-	-	-	-
2047	-	-	-	-	230,000	230,000
2048	-	-	-	-	-	-
2049	-	-	-	-	345,000	345,000

Table 4 (continued)
Estimated Expenditures for Spent Fuel Packaging, Storage and Canister Transfer *
(2011 dollars)

Year	Spent Fuel Transfer Facility	Horizontal Storage Module Installation	Capital Costs for DSCs and HSMs	Pool to ISFSI Loading and Transfer	ISFSI to DOE DSC Transfer	Total
2050	-	-	-	-	-	-
2051	-	-	-	-	345,000	345,000
2052	-	-	-	-	-	-
2053	-	-	-	-	230,000	230,000
2054	-	-	-	-	-	-
2055	-	-	-	-	345,000	345,000
2056	-	-	-	-	-	-
2057	-	-	-	-	230,000	230,000
Total	3,450,000	4,370,000	63,627,200	30,590,000	5,520,000	107,557,200

* A 15% contingency factor has been applied to all spent fuel related costs

Table 5
Projected Schedule and Milestones

Major Milestones and Fuel-Related Events	
Currently scheduled cessation of plant operations	December 2016
First DSC transferred post-shutdown from pool to ISFSI	2020
Last DSC transferred post-shutdown from pool to ISFSI	2023
End of wet storage pool operations	2023
DOE begins to receive commercial spent fuel	2020
First Crystal River fuel assembly removed from site	2024
Last Crystal River fuel assembly leaves site	2057
Last year of ISFSI operations	2057
ISFSI decommissioned	2057 - 2058
ISFSI demolition	2057 - 2058

Table 6
Decommissioning Funding Plan
2016 Shutdown

Basis Year		2011			
Fund Balance		$578.026	(millions)	(as of 09/30/2011)	
Annual Escalation		0.00%			
Annual Earnings		2.00%			
	A	B	C	D	E
Year	50.75 License Termination Cost (millions)	50.54(bb) Spent Fuel Management Cost (millions)	Total License Termination and Spent Fuel Management Cost (millions)	Total Cost Escalated at 0% (millions)	Decommissioning Trust Fund Escalated at 2% (minus expenses) (millions)
2011	-	-	-	$0.00	$578.026
2012	-	-	-	$0.00	$589.586
2013	-	-	-	$0.00	$601.378
2014	-	-	-	$0.00	$613.406
2015	-	-	-	$0.00	$625.674
2016	$4.06	$0.15	$4.20	$4.20	$633.983
2017	$53.41	$1.84	$55.24	$55.24	$591.420
2018	$43.42	$18.30	$61.72	$61.72	$541.530
2019	$5.61	$30.45	$36.06	$36.06	$516.299
2020	$5.62	$30.54	$36.16	$36.16	$490.465
2021	$5.61	$30.45	$36.06	$36.06	$464.213
2022	$5.61	$30.45	$36.06	$36.06	$437.435
2023	$5.52	$14.76	$20.28	$20.28	$425.902
2024	$5.48	$3.31	$8.79	$8.79	$425.632
2025	$5.46	$3.30	$8.76	$8.76	$425.381
2026	$5.46	$3.30	$8.76	$8.76	$425.125
2027	$5.46	$3.30	$8.76	$8.76	$424.863
2028	$5.48	$3.31	$8.79	$8.79	$424.572
2029	$5.46	$3.30	$8.76	$8.76	$424.300
2030	$5.46	$3.30	$8.76	$8.76	$424.022
2031	$5.46	$3.30	$8.76	$8.76	$423.738
2032	$5.48	$3.31	$8.79	$8.79	$423.425
2033	$5.46	$3.30	$8.76	$8.76	$423.129
2034	$5.46	$3.30	$8.76	$8.76	$422.828
2035	$5.46	$3.30	$8.76	$8.76	$422.520
2036	$5.48	$3.31	$8.79	$8.79	$422.183

Table 6 (continued)
Decommissioning Funding Plan
2016 Shutdown

Basis Year		2011			
Fund Balance		$578.026	(millions)	(as of 09/30/2011)	
Annual Escalation		0.00%			
Annual Earnings		2.00%			
	A	B	C	D	E
Year	50.75 License Termination Cost (millions)	50.54(bb) Spent Fuel Management Cost (millions)	Total License Termination and Spent Fuel Management Cost (millions)	Total Cost Escalated at 0% (millions)	Decommissioning Trust Fund Escalated at 2% (minus expenses) (millions)
2037	$5.46	$3.30	$8.76	$8.76	$421.862
2038	$5.46	$3.30	$8.76	$8.76	$421.535
2039	$5.46	$3.30	$8.76	$8.76	$421.202
2040	$5.48	$3.31	$8.79	$8.79	$420.838
2041	$5.46	$3.30	$8.76	$8.76	$420.491
2042	$5.46	$3.30	$8.76	$8.76	$420.136
2043	$5.46	$3.30	$8.76	$8.76	$419.775
2044	$5.48	$3.31	$8.79	$8.79	$419.383
2045	$5.46	$3.30	$8.76	$8.76	$419.006
2046	$5.46	$3.30	$8.76	$8.76	$418.622
2047	$5.46	$3.30	$8.76	$8.76	$418.231
2048	$5.48	$3.31	$8.79	$8.79	$417.807
2049	$5.46	$3.30	$8.76	$8.76	$417.399
2050	$5.46	$3.30	$8.76	$8.76	$416.983
2051	$5.46	$3.30	$8.76	$8.76	$416.559
2052	$5.48	$3.31	$8.79	$8.79	$416.102
2053	$5.46	$3.30	$8.76	$8.76	$415.660
2054	$5.46	$3.30	$8.76	$8.76	$415.209
2055	$5.46	$3.30	$8.76	$8.76	$414.749
2056	$5.48	$3.31	$8.79	$8.79	$414.256
2057	$5.46	$3.29	$8.75	$8.75	$413.786
2058	$5.43	$0.00	$5.43	$5.43	$416.629
2059	$5.43	$0.00	$5.43	$5.43	$419.528
2060	$5.45	$0.00	$5.45	$5.45	$422.470
2061	$5.43	$0.00	$5.43	$5.43	$425.486
2062	$5.43	$0.00	$5.43	$5.43	$428.562

Table 6 (continued)
Decommissioning Funding Plan
2016 Shutdown

Basis Year		2011			
Fund Balance		$578.026	(millions)	(as of 09/30/2011)	
Annual Escalation		0.00%			
Annual Earnings		2.00%			
	A	B	C	D	E
Year	50.75 License Termination Cost (millions)	50.54(bb) Spent Fuel Management Cost (millions)	Total License Termination and Spent Fuel Management Cost (millions)	Total Cost Escalated at 0% (millions)	Decommissioning Trust Fund Escalated at 2% (minus expenses) (millions)
2063	$5.43	$0.00	$5.43	$5.43	$431.700
2064	$5.45	$0.00	$5.45	$5.45	$434.885
2065	$5.43	$0.00	$5.43	$5.43	$438.149
2066	$5.43	$0.00	$5.43	$5.43	$441.479
2067	$5.43	$0.00	$5.43	$5.43	$444.875
2068	$5.45	$0.00	$5.45	$5.45	$448.324
2069	$5.43	$0.00	$5.43	$5.43	$451.857
2070	$5.43	$0.00	$5.43	$5.43	$455.460
2071	$7.55	$0.00	$7.55	$7.55	$457.017
2072	$44.67	$1.58	$46.25	$46.25	$419.902
2073	$98.77	$0.00	$98.77	$98.77	$329.534
2074	$107.95	$0.00	$107.95	$107.95	$228.175
2075	$72.21	$0.00	$72.21	$72.21	$160.530
2076	$36.92	$0.79	$37.70	$37.70	$126.037
2077	$0.12	$0.00	$0.12	$0.12	$128.436
2078	$0.07	$0.34	$0.41	$0.41	$130.592
Total	$753.72	$271.91	$1,025.63		

Calculations:

Column C = A + B
Column D = (C)*(1+0%)^(current year – 2011) or for 0%, D = C
Column E = (Previous year's fund balance) * (1 + .02) – D (current year's decommissioning expenditures)

PROGRESS ENERGY FLORIDA, INC.

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72

ENCLOSURE 2

PRELIMINARY DECOMMISSIONING COST ESTIMATE FOR THE CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT