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Law Department

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100458-EI

December 13, 2010

Ms. Ann Cole
Commission Clerk
The Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Re: Docket No._____
Florida Power & Light Company's 2010 Decommissioning Study

Dear Ms. Cole:

In compliance with Rule 25-6.04365, F.A.C., I am enclosing for filing on behalf of Florida Power & Light Company ("FPL") the original and seven (7) copies of the Petition of Florida Power & Light Company for Approval of its 2010 Decommissioning Study, together with a CD containing the Petition in MS Word format. The 2010 Nuclear Decommissioning Study, including its Executive Summary, is attached to the Petition. The study results are based on estimates and assumptions that follow Nuclear Regulatory Commission (NRC) requirements and industry guidelines for the development of the costs to remove and dismantle nuclear power plants decades into the future. Funds are maintained and interest reinvested in the decommissioning trusts as required by the NRC, Internal Revenue Service, Federal Energy Regulatory Commission and Florida Public Service Commission (FPSC). Under federal law, these funds may only be used for nuclear decommissioning, are not available for any other use and do not earn a return or profit for FPL. Key findings:

(1) The trusts remain adequately funded so that FPL customers are not required to bear undue risk of incurring additional costs when the time comes to decommission FPL's nuclear power plants.
(2) The current assumed escalation rate is 1.6 percent lower than in the 2005 study, and the impact of this change is substantially greater than the entire difference in funding positions between 2005 and 2010, reaffirming the importance of maintaining adequate funding.
(3) FPL customers have not contributed to the decommissioning trusts since 2005, and the study confirms that, as of Dec. 31, 2010, the trusts continue to be adequately funded without FPL customer contributions.

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Decommissioning studies are highly dependent upon input assumptions that can and will change over time, such that future funding positions could change substantially. For this reason, the FPSC and FPL should continue to review these studies on the scheduled basis to ensure adequate decommissioning funds are available at the appropriate time and to protect FPL customers from the undue risk of incurring additional costs in the future.

Respectfully submitted,

John T. Butler
Enclosure

DOCUMENT NUMBER-DATE
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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition of Florida Power & Light Company for Approval of its 2010 Nuclear Decommissioning Study	))))	Docket No. _____ Filed: December 13, 2010

PETITION OF FLORIDA POWER & LIGHT COMPANY FOR APPROVAL OF ITS 2010 NUCLEAR DECOMMISSIONING STUDY

Florida Power & Light Company ("FPL"), pursuant to Rule 25-6.04365, Florida Administrative Code ("F.A.C."), petitions the Commission to approve FPL's updated study concerning the decommissioning of its nuclear generation units (the "2010 Decommissioning Study"). The 2010 Decommissioning Study is comprised of two separate volumes, for the St. Lucie and Turkey Point plant sites, which are attached hereto and incorporated herein by reference.

1. Pursuant to Rule 25-6.0435, F.A.C., each utility that owns a nuclear generating plant is required to file a Nuclear Decommissioning Study on a regular basis to ensure that there are sufficient funds on hand at the time of decommissioning to meet all required expenses. As shown in the 2010 Decommissioning Study, based on FPL's assumptions such as the rate of burial cost escalation and fund earnings assumptions, maintaining the current annual accrual of $0 will satisfy FPL's retail share of the future cost of total nuclear decommissioning costs. Therefore, FPL requests no change to the accrual for nuclear decommissioning.

2. In addition, as required by the Commission in Order Nos. PSC-02-0055-PAA-EI and PSC-10-0153-FOF-EI, FPL has updated its estimates for the last core of nuclear fuel ("Last Core") and end of life materials and supplies ("EOL M&S") inventories as part of the 2010 Decommissioning Study. FPL requests no change in the accruals for Last Core and EOL M&S

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at this time. FPL will address the updated estimates for Last Core and EOL M&S in its accruals as part of FPL's next general base rate proceeding.

WHEREFORE, FPL respectfully requests that the Commission approve its 2010 Decommissioning Study.

Respectfully submitted,

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By: _____
John T. Butler
Fla. Bar No. 283479

CERTIFICATE OF SERVICE
Docket No. _____

I HEREBY CERTIFY that a true and correct copy of Florida Power & Light Company's Petition for Approval of its 2010 Nuclear Decommissioning Study has been furnished by hand delivery on December 13, 2010 to the following:

Mary Anne Helton, Esq. Deputy General Counsel Division of Legal Services Florida Public Service Commission 2540 Shumard Oak Blvd Tallahassee, Florida 32399-0850 mhelton@psc.state.fl.us	J. R. Kelly, Esq. Office of Public Counsel c/o The Florida Legislature 111 West Madison Street, Room 812 Tallahassee, Florida 32399 Kelly.jr@leg.state.fl.us

By: _____
John T. Butler
Fla. Bar No. 283479

FLORIDA POWER & LIGHT COMPANY

2010 DECOMMISSIONING STUDY

ST. LUCIE NUCLEAR UNIT
NOS. 1 & 2

December 2010

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Florida Power & Light Company
2010 Decommissioning Study
St. Lucie Nuclear Units

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SECTION 1

EXECUTIVE SUMMARY

Overview

FPL's 2010 Nuclear Decommissioning Study results are based on estimates and assumptions that follow Nuclear Regulatory Commission (NRC) requirements and industry guidelines for the development of the costs to remove and dismantle nuclear power plants decades into the future. Funds are maintained and interest reinvested in the decommissioning trusts as required by the NRC, Internal Revenue Service, Federal Energy Regulatory Commission and Florida Public Service Commission (FPSC). Under federal law, these funds may only be used for nuclear decommissioning, are not available for any other use and do not earn a return or profit for FPL. The study is essentially a snapshot, which shows that based on current assumptions FPL's nuclear decommissioning trust funds are appropriately funded and demonstrate that, despite downturns in the market, these funds are helping protect customers from potential future cost increases. Compared to 2005, the currently calculated funding position has improved primarily because of a decrease in the assumed escalation rate for future decommissioning costs, in addition to a reduction in the estimated nominal cost of decommissioning resulting from a settlement with the Department of Energy (DOE). FPL customers have not contributed to the decommissioning trusts since 2005, and the study confirms that, as of Dec. 31, 2010, the trusts continue to be adequately funded without FPL customer contributions.

Decommissioning studies represent the aggregation of numerous estimates for activities and costs that will not be incurred for at least 22 years. As such, they are highly dependent upon input assumptions that can and will change over time, such that future funding positions could differ substantially from today's position. Historical costs and investment returns over the last five years have actually had a negative impact on the funding position, but adjustments to assumptions regarding events that will occur far in the future drive the net improvement. The current assumed escalation rate is 1.6 percent lower than in the 2005 study, and the impact of this change is substantially greater than the entire difference in funding positions between 2005 and 2010, reaffirming the importance of maintaining adequate funding. For this reason, the FPSC and FPL should continue to review these studies on the scheduled basis to ensure that adequate funds are available to decommission FPL's nuclear plants at the appropriate time.

2010 Study Approach

The information contained in this 2010 Decommissioning Study is presented in compliance with Rule 25-6.04365, Florida Administrative Code, and prior Commission Orders. FPL contracted TLG Services, Inc. (TLG), the leading provider of these services to the U.S. nuclear industry, to prepare its 2010 site-specific nuclear decommissioning cost analysis and comparison reports, which are estimated based on NRC requirements, industry guidelines, and prior experience. TLG includes the most up to date actual decommissioning information available to ensure the methodology used to prepare the cost analysis is reasonable.

FPL selected a DECON (immediate dismantlement) decommissioning option for its units. The DECON method provides not only a lower cost, but also enables a coordinated sequence of decommissioning events, which allows for a one-time mobilization of contractor personnel and equipment. FPL's choice of the DECON method is consistent with the method in prior studies approved by the Commission for purposes of determining FPL's appropriate accrual and funding requirements.

Escalation Rate

The 2010 Decommissioning Study assumes that future decommissioning costs grow at an average rate of approximately 3.0 percent per year. In contrast, the 2005 study assumed an average escalation rate of 4.6 percent. FPL notes that the current escalation rates are below any typical range due to the current macro economic market conditions that have reduced escalation factors to near all time lows. While FPL believes that the current escalation rates are reasonable for the purpose of the 2010 Decommissioning Study, it should be noted that subsequent changes in the assumed escalation rate are likely to be increases, which would result in higher projected future decommissioning costs.

Spent Fuel Management

Consistent with prior studies and assumptions approved by the Commission, the decommissioning cost estimates include the cost associated with interim storage of spent nuclear fuel (SNF) on site until such time the DOE is able to remove SNF from the site. Subsequent to the 2005 study, in 2009, FPL executed a Settlement Agreement with the U.S. Government that resolved FPL's lawsuit for damages resulting from a DOE delay in commencement of disposal of SNF. The Settlement Agreement requires the Government to make payments to FPL to cover the cost incurred for managing and storing SNF that would not have been incurred but for DOE's delay in SNF disposal. As such and for purposes of this study, the DOE is expected to make payments to FPL to cover spent fuel management costs incurred by FPL prior to 2062, which is the date FPL currently projects that the DOE will meet its obligation to begin disposal of SNF. For purposes of the funding and accrual analysis contained in this study, the 2010 decommissioning costs have been reduced significantly to reflect the reimbursement by the Government of SNF management costs incurred during the decommissioning period. This is the first time expected Government reimbursements have been factored in to FPL's funding analyses and nuclear decommissioning studies. The ultimate timing and amount of reimbursements will depend on many factors, including but not limited to, the DOE's ability to receive SNF and the Government's compliance with the terms of the Settlement Agreement. Some state jurisdictions do not allow utilities to include SNF settlements in their decommissioning funding analyses due to the concern that reimbursements may not be guaranteed and may bias the result. FPL believes that the recognition of the SNF reimbursements should be included based on the fact that the Settlement Agreement is a binding legal agreement on the Government and FPL has successfully received SNF reimbursements pursuant to the Settlement Agreement.

Fund Earnings Rate

Since 2005, FPL customers have not made contributions to the nuclear decommissioning trusts, but an adequate funding level has been maintained, as indicated in the estimates included in the 2010 study. This is despite investment returns totaling $133 million less than estimated in the 2005 study. FPL's current investment strategy for its nuclear decommissioning funds is largely consistent with its 2005 study. The economy remains weak; therefore, future investment results are uncertain.

Changes from 2005 to 2010

The changes in actual cost and actual returns since 2005 have reduced the funded status of FPL's four nuclear units by more than $195 million as of Dec. 31, 2010. These reductions have been offset primarily by reductions in assumed escalation factors for future decommissioning costs and, to a lesser extent, government reimbursements pursuant to the SNF settlement. As discussed above, the funding status is highly dependent upon the assumed escalation rates, which are currently assumed to be at near all-time lows and could increase significantly in the future.

Sensitivities

FPL believes the assumptions used in the 2010 funding analyses are based on the best information available at the time the study was prepared, and represents a reasonable outcome. However, due to the number of assumptions that must be made and the length of time before decommissioning will actually begin, it is important to understand a range of results can be produced using other assumptions. The following are examples of sensitivities that provide a high degree of uncertainty:

- Timing and amount of future DOE reimbursement under the SNF settlement (represents approximately 88 percent of the change in the funded position)
- Lower than anticipated fund earnings as a result of future market downturns
- Increase in the escalation of burial costs
- Increase in cost of nuclear decommissioning activities

Conclusion

The 2010 Decommissioning Study indicates that the trusts are currently at an adequate funding level given current assumptions and projections. These trusts are necessary so FPL's customers are adequately protected from further cost increases when the time comes to decommission FPL's nuclear plant. FPL has earned its customers trust by using careful, prudent investment strategies in all facets of its business including the management of its nuclear decommissioning trusts. Despite recent volatile markets, the funds remain secure. As a result, FPL's current annual expense accrual requirements for decommissioning costs presented in this study support a zero accrual and funding requirement as of Dec. 31, 2010.

In addition, as required by the Commission in Order Nos. FPSC-02-0055-PAA-EI and FPSC-10-0153-FOF-EI, FPL has updated its estimates for End of Life Nuclear Fuel Last Core and End of Life Materials and Supplies Inventory balances. This information is provided for informational purposes with this study. FPL is not requesting a change in accruals at this time. Rather, FPL believes that the results of these updated values for End of Life Nuclear Fuel Last Core and End of Life Materials and Supplies should be addressed in FPL's next base rate proceeding and that the appropriate changes in accruals, if any, should be made at that time.

SECTION 2

ASSUMPTIONS

Florida Power & Light Company
2010 Decommissioning Study
St. Lucie Nuclear Units
Assumptions

Assumptions Summary

Following is a summary of the assumptions used to derive the annual accrual, and funding and revenue requirements. These assumptions are more fully developed on the following pages.

	Unit No. 1	Unit No. 2
Decommissioning Method	SAFSTOR/ Integrated DECON (Prompt Removal/ Dismantling	DECON (Prompt Removal/ Dismantling)
Total Decommissioning Cost Per TLG Services, Inc. (current cost estimate in 2010 $)	$767,124,000	$711,630,000
FPL's Cost of Decommissioning (Jurisdictional and net of Unit No. 2 Participants' obligation) In 2010 $	$758,058,129	$598,851,426
Method of Funding (2010 – End)	Qualified/ Nonqualified	Qualified/ Nonqualified
Funding Periods (Years till License Expiration)	25.17	32.25
Assumed Fund Earnings rate	3.9%	3.9%
Average Escalation Rate for Decommissioning Costs (2010 – End)	2.84%	2.97%
FPL Ownership Allocation (%)	100%	85.15848%
FPSC Jurisdictional Separation Factor (%)	98.8182%	98.8182%
Estimated Fund Balance - Qualified (12/31/10)	$440,017,000	$402,508,000

	Unit No. 1	Unit No. 2
Estimated fund Balance - Nonqualified (12/31/10)	$136,886,000	$66,599,000
End of Life M & S Inventory Value (Net Of Participants' obligation)	N/A	$18,977,468
End of Life Nuclear Fuel Last Core Values (Net of Participants' obligation)	$87,200,000	$93,800,000
Year of Last Pick Up of Spent Fuel	2073	2073
Expected DOE Reimbursement (Current cost estimate in 2010 $)	$138,812,000	$92,659,000

Decommissioning Methods

For purposes of this analysis, decommissioning is defined as the activity whereby nuclear facilities are removed safely from service and residual radioactivity is reduced to a level that permits release of the property for unrestricted use and termination of the operating license granted under Title 10 CFR Part 50. Decommissioning also includes the dismantlement, disposal and site restoration activities associated with the non-contaminated portion of the facilities. These activities are not required for termination of the operating license, but are required to address other non-radiological requirements associated with the release of the site.

The Nuclear Regulatory Commission (NRC) has defined three acceptable decommissioning methods: Prompt Removal/Dismantling (DECON); Safe Storage/Deferred Decontamination (SAFSTOR); and Entombment (ENTOMB). The study utilizes the NRC terminology, but also includes the additional activities required to accommodate the non-contaminated portion of the facilities.

The DECON and SAFSTOR alternatives were both examined and are presented in the (TLG) Decommissioning Cost Analysis section (Section 11) of this filing. The ENTOMB alternative was not considered, because it is considered impractical for a facility which generates significant amounts of long-lived radioactive material due to neutron activation. FPL selected an integrated DECON decommissioning option for St. Lucie Units 1 and 2. Due to the difference in the operating license period of Units 1 and 2, this option entails approximately 7 years of dormancy (SAFSTOR) for Unit 1 followed by prompt

dismantlement (DECON) of both Units 1 and 2. The integrated DECON method provides not only a lower cost, but also enables a sequence of events, which allows for a one-time mobilization of contractor personnel and equipment. This method is consistent with the method in prior studies approved by the Commission for purposes of determining the appropriate accrual and funding requirements.

Total Decommissioning Costs

Below are the total estimated costs of Decommissioning the St. Lucie facility as provided by FPL's consultant, TLG Services, Inc. in 2010 dollars.

St. Lucie Unit No. 1		
Labor	$	387,244,000
Equip & Materials		148,038,000
Transportation		21,109,000
Burial		74,735,000
Other		135,998,000
Total		767,124,000
St. Lucie Unit No. 2		
Labor	$	385,532,000
Equip & Materials		119,983,000
Transportation		21,918,000
Burial		85,074,000
Other		99,123,000
Total		711,630,000

Funding Method

In Docket No. 810100-EU, Order No. 10987 issued July 13, 1982, the FPSC ordered FPL to establish a funded reserve. Beginning in 1983 FPL began making contributions, on a net of tax basis, to an externally funded reserve. In 1986, the Treasury Department issued temporary regulations under Internal Revenue Code Section 468A relating to the deductibility of contributions made to a qualified decommissioning fund. These regulations, which were finalized in March of 1988, provide for an annual election by the taxpayer to make tax-deductible contributions to a qualified nuclear decommissioning fund. Qualified nuclear decommissioning funds have been established by FPL for each of the four nuclear units. FPL elected to make contributions to the qualified funds, to the maximum allowed, for the years 1984 through 1987, 1992 through 2004 and for the year

to date period ended August 31, 2005. Per the Stipulation and Settlement Agreement approved by the Commission in FPSC Order No. FPSC-05-0902-S-EI, FPL suspended accruals effective September 1, 2005, and as such, no additional contributions to the funds have been made subsequent to that date.

The funding analysis presented in Sections G of this study indicates that no additional contributions to the qualified and nonqualified funds are projected to be required through the remainder of the funding period that ends with the expiration of the unit's operating license. Only the after-tax earnings of the trust fund investments are assumed to continue to be reinvested and accumulated in the respective funds. Future decommissioning expenditures are assumed to be distributed from the qualified and nonqualified funds in proportion to the balance accumulated at the time of expenditure.

Funding Period

The funding period, to the extent funding is required, is that period over which revenues are collected from ratepayers for purposes of decommissioning the St. Lucie Units. Funding periods for both units end on the last day of the month preceding the month in which the operating license for the unit is due to expire. The operating license expiration dates for the St. Lucie units are as follows.

- St. Lucie Unit No. 1 - March 1, 2036
- St. Lucie Unit No. 2 - April 6, 2043

Based on the results of the funding analysis presented in Support Schedule G, no additional funding is required at this time.

Fund Earnings Rate

For purposes of this 2010 study update and funding analysis, the projected annual funds earnings rate, net of taxes and all other administrative costs charged to the trust funds, for Units 1 and 2 qualified and nonqualified fund investments, is assumed to be 3.9%. This assumption is based on a projected real long-term, after tax and net of fees, earnings rate of 1.9% plus an estimated long term average inflation rate of 2.0%. The long-term, after tax and net of fees earnings rate reflects the projection of continued adequacy of the funds and assumes a conservative investment strategy where the funds are moved to 100% fixed income prior to the first year of decommissioning and a more conservative all bonds & cash asset mix in the final years of decommissioning. FPL recognizes that over

the long-term period there will likely be periods when the earned return may be greater or less than the assumed 3.9%. Consistent with prior Commission practice and Rule 25-6.04365 (FAC) the assumptions presented in this 2010 study will be reviewed and updated as appropriate "at least once every five years".

The annual rates of change in CPI were taken from "The U. S. Economy, The 30 – Year Focus, Third – Quarter 2010", published by Global Insight.

Escalation Rate

The annual escalation rates used to estimate total future dismantlement costs from 2010 through the final year of decommissioning are as follows:

	Average Annual Escalation Rate
St. Lucie Unit No. 1	2.84%
St. Lucie Unit No. 2	2.97%

The above rates were derived by applying separate inflation indices to each of the major cost components of Labor, Materials and Equipment, Transportation, Burial, and Other.

Cost Component	Inflation Index
Labor	Compensation per Hour
Materials and Equip.	PPI - Intermediate Materials, Supplies, and Components
Shipping	GDP Deflator-Transportation
Burial	FPL Analysis & CPI
Other	GDP (Implicit)

For purposes of this 2010 study update, the inflation indices were obtained from The U.S. Economy, The 30 – Year Focus, Third – Quarter 2010", published by Global Insight except for the burial index.

The burial cost estimates are assumed to escalate at an average annual rate of 3%. This is a reduction from the 6.6% rate assumed in the 2005 study. Since the 2005 study was prepared, FPL has signed an agreement with Energy Solutions which provides for the long-term disposal of Class A waste generated during decommissioning. As such, burial costs for disposal of Class A waste is estimated based on the Energy Solution agreement. Escalation of pricing under this agreement is tied to changes in the Consumer Price Index (CPI). In addition, the cost estimates for processed/conditioned (at off-site recycling center) disposal of Class A waste is assumed to be at a competitive rate comparable to the Energy Solutions pricing. Burial cost rates for Class B and Class C waste, not covered by the Energy Solutions Agreement, are less certain and based on rates equivalent to Barnwell published rates. The escalation rate applicable to Class B and C waste is assumed to be 6.6% which approximates the historical rate of change in published Barnwell rates. The resulting annual escalation rate of 3% applied to burial costs is a weighted rate based on Class A waste (approx. 90% of total burial costs) at the estimated long-term CPI rate of 2% and Class B and C waste (approx. 10% of total burial costs) estimated at 6.6%.

For a more detail calculation of the overall weighted average escalation rate and annual rate of change for each component please refer to Support Schedule G ("Inflation and Funding Analysis").

FPL/Participant Ownership Share of Nuclear Units

The participants and their ownership interests in the St. Lucie facility are as follows:

	St. Lucie Unit No. 1	St. Lucie Unit No. 2
Florida Power & Light Company	100.0%	85.10449%
Orlando Utilities Commission	0.0	6.08951%
Florida Municipal Power Agency	0.0	8.80600%
Total	100.0%	100.00000%

For purposes of allocating decommissioning costs between FPL and Participants in the St. Lucie Unit No. 2, an adjustment was made to the ownership percentages to reflect the appropriate Common Facility cost obligation of participants.

This adjustment was necessary because the decommissioning cost study attributes common facility costs to St. Lucie No. 2. Because the Participants contractual obligation

currently provides that they pay for only their ownership share times one-half of the common facility costs, to apply their ownership share to the total cost of decommissioning Unit No. 2 would overstate the participants' cost obligation. This adjustment to the ownership percentage is reflected in what is termed a "Cost Allocation Factor" and represents the cost obligation of FPL and participants as a percentage of the total costs of decommissioning. The "Cost Allocation Factor" calculation is given in Support Schedule H "Cost Allocation Analysis".

The Cost Allocation Factors for St. Lucie Unit No. 2 are:

	St. Lucie No. 2
Florida Power & Light Company	85.15848%
Participants	14.84152%
Total	100.00000%

St. Lucie Unit No. 2
Participant Owners Funding Status

		$ thousands		
Participant	**Allocated Share**	**Allocated Costs 2010 $'s**	**Note (a) Required at 12/31/2010**	**Amount Funded at 11/30/2010**
Orlando Utilities Commission (OUC)	6.06744%	$43,178	$19,430	$35,884
Florida Municipal Power Agency (FMPA)	8.77408%	62,439	28,098	50,148
Participant's Total	14.84152%	$105,617	$47,528	$86,032
Florida Power and Light	85.15848%	606,013		
Total	100.00000%	$711,630		

Note (a):
At December 31, 2010, the funded balance should approximate 45% (27 yrs. / 60 yrs.) of decommissioning costs.

FPSC Jurisdictional Factor

The factor applicable to both units is 98.8182%.

Fund Balances

Estimated/actual fund balances (qualified and nonqualified) at December 31, 2010[(a)] for each of the two St. Lucie Units are as Follows:

$(000)

	Qualified	Nonqualified
Unit No. 1	$440,017,000	$136,886,000
Unit No. 2	$402,508,000	$66,599,000

(a) Excluding unrealized market gains/losses.

See support Schedule C ("Projected Fund and Reserve Balances") for detail composition and adjustments to the qualified and nonqualified fund balances.

End of Life Materials and Supplies Inventory Values

The decommissioning cost estimates contained in the TLG Decommissioning Cost Analysis section of this study and in the funding analysis contained in Support Schedule G of this filing do not take into consideration the unrecovered value of any Materials and Supplies Inventories that will ultimately exist at the site following shut down of both units. Both FPL and this Commission have previously recognized that there will be a level of inventories that will remain at the end of life of Unit No. 2, the last unit to reach end of license, which must be recovered prior to the end of site operations. These inventories are unique and will have little value other than scrap value when the units are decommissioned. In Order No. FPSC-02-0055-PAA-EI, the Commission authorized FPL to begin recording the amortization of estimated end of life materials and supplies costs as a base rate fuel expense with a credit to a separate (unfunded) sub-account of Reserve Account 228. Additionally, the Commission directed the Company to address the costs associated with the materials and supplies in subsequent decommissioning studies so that the related annual accruals can be revised, if warranted. The annual

expense/reserve accruals associated with End of Life Inventories are being accounted for, as directed by the Commission, in a separate (unfunded) sub-account of Reserve Account 228.

As provided in Support Schedule E of this study, the Materials and Supplies inventory balance, less estimated salvage, that is anticipated to remain at the end of life of Unit No. 2, the last unit to reach end of license, is projected to be $18,977,468 (Net of Participants' obligation). The actual balance accrued as of 12/31/10 is $3,836,711. FPL is not requesting a change in accruals at this time. Rather, FPL believes that the results of these updated values for End of Life Materials and Supplies should be addressed in FPL's next base rate proceeding and the appropriate changes in accruals, if any, be made at that time.

End of Life Last Core Nuclear Fuel Values

FPL recognizes that there will be unburned fuel that will remain in the fuel assemblies at the end of the last operating cycle of each nuclear unit when it ceases operation. In Docket No 981246-EI the Commission found that the cost associated with the Last Core were costs that should be considered a base rate future obligation and that amortization of this obligation over the remaining life span of each nuclear unit ratably allocates the costs to those customers receiving the benefit of the nuclear generation and avoids a burdensome expense at the time of unit shut down. In Order No. FPSC-002-0055-PAA-EI the Commission authorized FPL to begin recording the amortization of estimated Last Core costs as a base rate fuel expense with a credit to a separate (unfunded) sub-account of Reserve Account 228. Additionally, the Commission directed the Company to address the costs associated with the Last Core in subsequent decommissioning studies so that the related annual accruals can be revised, if warranted. The annual expense/reserve accruals associated with End of Life Nuclear Fuel Last Core values are accounted for, as directed by the Commission, in a separate (unfunded) sub-account of Reserve Account 228.

As provided in Support Schedule F of this study, the estimated cost of unburned fuel remaining in the reactor at the end of life (end of license) for each unit is:

- Unit No. 1 $87,200,000
- Unit No. 2 (net of Participant's costs) $93,800,000

The actual balances accrued as of 12/31/10 are:

- Unit No. 1 $13,380,623
- Unit No. 2 (net of Participant's costs) $7,639,819

FPL is not requesting a change in accruals at this time. Rather, FPL believes that the results of these updated values for End of Life Nuclear Fuel Last Core should be addressed in FPL's next base rate proceeding and the appropriate changes in accruals, if any, be made at that time.

Spent Nuclear Fuel Storage

The Nuclear Waste Policy Act of 1982 assigns to the Federal Government responsibility to provide for the permanent disposal of spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and committed the DOE to begin acceptance of SNF/HLW not later than January 31, 1998 under terms of its Standard Disposal Contracts with waste generators. The DOE has not yet provided for SNF storage and is not accepting SNF as committed to under the contract.

In Docket No. 941350-EI, and No. 981246-EI, the FPSC recognized the impact on the decommissioning process and the potential costs of on-site dry fuel storage resulting from the inability of the DOE to provide for the timely removal of SNF. In Order Nos. PSC-95-1531-FOF-EI and PSC-02-0055-PAA-EI, the FPSC specifically approved the inclusion of costs associated with the dry storage of spent nuclear fuel following the end of each units operating license which were considered necessary to accommodate the timely decommissioning of each unit.

Consistent with the Commission's prior findings, this updated 2010 decommissioning study includes the costs relating to the construction, operation, and dismantlement of an on-site independent spent fuel storage installation (ISFSI) that is required to accommodate the timely decommissioning of the St. Lucie units. The potential cost impact of extended spent fuel storage that will exist subsequent to the license expiration of the St. Lucie nuclear units is presented in (Section 11) the 2010 Decommissioning Cost Analysis for the St. Lucie Plant. The decommissioning cost estimates included in this filing are based on the TLG prepared Decommissioning Cost Analysis for the St. Lucie Plant, Units 1 and 2 dated December, 2010.

In addition, FPL and certain nuclear plant joint owners signed a settlement agreement (spent fuel settlement agreement) with the U.S. Government in 2009 agreeing to dismiss with prejudice lawsuits filed against the U.S. Government seeking damages caused by the

DOE's failure to dispose of spent nuclear fuel from FPL's nuclear plants. As such, the DOE is expected to make payments to FPL to cover the costs incurred for managing and storing the spent fuel that it would not have incurred but for DOE's delay in performance.

Below are the St. Lucie estimated costs of Decommissioning expected to be recovered from the DOE as provided by FPL's consultant, TLG Services, Inc. in 2010 dollars.

St. Lucie Unit No. 1		
Labor	$	48,413,000
Equip & Materials		74,260,000
Other		16,138,000
Total		138,812,000
St. Lucie Unit No. 2		
Labor	$	37,936,000
Equip & Materials		42,135,000
Other		12,588,000
Total		92,659,000

Further discussion of the costs and assumptions regarding DOE reimbursement is contained in Section 3.8 of the Decommissioning Cost Analysis for the St. Lucie Plant, Units 1 and 2 dated December, 2010.

Annual Decommissioning Accrual Requirements

FPL's current annual expense accrual requirements for St Lucie Nuclear Plant Decommissioning costs presented in this study support a zero accrual and funding requirement as of 12/31/10. The decommissioning costs estimates, funding analysis, and supporting assumptions presented in this study were prepared in a manner consistent with prior Commission approved studies, methodologies and practices.

SECTION 3

SUPPORT SCHEDULE A
Nuclear Decommissioning Reserve Balance
December 31, 2005 through November 30, 2010

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Reserve Balances (1)
December 31, 2005 through November 30, 2010
$000

December 31, 2005	Beginning Balance	Revenues Collected	Earnings to Reserve	Ending Balance
NONQUALIFIED				
Turkey Point Unit No. 3	$190,917	$5,712	$6,975	$203,603
Turkey Point Unit No. 4	205,022	5,606	7,493	218,121
St. Lucie Unit No. 1	173,329	3,795	6,339	183,463
St. Lucie Unit No. 2	86,018	1	3,155	89,173
TOTAL	$655,286	$15,114	$23,961	$694,360
QUALIFIED				
Turkey Point Unit No. 3	$260,624	$8,833	$8,082	$277,539
Turkey Point Unit No. 4	305,557	11,209	8,457	325,223
St. Lucie Unit No. 1	343,347	8,661	9,892	361,900
St. Lucie Unit No. 2	309,957	8,532	8,971	327,460
TOTAL	$1,219,485	$37,235	$35,402	$1,292,122
TOTAL RESERVES				
Turkey Point Unit No. 3	$451,541	$14,545	$15,056	$481,142
Turkey Point Unit No. 4	510,579	16,815	15,950	543,343
St. Lucie Unit No. 1	516,676	12,457	16,231	545,364
St. Lucie Unit No. 2	395,975	8,532	12,126	416,633
TOTAL	$1,874,771	$52,349	$59,363	$1,986,482
December 31, 2006				
NONQUALIFIED				
Turkey Point Unit No. 3	$203,603	$0	$7,525	$211,128
Turkey Point Unit No. 4	218,121	0	8,066	226,186
St. Lucie Unit No. 1	183,463	0	6,784	190,248
St. Lucie Unit No. 2	89,173	0	3,320	92,493
TOTAL	$694,360	$0	$25,694	$720,054
QUALIFIED				
Turkey Point Unit No. 3	$277,539	$0	$12,349	$289,888
Turkey Point Unit No. 4	325,223	0	6,959	332,182
St. Lucie Unit No. 1	361,900	0	13,690	375,590
St. Lucie Unit No. 2	327,460	0	16,196	343,655
TOTAL	$1,292,122	$0	$49,193	$1,341,315
TOTAL RESERVES				
Turkey Point Unit No. 3	$481,142	$0	$19,874	$501,016
Turkey Point Unit No. 4	543,343	0	15,024	558,368
St. Lucie Unit No. 1	545,364	0	20,474	565,838
St. Lucie Unit No. 2	416,633	0	19,515	436,148
TOTAL	$1,986,482	$0	$74,887	$2,061,369

(1) Balances exclude unrealized market gains/losses.

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Reserve Balances (1)
December 31, 2005 through November 30, 2010
$000

December 31, 2007	Beginning Balance	Revenues Collected	Earnings to Reserve	Ending Balance
NONQUALIFIED				
Turkey Point Unit No. 3	$211,128	$0	$8,183	$219,311
Turkey Point Unit No. 4	226,186	0	8,769	234,956
St. Lucie Unit No. 1	190,248	0	7,373	197,621
St. Lucie Unit No. 2	92,493	0	3,603	96,096
TOTAL	$720,055	$0	$27,928	$747,982
QUALIFIED				
Turkey Point Unit No. 3	$289,888	$0	$13,821	$303,709
Turkey Point Unit No. 4	332,182	0	15,864	348,046
St. Lucie Unit No. 1	375,590	0	17,911	393,501
St. Lucie Unit No. 2	343,655	0	16,361	360,016
TOTAL	$1,341,315	$0	$63,957	$1,405,272
TOTAL RESERVES				
Turkey Point Unit No. 3	$501,016	$0	$22,004	$523,019
Turkey Point Unit No. 4	558,368	0	24,634	583,002
St. Lucie Unit No. 1	565,838	0	25,284	591,122
St. Lucie Unit No. 2	436,148	0	19,964	456,112
TOTAL	$2,061,369	$0	$91,885	$2,153,255
December 31, 2008				
NONQUALIFIED				
Turkey Point Unit No. 3	$219,311	$0	$6,323	$225,634
Turkey Point Unit No. 4	234,956	0	6,776	241,732
St. Lucie Unit No. 1	197,621	0	5,697	203,318
St. Lucie Unit No. 2	96,096	0	2,784	98,879
TOTAL	$747,982	$0	$21,581	$769,563
QUALIFIED				
Turkey Point Unit No. 3	$303,709	$0	$10,785	$314,494
Turkey Point Unit No. 4	348,046	0	12,355	360,401
St. Lucie Unit No. 1	393,501	0	13,974	407,475
St. Lucie Unit No. 2	360,016	0	12,761	372,777
TOTAL	$1,405,272	$0	$49,875	$1,455,147
TOTAL RESERVES				
Turkey Point Unit No. 3	$523,019	$0	$17,108	$540,128
Turkey Point Unit No. 4	583,001	0	19,131	602,133
St. Lucie Unit No. 1	591,122	0	19,671	610,793
St. Lucie Unit No. 2	456,112	0	15,545	471,657
TOTAL	$2,153,255	$0	$71,455	$2,224,710

(1) Balances exclude unrealized market gains/losses.

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Reserve Balances (1)
December 31, 2005 through November 30, 2010
$000

December 31, 2009	Beginning Balance	Revenues Collected	Earnings to Reserve	Ending Balance
NONQUALIFIED				
Turkey Point Unit No. 3	$225,634	$0	$12,204	$237,838
Turkey Point Unit No. 4	241,732	0	13,079	254,811
St. Lucie Unit No. 1	203,318	0	10,996	214,314
St. Lucie Unit No. 2	98,879	0	5,373	104,253
TOTAL	$769,563	$0	$41,652	$811,215
QUALIFIED				
Turkey Point Unit No. 3	$314,494	$0	$12,036	$326,529
Turkey Point Unit No. 4	360,401	0	13,781	374,182
St. Lucie Unit No. 1	407,475	0	15,581	423,056
St. Lucie Unit No. 2	372,777	0	14,236	387,013
TOTAL	$1,455,147	$0	$55,634	$1,510,781
TOTAL RESERVES				
Turkey Point Unit No. 3	$540,128	$0	$24,240	$564,367
Turkey Point Unit No. 4	602,133	0	26,860	628,993
St. Lucie Unit No. 1	610,793	0	26,577	637,370
St. Lucie Unit No. 2	471,657	0	19,609	491,266
TOTAL	$2,224,710	$0	$97,286	$2,321,996
November 30, 2010				
NONQUALIFIED				
Turkey Point Unit No. 3	$237,838	$0	$8,685	$246,523
Turkey Point Unit No. 4	254,811	0	9,308	264,118
St. Lucie Unit No. 1	214,314	0	7,826	222,140
St. Lucie Unit No. 2	104,253	0	3,824	108,077
TOTAL	$811,215	$0	$29,643	$840,858
QUALIFIED				
Turkey Point Unit No. 3	$326,529	$0	$12,006	$338,535
Turkey Point Unit No. 4	374,182	0	13,751	387,933
St. Lucie Unit No. 1	423,056	0	15,547	438,604
St. Lucie Unit No. 2	387,013	0	14,203	401,217
TOTAL	$1,510,781	$0	$55,507	$1,566,289
TOTAL RESERVES				
Turkey Point Unit No. 3	$564,367	$0	$20,691	$585,057
Turkey Point Unit No. 4	628,993	0	23,059	652,051
St. Lucie Unit No. 1	637,370	0	23,373	660,743
St. Lucie Unit No. 2	491,266	0	18,027	509,294
TOTAL	$2,321,996	$0	$85,150	$2,407,146

(1) Balances exclude unrealized market gains/losses.

SECTION 4

SUPPORT SCHEDULE B
Nuclear Decommissioning Fund Balance
December 31, 2005 through November 30, 2010

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Fund Balances (1)
December 31, 2005 through November 30, 2010
$000

	Beginning Balance	Contribution	Fund Earnings	Ending Balance
December 31, 2005				
NONQUALIFIED				
Turkey Point Unit No. 3	$117,271	$3,509	$4,284	$125,063
Turkey Point Unit No. 4	125,935	3,443	4,603	133,981
St Lucie Unit No. 1	106,467	2,331	3,894	112,692
St Lucie Unit No. 2	52,837	0	1,938	54,775
Total	$402,509	$9,283	$14,719	$426,511
QUALIFIED				
Turkey Point Unit No. 3	$260,624	$8,833	$8,082	$277,539
Turkey Point Unit No. 4	305,557	11,209	8,457	325,223
St Lucie Unit No. 1	343,347	8,661	9,892	361,900
St Lucie Unit No. 2	309,957	8,532	8,971	327,460
Total	$1,219,485	$37,235	$35,402	$1,292,122
TOTAL				
Turkey Point Unit No. 3	$377,895	$12,342	$12,366	$402,602
Turkey Point Unit No. 4	431,491	14,652	13,060	459,203
St Lucie Unit No. 1	449,815	10,992	13,786	474,593
St Lucie Unit No. 2	362,793	8,532	10,909	382,234
Total	$1,621,994	$46,518	$50,121	$1,718,633
December 31, 2006				
NONQUALIFIED				
Turkey Point Unit No. 3	$125,063	$0	$4,622	$129,685
Turkey Point Unit No. 4	133,981	0	4,955	138,935
St Lucie Unit No. 1	112,692	0	4,167	116,860
St Lucie Unit No. 2	54,775	0	2,039	56,814
Total	$426,511	$0	$15,783	$442,293
QUALIFIED				
Turkey Point Unit No. 3	$277,539	$0	$12,349	$289,888
Turkey Point Unit No. 4	325,223	0	6,959	332,182
St Lucie Unit No. 1	361,900	0	13,690	375,590
St Lucie Unit No. 2	327,460	0	16,196	343,655
Total	$1,292,122	$0	$49,193	$1,341,315
TOTAL				
Turkey Point Unit No. 3	$402,602	$0	$16,971	$419,573
Turkey Point Unit No. 4	459,203	0	11,914	471,116
St Lucie Unit No. 1	474,593	0	17,857	492,450
St Lucie Unit No. 2	382,234	0	18,235	400,469
Total	$1,718,633	$0	$64,977	$1,783,608

(1) Balances exclude unrealized market gains/losses.

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Fund Balances (1)
December 31, 2005 through November 30, 2010
$000

	Beginning Balance	Contribution	Fund Earnings	Ending Balance
December 31, 2007				
NONQUALIFIED				
Turkey Point Unit No. 3	$129,685	$0	$5,026	$134,712
Turkey Point Unit No. 4	138,935	0	5,386	144,321
St Lucie Unit No. 1	116,860	0	4,529	121,389
St Lucie Unit No. 2	56,814	0	2,213	59,027
Total	$442,293	$0	$17,155	$459,448
QUALIFIED				
Turkey Point Unit No. 3	$289,888	$0	$13,821	$303,709
Turkey Point Unit No. 4	332,182	0	15,864	348,046
St Lucie Unit No. 1	375,590	0	17,911	393,501
St Lucie Unit No. 2	343,655	0	16,361	360,016
Total	$1,341,315	$0	$63,957	$1,405,272
TOTAL				
Turkey Point Unit No. 3	$419,573	$0	$18,847	$438,420
Turkey Point Unit No. 4	471,116	0	21,250	492,367
St Lucie Unit No. 1	492,450	0	22,440	514,890
St Lucie Unit No. 2	400,469	0	18,574	419,043
Total	$1,783,608	$0	$81,112	$1,864,721
December 31, 2008				
NONQUALIFIED				
Turkey Point Unit No. 3	$134,712	$0	$3,884	$138,596
Turkey Point Unit No. 4	144,321	0	4,162	148,484
St Lucie Unit No. 1	121,389	0	3,499	124,888
St Lucie Unit No. 2	59,027	0	1,710	60,737
Total	$459,448	$0	$13,256	$472,704
QUALIFIED				
Turkey Point Unit No. 3	$303,709	$0	$10,785	$314,494
Turkey Point Unit No. 4	348,046	0	12,355	360,401
St Lucie Unit No. 1	393,501	0	13,974	407,475
St Lucie Unit No. 2	360,016	0	12,761	372,777
Total	$1,405,272	$0	$49,875	$1,455,147
TOTAL				
Turkey Point Unit No. 3	$438,420	$0	$14,669	$453,089
Turkey Point Unit No. 4	492,367	0	16,517	508,885
St Lucie Unit No. 1	514,890	0	17,473	532,363
St Lucie Unit No. 2	419,043	0	14,471	433,514
Total	$1,864,721	$0	$63,131	$1,927,851

(1) Balances exclude unrealized market gains/losses.

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Fund Balances (1)
December 31, 2005 through November 30, 2010
$000

	Beginning Balance	Contribution	Fund Earnings	Ending Balance
December 31, 2009				
NONQUALIFIED				
Turkey Point Unit No. 3	$138,596	$0	$7,496	$146,092
Turkey Point Unit No. 4	148,484	0	8,034	156,517
St Lucie Unit No. 1	124,888	0	6,754	131,642
St Lucie Unit No. 2	60,737	0	3,300	64,037
Total	$472,704	$0	$25,585	$498,289
QUALIFIED				
Turkey Point Unit No. 3	$314,494	$0	$12,036	$326,529
Turkey Point Unit No. 4	360,401	0	13,781	374,182
St Lucie Unit No. 1	407,475	0	15,581	423,056
St Lucie Unit No. 2	372,777	0	14,236	387,013
Total	$1,455,147	$0	$55,634	$1,510,781
TOTAL				
Turkey Point Unit No. 3	$453,089	$0	$19,532	$472,621
Turkey Point Unit No. 4	508,885	0	21,815	530,700
St Lucie Unit No. 1	532,363	0	22,335	554,699
St Lucie Unit No. 2	433,514	0	17,536	451,051
Total	$1,927,851	$0	$81,219	$2,009,070
November 30, 2010				
NONQUALIFIED				
Turkey Point Unit No. 3	$146,092	$0	$5,335	$151,427
Turkey Point Unit No. 4	156,517	0	5,717	162,235
St Lucie Unit No. 1	131,642	0	4,807	136,450
St Lucie Unit No. 2	64,037	0	2,349	66,386
Total	$498,289	$0	$18,208	$516,497
QUALIFIED				
Turkey Point Unit No. 3	$326,529	$0	$12,006	$338,535
Turkey Point Unit No. 4	374,182	0	13,751	387,933
St Lucie Unit No. 1	423,056	0	15,547	438,604
St Lucie Unit No. 2	387,013	0	14,203	401,217
Total	$1,510,781	$0	$55,507	$1,566,289
TOTAL				
Turkey Point Unit No. 3	$472,621	$0	$17,341	$489,962
Turkey Point Unit No. 4	530,700	0	19,468	550,168
St Lucie Unit No. 1	554,699	0	20,354	575,053
St Lucie Unit No. 2	451,051	0	16,552	467,603
Total	$2,009,070	$0	$73,715	$2,082,786

(1) Balances exclude unrealized market gains/losses.

SECTION 5

SUPPORT SCHEDULE C
Projected Fund and Reserve Balance
at December 31, 2010

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Projected Fund and Reserve Balance at December 31, 2010 [a]
$000

	TURKEY POINT UNIT 3	TURKEY POINT UNIT 4	ST. LUCIE UNIT 1	ST. LUCIE UNIT 2 (Note 1)	TOTALS
NON-QUALIFIED FUND					
Actual Fund Balance @11/30/10	$151,427	$162,235	$136,450	$66,386	$516,497
Add: Estimate Income Dec. 2010 (after-tax)	485	520	437	214	1,655
Est/Actual Fund Balance @ 12/31/10	$151,912	$162,754	$136,886	$66,599	$518,151
QUALIFIED FUND					
Actual Fund Balance @11/30/10	$338,535	$387,933	$438,604	$401,217	$1,566,289
Add: Estimate Income Dec. 2010 (after-tax)	1,091	1,250	1,413	1,291	5,045
Est/Actual Fund Balance @ 12/31/10	$339,626	$389,183	$440,017	$402,508	$1,571,334
TOTAL FUND					
Actual Fund Balance @11/30/10	$489,962	$550,168	$575,053	$467,603	$2,082,786
Add: Estimate Income Dec. 2010 (after-tax)	1,576	1,770	1,850	1,505	6,700
Est/Actual Fund Balance @ 12/31/10	$491,538	$551,937	$576,903	$469,107	$2,089,485
NON-QUALIFIED RESERVE					
Actual Reserve Balance@11/30/10	$246,523	$264,118	$222,140	$108,077	$840,858
Add: Estimate Income Dec. 2010	790	846	711	347	2,694
Est/Actual Reserve Balance@12/31/10	$247,313	$264,964	$222,851	$108,423	$843,551
QUALIFIED RESERVE					
Actual Reserve Balance@11/30/10	$338,535	$387,933	$438,604	$401,217	$1,566,289
Add: Estimate Income Dec. 2010	1,091	1,250	1,413	1,291	5,045
Est/Actual Reserve Balance@12/31/10	$339,626	$389,183	$440,017	$402,508	$1,571,334
TOTAL RESERVE					
Actual Reserve Balance@11/30/10	$585,057	$652,051	$660,743	$509,294	$2,407,146
Add: Estimate Income Dec. 2010	1,881	2,096	2,125	1,638	7,739
Est/Actual Reserve Balance@12/31/10	$586,938	$654,147	$662,868	$510,931	$2,414,885

(a) Balances exclude unrealized market gains/losses.

Note (1): Amounts for St Lucie Common are included with Unit No. 2

SECTION 6

SUPPORT SCHEDULE D
Reconciliation of Projected Fund and Reserve Balance at December 31, 2010

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Reconciliation of Projected Fund and Reserve Balance at December 31, 2010[(a)]
$000

RECONCILIATION FUND/RESERVE
Projected 12/31/10

	TURKEY POINT UNIT 3	TURKEY POINT UNIT 4	ST. LUCIE UNIT 1	ST. LUCIE UNIT 2 (Note 1)	TOTALS
NON-QUALIFIED					
Projected Fund Balance @12/31/10	$151,912	$162,754	$136,886	$66,599	$518,151
Deferred Tax @ 12/31/10	95,401	102,210	85,965	41,824	325,400
Projected Reserve Balance @ 12/31/10	$247,313	$264,964	$222,851	$108,423	$843,551
QUALIFIED					
Projected Fund Balance @12/31/10	$339,626	$389,183	$440,017	$402,508	$1,571,334
Deferred Tax @ 12/31/10	0	0	0	0	0
Projected Reserve Balance @ 12/31/10	$339,626	$389,183	$440,017	$402,508	$1,571,334
TOTAL					
Projected Fund Balance @12/31/10	$491,538	$551,938	$576,902	$469,107	$2,089,484
Deferred Tax @ 12/31/10	95,401	102,210	85,965	41,824	325,400
Projected Reserve Balance @ 12/31/10	$586,938	$654,147	$662,868	$510,931	$2,414,885

DEFERRED TAXES
Projected balance @ 12/31/10

NON-QUALIFIED FUND					
Balance @ 11/30/10 (Fed & State)	$95,096	$101,883	$85,691	$41,690	$324,360
Add: Tax on Earnings - December	305	326	274	134	1,038
Balance @ 12/31/10 (Fed & State)	$95,401	$102,210	$85,965	$41,824	$325,400

(a) Balances exclude unrealized market gains/losses.

Note (1): Amounts for St Lucie Common are included with Unit No. 2

SECTION 7

SUPPORT SCHEDULE E
End-of-Life Materials and Supplies Inventory
Expense Accrual Calculation

Florida Power and Light Company
2010 Decommissioning Study
Support Schedule: End-of-Life Materials and Supplies Inventory

Line Number		St. Lucie Unit 2
1	Adjusted Ending Inventory Value @ End of License	$ 20,923,061
2	Estimated Salvage	(418,461)
3	**Inventory Subject to Write-off**	**$ 20,504,600**
4		
5	**FPL's Ownership Share Net of Participants (1)**	**$ 18,977,468**
6		
7	Estimated/Actual Reserve Balance Accrued as of 12/31/2010	3,836,711
8		
9	**Remaining Amount to be Recovered as of 12/31/2010**	**$ 15,140,757**
10		
11		
12	Total Number of Months From:	
13	12/31/2010 to End of License	387
14		
15	(1) The Participants' obligation is assumed to be treated the same as "Common Facility Cost"	
16	which is calculated at one-half their ownership percentage. (0.5 * 14.89551% = 7.447755%)	
17	Therefore, FPL's ownership share is 92.552245%.	
18		
19		

SECTION 8

SUPPORT SCHEDULE F
End-of-Life Unamortized Nuclear Fuel
Expense Accrual Calculation

Florida Power and Light Company
2010 Decommissioning Study
Support Schedule: End-of-Life Unamortized Nuclear Fuel

Line Number		St. Lucie Unit 1	St. Lucie Unit 2
1	**Estimated Cost of Unburned Fuel @ End of License**		
2	**FPL's Unit 2 Ownership Share Net of Participants**	**$ 87,200,000**	**$ 93,800,000**
3			
4	Estimated/Actual Reserve Balance Accrued as of 12/31/2010	13,380,623	7,639,819
5			
6	**Remaining Amount to be Recovered as of 12/31/2010**	**$ 73,819,377**	**$ 86,160,181**
7			
8			
9	Total Number of Months From:		
10	**12/31/2010 to End of License**	302	387
11			

SECTION 9

SUPPORT SCHEDULE G
Inflation and Funding Analysis

INFLATION FORECAST

The U.S. Economy
The 30 - Year Focus August 2010
GLOBAL INSIGHT

YEAR	GDP	HRLY COMP	PPI INT M&S	GDP Transport	Burial	CPI	CPI MULTIPLIER
2009	0.9%	1.9%	-8.4%	-5.5%	3.0%	-0.3%	1.000
2010	0.9%	1.3%	4.5%	3.7%	3.0%	1.6%	1.016
2011	1.2%	2.4%	-0.4%	4.2%	3.0%	1.3%	1.029
2012	1.4%	2.7%	2.4%	3.0%	3.0%	1.9%	1.048
2013	1.7%	3.0%	2.7%	3.3%	3.0%	2.0%	1.070
2014	1.9%	3.2%	2.5%	4.6%	3.0%	2.1%	1.092
2015	1.8%	3.3%	1.6%	4.1%	3.0%	2.1%	1.115
2016	1.8%	3.4%	1.3%	2.2%	3.0%	2.0%	1.137
2017	1.8%	3.5%	1.2%	2.5%	3.0%	2.0%	1.160
2018	1.9%	3.6%	1.1%	2.6%	3.0%	2.1%	1.184
2019	1.9%	3.6%	1.1%	2.8%	3.0%	2.0%	1.207
2020	1.9%	3.6%	1.0%	3.5%	3.0%	1.9%	1.231
2021	1.8%	3.6%	1.0%	3.6%	3.0%	1.9%	1.254
2022	1.7%	3.6%	0.8%	3.8%	3.0%	1.8%	1.276
2023	1.7%	3.6%	0.9%	3.8%	3.0%	1.8%	1.299
2024	1.7%	3.7%	0.9%	3.7%	3.0%	1.9%	1.324
2025	1.7%	3.7%	0.8%	3.8%	3.0%	1.9%	1.349
2026	1.7%	3.7%	0.8%	3.8%	3.0%	1.9%	1.375
2027	1.8%	3.8%	0.9%	3.9%	3.0%	2.0%	1.402
2028	1.8%	3.8%	1.1%	3.9%	3.0%	2.0%	1.430
2029	1.8%	3.7%	1.1%	3.8%	3.0%	2.0%	1.459
2030	1.8%	3.7%	1.1%	3.9%	3.0%	2.0%	1.488
2031	1.8%	3.6%	1.0%	4.0%	3.0%	1.9%	1.516
2032	1.8%	3.7%	1.0%	4.0%	3.0%	1.9%	1.544
2033	1.8%	3.6%	0.9%	3.8%	3.0%	1.9%	1.574
2034	1.8%	3.6%	0.9%	3.8%	3.0%	1.9%	1.603
2035	1.7%	3.6%	0.8%	3.9%	3.0%	1.9%	1.633
2036	1.8%	3.6%	0.8%	4.0%	3.0%	1.9%	1.664
2037	1.8%	3.6%	0.8%	4.0%	3.0%	2.0%	1.697
2038	1.9%	3.6%	0.9%	4.0%	3.0%	2.0%	1.731
2039	1.9%	3.6%	1.0%	3.9%	3.0%	2.1%	1.766
2040	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.803
2041	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.840
2042	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.877
2043	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.916
2044	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.955
2045	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.995
2046	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.036
2047	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.078
2048	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.121
2049	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.164
2050	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.209
2051	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.254
2052	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.300
2053	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.347
2054	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.395
2055	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.445
2056	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.495
2057	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.546
2058	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.598
2059	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.651
2060	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.706
2061	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.761
2062	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.818
2063	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.876
2064	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.935
2065	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.995
2066	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.056
2067	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.119
2068	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.183
2069	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.248
2070	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.315
2071	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.383
2072	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.452
2073	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.523
2074	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.595

2.0% = AVERAGE COMPOUND CPI INFLATION MULTIPLIER 2010-2073
2.0% = AVERAGE COMPOUND CPI INFLATION MULTIPLIER 2010-2074

GENERAL ASSUMPTIONS

JURISDICTIONAL FACTOR =	98.8182%
FPL'S SHARE OF ST. LUCIE 2 COST (NET OF PARTICIPANTS)	85.15848%
CORPORATE TAX RATE	38.575%

	ANNUAL	MONTHLY
EARNINGS RATE QUALIFIED FUND	3.900%	0.319331%
EARNINGS RATE NON-QUALIFIED FUND	3.900%	0.319331%

	TP3	TP4	SL1	SL2
Adjusted QUALIFIED FUNDING % (at 12/31/10)	57.864%	59.495%	66.381%	78.779%
QUALIFYING %	66.670%	68.570%	77.140%	97.560%
FUND BALANCES ($000's)				
A. QUALIFIED FUND BALANCE 11/30/10	338,535	387,933	438,604	401,217
B. CONTRIBUTIONS - Dec 2010	-	-	-	-
C. EARNINGS - Dec 2010	1,091	1,250	1,413	1,291
D. QUALIFIED FUND BALANCE 12/31/10	339,626	389,183	440,017	402,508
E. JURISDICTIONAL FACTOR	98.8182%	98.8182%	98.8182%	98.8182%
F. JURIS. QUAL. FUND BAL. 12/31/10	335,613	384,584	434,817	397,751
A. NON-QUALIFIED FUND BALANCE 11/30/10	151,427	162,235	136,449	66,386
B. CONTRIBUTIONS - Dec 2010	-	-	-	-
C. EARNINGS - Dec 2010	485	520	437	214
D. NON-QUALIFIED FUND BALANCE 12/31/10	151,912	162,754	136,886	66,599
E. JURISDICTIONAL FACTOR	98.8182%	98.8182%	98.8182%	98.8182%
F. JURIS. NON-QUAL. FUND BAL. 12/31/10	150,117	160,831	135,269	65,812
Juris. Est/Actual Fund Balance	485,729	545,415	570,085	463,564
Juris. Est/Actual Reserve Balance	580,003	646,417	655,034	504,894
Adjusted/Actual Qualified split	0.5786	0.5949	0.6638	0.7878

St. Lucie Unit 1 Integrated DECON Cash Flows ($000, 2010 dollars)							St. Lucie Unit 1 Integrated DECON Cash Flows ($000, includes inflation)							Average Inflation Rate
Year	Labor	Equip & Mat	Trans	Burial	Other	Total	Year	Labor	Equip & Mat	Trans	Burial	Other	Total	
2036	$ 31,443	$ 4,183	$ 7	$ 24	$ 8,118	$ 43,774	2036	$ 76,816	$ 5,585	$ 17	$ 51	$ 12,737	$ 95,205	3.00%
2037	30,410	8,702	1,082	1,062	19,277	60,533	2037	76,970	11,712	2,838	2,359	30,793	124,673	2.70%
2038	10,863	11,752	3	10	5,229	27,857	2038	28,494	15,965	8	22	8,510	52,999	2.30%
2039	10,863	11,752	3	10	5,229	27,857	2039	29,522	16,124	8	23	8,673	54,350	2.30%
2040	10,893	11,784	3	10	5,243	27,933	2040	30,658	16,315	8	24	8,862	55,867	2.30%
2041	8,280	10,483	2	8	4,751	23,525	2041	24,134	14,647	7	19	8,183	46,990	2.30%
2042	3,135	7,956	1	4	3,800	14,896	2042	9,463	11,217	4	10	6,668	27,362	1.90%
2043	3,135	7,956	1	4	3,800	14,896	2043	9,800	11,320	4	10	6,795	27,929	1.90%
2044	17,963	3,393	5	16	4,407	25,783	2044	58,156	4,871	16	43	8,030	71,117	3.00%
2045	34,993	10,472	2,053	11,406	4,894	63,819	2045	117,330	15,172	7,340	32,096	9,088	181,027	3.00%
2046	47,460	20,698	7,647	23,124	5,564	104,493	2046	164,806	30,261	28,413	67,019	10,528	301,027	3.00%
2047	40,621	8,880	4,849	17,767	6,645	78,762	2047	146,082	13,101	18,729	53,038	12,812	243,763	3.10%
2048	39,190	6,240	4,232	16,608	6,907	73,176	2048	145,960	9,290	16,990	51,065	13,569	236,875	3.10%
2049	22,534	3,312	1,183	4,642	9,399	41,071	2049	86,918	4,977	4,938	14,701	18,817	130,350	3.00%
2050	15,165	7,253	0	1	1,686	24,104	2050	60,577	10,996	1	2	3,438	75,015	2.90%
2051	13,844	6,715	-	-	1,349	21,908	2051	57,272	10,275	-	-	2,803	70,350	2.90%
2052	2,074	230	-	-	970	3,274	2052	8,887	355	-	-	2,054	11,296	3.00%
2053	2,069	230	-	-	967	3,265	2053	9,178	358	-	-	2,087	11,623	3.00%
2054	2,069	230	-	-	967	3,265	2054	9,505	361	-	-	2,127	11,993	3.00%
2055	2,069	230	-	-	967	3,265	2055	9,844	364	-	-	2,167	12,375	3.00%
2056	2,074	230	-	-	970	3,274	2056	10,223	369	-	-	2,214	12,806	3.00%
2057	2,069	230	-	-	967	3,265	2057	10,558	371	-	-	2,250	13,179	3.00%
2058	2,069	230	-	-	967	3,265	2058	10,935	374	-	-	2,293	13,602	3.00%
2059	2,069	230	-	-	967	3,265	2059	11,324	378	-	-	2,336	14,038	3.00%
2060	2,074	230	-	-	970	3,274	2060	11,760	382	-	-	2,387	14,529	3.00%
2061	2,069	230	-	-	967	3,265	2061	12,146	385	-	-	2,426	14,956	3.00%
2062	2,069	230	-	-	967	3,265	2062	12,579	388	-	-	2,472	15,439	3.00%
2063	2,069	230	-	-	967	3,265	2063	13,027	392	-	-	2,519	15,938	3.00%
2064	2,074	230	-	-	970	3,274	2064	13,528	396	-	-	2,574	16,498	3.00%
2065	2,069	230	-	-	967	3,265	2065	13,972	399	-	-	2,615	16,986	3.00%
2066	2,069	230	-	-	967	3,265	2066	14,470	402	-	-	2,665	17,538	3.00%
2067	2,069	230	-	-	967	3,265	2067	14,986	406	-	-	2,716	18,108	3.10%
2068	2,074	230	-	-	970	3,274	2068	15,562	411	-	-	2,775	18,748	3.10%
2069	2,069	230	-	-	967	3,265	2069	16,073	414	-	-	2,820	19,306	3.10%
2070	2,069	230	-	-	967	3,265	2070	16,646	417	-	-	2,873	19,937	3.10%
2071	2,069	230	-	-	967	3,265	2071	17,239	421	-	-	2,928	20,588	3.10%
2072	2,074	230	-	-	970	3,274	2072	17,902	426	-	-	2,992	21,320	3.10%
2073	2,064	662	0	0	18,411	21,138	2073	18,447	1,237	3	2	57,886	77,576	2.10%
2074	915	1,021	36	42	968	2,982	2074	8,466	1,926	401	276	3,100	14,169	2.50%
Total	$ 387,244	$ 148,038	$ 21,109	$ 74,735	$ 135,998	$ 767,124	Total	$ 1,420,219	$ 213,161	$ 79,725	$ 220,761	$ 283,581	$ 2,217,447	2.84%

NOTE: The 2010 cash flows are inflated to the year of expenditure based on the indices provided on Support Schedule G, page 1 of 8

Florida Power & Light Company
2010 Decommissioning Study
St. Lucie Nuclear Units
Support Schedule : Inflation and Funding Analysis

	St. Lucie Unit 2 DECON Cash Flows ($000, 2010 dollars)						St. Lucie Unit 2 DECON Cash Flows ($000, includes inflation)						
Year	Labor	Equip & Mat	Trans	Burial	Other	Total	Year	Labor	Equip & Mat	Trans	Burial	Other	Total	Average Inflation Rate
2043	$ 40,836	$ 4,139	$ 6	$ 21	$ 6,664	$ 51,666	2043	$ 127,661	$ 5,889	$ 20	$ 55	$ 11,917	$ 145,542	3.20%
2044	63,230	16,293	2,490	15,006	16,202	113,220	2044	204,714	23,392	8,561	40,996	29,523	307,186	3.00%
2045	55,011	22,847	7,765	24,940	5,834	116,397	2045	184,453	33,102	27,754	70,176	10,833	326,318	3.00%
2046	45,788	17,488	4,735	17,194	6,171	91,376	2046	158,999	25,569	17,592	49,833	11,676	263,669	3.00%
2047	42,162	15,381	3,544	14,149	6,303	81,539	2047	151,625	22,694	13,686	42,239	12,153	242,397	3.00%
2048	38,825	15,754	2,999	12,147	6,134	75,858	2048	144,599	23,456	12,042	37,348	12,050	229,495	3.00%
2049	19,596	6,275	345	1,574	9,076	36,866	2049	75,584	9,428	1,439	4,986	18,170	109,607	2.80%
2050	17,564	7,940	0	1	1,689	27,195	2050	70,163	12,039	1	2	3,446	85,651	2.90%
2051	16,070	7,355	-	-	1,349	24,775	2051	66,481	11,254	-	-	2,805	80,539	2.90%
2052	2,074	230	-	-	970	3,274	2052	8,887	355	-	-	2,054	11,296	3.00%
2053	2,069	230	-	-	967	3,265	2053	9,178	358	-	-	2,087	11,623	3.00%
2054	2,069	230	-	-	967	3,265	2054	9,505	361	-	-	2,127	11,993	3.00%
2055	2,069	230	-	-	967	3,265	2055	9,844	364	-	-	2,167	12,375	3.00%
2056	2,074	230	-	-	970	3,274	2056	10,223	369	-	-	2,214	12,806	3.00%
2057	2,069	230	-	-	967	3,265	2057	10,558	371	-	-	2,250	13,179	3.00%
2058	2,069	230	-	-	967	3,265	2058	10,935	374	-	-	2,293	13,602	3.00%
2059	2,069	230	-	-	967	3,265	2059	11,324	378	-	-	2,336	14,038	3.00%
2060	2,074	230	-	-	970	3,274	2060	11,760	382	-	-	2,387	14,529	3.00%
2061	2,069	230	-	-	967	3,265	2061	12,146	385	-	-	2,426	14,956	3.00%
2062	2,069	230	-	-	967	3,265	2062	12,579	388	-	-	2,472	15,439	3.00%
2063	2,069	230	-	-	967	3,265	2063	13,027	392	-	-	2,519	15,938	3.00%
2064	2,074	230	-	-	970	3,274	2064	13,528	396	-	-	2,574	16,498	3.00%
2065	2,069	230	-	-	967	3,265	2065	13,972	399	-	-	2,615	16,986	3.00%
2066	2,069	230	-	-	967	3,265	2066	14,470	402	-	-	2,665	17,538	3.00%
2067	2,069	230	-	-	967	3,265	2067	14,986	406	-	-	2,716	18,108	3.10%
2068	2,074	230	-	-	970	3,274	2068	15,562	411	-	-	2,775	18,748	3.10%
2069	2,069	230	-	-	967	3,265	2069	16,073	414	-	-	2,820	19,306	3.10%
2070	2,069	230	-	-	967	3,265	2070	16,646	417	-	-	2,873	19,937	3.10%
2071	2,069	230	-	-	967	3,265	2071	17,239	421	-	-	2,928	20,588	3.10%
2072	2,074	230	-	-	970	3,274	2072	17,902	426	-	-	2,992	21,320	3.10%
2073	2,064	662	0	0	18,411	21,138	2073	18,447	1,237	3	2	57,886	77,576	2.10%
2074	914	1,024	35	42	968	2,981	2074	8,457	1,930	383	276	3,100	14,147	2.50%
Total	$ 385,532	$ 119,983	$ 21,918	$ 85,074	$ 99,123	$ 711,630	Total	$ 1,481,530	$ 178,160	$ 81,481	$ 245,914	$ 225,846	$ 2,212,931	2.97%

NOTE: The 2010 cash flows are inflated to the year of expenditure based on the indices provided on Support Schedule G, page 1 of 8

Florida Power & Light Company
2010 Decommissioning Study
St. Lucie Nuclear Units
Support Schedule : Inflation and Funding Analysis

St. Lucie Unit 1 Expected DOE Recovery ($000, 2010 dollars)							St. Lucie Unit 1 Expected DOE Recovery ($000, includes inflation)						
Year	Labor	Equip & Mat	Trans	Burial	Other	Total	Year	Labor	Equip & Mat	Trans	Burial	Other	Total
2036	$ -	$ -	$ -	$ -	$ -	$ -	2036	$ -	$ -	$ -	$ -	$ -	$ -
2037	1,094	3,281	-	-	43	4,417	2037	2,768	4,415	-	-	68	7,252
2038	1,485	4,455	-	-	51	5,990	2038	3,895	6,051	-	-	83	10,029
2039	3,812	11,435	-	-	51	15,297	2039	10,358	15,688	-	-	85	26,131
2040	3,812	11,435	-	-	51	15,297	2040	10,727	15,831	-	-	86	26,645
2041	3,822	11,466	-	-	51	15,339	2041	11,140	16,020	-	-	88	27,248
2042	3,399	10,197	-	-	201	13,797	2042	10,261	14,377	-	-	353	24,991
2043	2,578	7,733	-	-	500	10,810	2043	8,058	11,002	-	-	894	19,954
2044	2,578	7,733	-	-	500	10,810	2044	8,345	11,102	-	-	911	20,358
2045	763	2,288	-	-	501	3,552	2045	2,557	3,315	-	-	931	6,803
2046	-	-	-	-	500	500	2046	-	-	-	-	946	946
2047	-	-	-	-	500	500	2047	-	-	-	-	964	964
2048	55	164	-	-	500	719	2048	204	244	-	-	982	1,430
2049	67	202	-	-	501	770	2049	259	303	-	-	1,004	1,566
2050	368	1,103	-	-	500	1,971	2050	1,469	1,672	-	-	1,020	4,161
2051	1,911	256	-	-	999	3,166	2051	7,905	392	-	-	2,077	10,374
2052	1,970	217	-	-	1,011	3,198	2052	8,440	335	-	-	2,142	10,917
2053	2,074	230	-	-	970	3,274	2053	9,203	359	-	-	2,093	11,655
2054	2,069	230	-	-	967	3,265	2054	9,505	361	-	-	2,127	11,993
2055	2,069	230	-	-	967	3,265	2055	9,844	364	-	-	2,167	12,375
2056	2,069	230	-	-	967	3,265	2056	10,195	368	-	-	2,208	12,771
2057	2,074	230	-	-	970	3,274	2057	10,587	372	-	-	2,256	13,215
2058	2,069	230	-	-	967	3,265	2058	10,935	374	-	-	2,293	13,602
2059	2,069	230	-	-	967	3,265	2059	11,324	378	-	-	2,336	14,038
2060	2,069	230	-	-	967	3,265	2060	11,728	381	-	-	2,381	14,490
2061	2,074	230	-	-	970	3,274	2061	12,179	386	-	-	2,432	14,997
2062	2,069	230	-	-	967	3,265	2062	12,579	388	-	-	2,472	15,439
2063	-	-	-	-	-	-	2063	-	-	-	-	-	-
2064	-	-	-	-	-	-	2064	-	-	-	-	-	-
2065	-	-	-	-	-	-	2065	-	-	-	-	-	-
2066	-	-	-	-	-	-	2066	-	-	-	-	-	-
2067	-	-	-	-	-	-	2067	-	-	-	-	-	-
2068	-	-	-	-	-	-	2068	-	-	-	-	-	-
2069	-	-	-	-	-	-	2069	-	-	-	-	-	-
2070	-	-	-	-	-	-	2070	-	-	-	-	-	-
2071	-	-	-	-	-	-	2071	-	-	-	-	-	-
2072	-	-	-	-	-	-	2072	-	-	-	-	-	-
2073	-	-	-	-	-	-	2073	-	-	-	-	-	-
2074	-	-	-	-	-	-	2074	-	-	-	-	-	-
Total	$ 48,413	$ 74,260	$ -	$ -	$ 16,138	$ 138,812	Total	$ 194,466	$ 104,479	$ -	$ -	$ 35,398	$ 334,343

NOTE: The 2010 cash flows are inflated to the year of expenditure based on the indices provided on Support Schedule G, page 1 of 8

Florida Power & Light Company
2010 Decommissioning Study
St. Lucie Nuclear Units
Support Schedule : Inflation and Funding Analysis

St. Lucie Unit 2 Expected DOE Recovery ($000, 2010 dollars)							St. Lucie Unit 2 Expected DOE Recovery ($000, includes inflation)						
Year	Labor	Equip & Mat	Trans	Burial	Other	Total	Year	Labor	Equip & Mat	Trans	Burial	Other	Total
2043	$ -	$ -	$ -	$ -	$ -	$ -	2043	$ -	$ -	$ -	$ -	$ -	$ -
2044	994	2,983	-	-	38	4,015	2044	3,219	4,283	-	-	69	7,571
2045	903	2,708	-	-	51	3,662	2045	3,027	3,924	-	-	95	7,046
2046	820	2,461	-	-	51	3,332	2046	2,848	3,597	-	-	97	6,542
2047	2,473	7,418	-	-	51	9,942	2047	8,893	10,945	-	-	98	19,936
2048	3,122	9,367	-	-	51	12,541	2048	11,629	13,947	-	-	100	25,677
2049	3,341	10,023	-	-	158	13,523	2049	12,887	15,060	-	-	317	28,264
2050	1,468	4,403	-	-	500	6,371	2050	5,863	6,677	-	-	1,020	13,560
2051	2,031	256	-	-	999	3,286	2051	8,401	392	-	-	2,077	10,870
2052	2,082	217	-	-	1,011	3,310	2052	8,920	335	-	-	2,142	11,397
2053	2,074	230	-	-	970	3,274	2053	9,203	359	-	-	2,093	11,655
2054	2,069	230	-	-	967	3,265	2054	9,505	361	-	-	2,127	11,993
2055	2,069	230	-	-	967	3,265	2055	9,844	364	-	-	2,167	12,375
2056	2,069	230	-	-	967	3,265	2056	10,195	368	-	-	2,208	12,771
2057	2,074	230	-	-	970	3,274	2057	10,587	372	-	-	2,256	13,215
2058	2,069	230	-	-	967	3,265	2058	10,935	374	-	-	2,293	13,602
2059	2,069	230	-	-	967	3,265	2059	11,324	378	-	-	2,336	14,038
2060	2,069	230	-	-	967	3,265	2060	11,728	381	-	-	2,381	14,490
2061	2,074	230	-	-	970	3,274	2061	12,179	386	-	-	2,432	14,997
2062	2,069	230	-	-	967	3,265	2062	12,579	388	-	-	2,472	15,439
2063	-	-	-	-	-	-	2063	-	-	-	-	-	-
2064	-	-	-	-	-	-	2064	-	-	-	-	-	-
2065	-	-	-	-	-	-	2065	-	-	-	-	-	-
2066	-	-	-	-	-	-	2066	-	-	-	-	-	-
2067	-	-	-	-	-	-	2067	-	-	-	-	-	-
2068	-	-	-	-	-	-	2068	-	-	-	-	-	-
2069	-	-	-	-	-	-	2069	-	-	-	-	-	-
2070	-	-	-	-	-	-	2070	-	-	-	-	-	-
2071	-	-	-	-	-	-	2071	-	-	-	-	-	-
2072	-	-	-	-	-	-	2072	-	-	-	-	-	-
2073	-	-	-	-	-	-	2073	-	-	-	-	-	-
2074	-	-	-	-	-	-	2074	-	-	-	-	-	-
Total	$ 37,936	$ 42,135	$ -	$ -	$ 12,588	$ 92,659	Total	$ 173,768	$ 62,890	$ -	$ -	$ 28,779	$ 265,437

NOTE: The 2010 cash flows are inflated to the year of expenditure based on the indices provided on Support Schedule G, page 1 of 8

ST. LUCIE UNIT 1

		NOMINAL ANNUAL	NOMINAL MONTHLY
EARNINGS RATE QUALIFIED FUND		3.900%	0.319331%
EARNINGS RATE NON-QUALIFIED FUND		3.900%	0.319331%
CORPORATE TAX RATE		38.575%	
JURISDICTIONAL FACTOR		98.8182%	
Adjusted QUALIFIED %	66.381%		
LICENSE ENDS		3/1/36	
MONTHS TO FUND	as of 12/31/10	302	

YEAR	SPENDING CURVE	ESTIMATED COST IN ($2010)	ESTIMATED COST IN NOMINAL $	ESTIMATED DOE RECOVERY NOMINAL $	NET NOMINAL $	JURISDICTIONAL AMOUNT	QUALIFIED AMOUNT	NON-QUAL AMOUNT	TAX SAVINGS	PV @ 3.9% QUALIFIED AMOUNT	PV @ 3.9% NON-QUAL AMOUNT
2036	5.7063%	$ 43,774,077	$ 95,205,477	$ -	$ 95,205,477	$ 94,080,339	$ 62,451,251	$ 19,428,167	$ 12,200,921	$ 23,096,007	$ 7,185,014
2037	7.8909%	60,533,220	124,672,815	7,251,618	117,421,197	116,033,513	77,023,937	23,961,632	15,047,944	27,416,116	8,528,971
2038	3.6313%	27,856,902	52,998,822	10,029,145	42,969,677	42,461,861	28,186,510	8,768,635	5,506,717	9,656,194	3,003,977
2039	3.6313%	27,856,902	54,349,693	26,131,152	28,218,541	27,885,054	18,510,313	5,758,435	3,616,306	6,103,274	1,898,688
2040	3.6413%	27,933,223	55,867,326	26,645,108	29,222,218	28,876,870	19,168,688	5,963,251	3,744,931	6,083,114	1,892,416
2041	3.0666%	23,524,626	46,990,124	27,248,005	19,742,118	19,508,806	12,950,095	4,028,688	2,530,023	3,955,405	1,230,500
2042	1.9417%	14,895,584	27,361,840	24,990,597	2,371,243	2,343,220	1,555,447	483,889	303,883	457,254	142,249
2043	1.9417%	14,895,584	27,928,516	19,953,633	7,974,884	7,880,637	5,231,227	1,627,400	1,022,010	1,480,098	460,449
2044	3.3610%	25,783,005	71,117,141	20,358,199	50,758,943	50,159,074	33,295,978	10,358,158	6,504,939	9,066,990	2,820,680
2045	8.3192%	63,818,918	181,026,685	6,803,091	174,223,595	172,164,620	114,284,197	35,553,050	22,327,373	29,953,116	9,318,214
2046	13.6214%	104,492,914	301,027,186	945,961	300,081,225	296,534,865	196,842,120	61,236,269	38,456,476	49,654,467	15,447,173
2047	10.2671%	78,761,710	243,762,788	963,921	242,798,866	239,929,469	159,267,024	49,546,907	31,115,538	38,667,902	12,029,326
2048	9.5391%	73,176,441	236,875,213	1,430,258	235,444,955	232,662,466	154,443,131	48,046,226	30,173,108	36,089,244	11,227,123
2049	5.3539%	41,071,065	130,350,198	1,565,541	128,784,657	127,262,680	84,477,944	26,280,524	16,504,212	18,999,273	5,910,547
2050	3.1421%	24,103,768	75,014,848	4,161,109	70,853,739	70,016,389	46,477,417	14,458,814	9,080,159	10,060,512	3,129,758
2051	2.8558%	21,907,691	70,349,546	10,373,643	59,975,903	59,267,108	39,341,961	12,239,021	7,686,125	8,196,313	2,549,818
2052	0.4268%	3,273,943	11,295,768	10,917,297	378,471	373,998	248,263	77,233	48,502	49,780	15,486
2053	0.4256%	3,264,997	11,622,879	11,654,722	(31,844)	(31,467)	(20,888)	(6,498)	(4,081)	(4,031)	(1,254)
2054	0.4256%	3,264,997	11,992,877	11,992,877	-	-	-	-	-	-	-
2055	0.4256%	3,264,997	12,375,314	12,375,314	-	-	-	-	-	-	-
2056	0.4268%	3,273,943	12,805,611	12,770,623	34,988	34,575	22,951	7,140	4,484	3,949	1,228
2057	0.4256%	3,264,997	13,179,246	13,215,354	(36,108)	(35,681)	(23,685)	(7,368)	(4,627)	(3,922)	(1,220)
2058	0.4256%	3,264,997	13,601,646	13,601,646	-	-	-	-	-	-	-
2059	0.4256%	3,264,997	14,038,298	14,038,298	-	-	-	-	-	-	-
2060	0.4268%	3,273,943	14,529,395	14,489,698	39,698	39,229	26,040	8,101	5,087	3,845	1,196
2061	0.4256%	3,264,997	14,956,354	14,997,331	(40,976)	(40,492)	(26,879)	(8,362)	(5,251)	(3,820)	(1,188)
2062	0.4256%	3,264,997	15,438,798	15,438,798	-	-	-	-	-	-	-
2063	0.4256%	3,264,997	15,937,575	-	15,937,575	15,749,225	10,454,456	3,252,311	2,042,457	1,376,187	428,123
2064	0.4268%	3,273,943	16,498,330	-	16,498,330	16,303,353	10,822,291	3,366,742	2,114,320	1,371,133	426,550
2065	0.4256%	3,264,997	16,986,418	-	16,986,418	16,785,673	11,142,458	3,466,344	2,176,870	1,358,707	422,685
2066	0.4256%	3,264,997	17,537,678	-	17,537,678	17,330,418	11,504,064	3,578,838	2,247,516	1,350,146	420,021
2067	0.4256%	3,264,997	18,107,661	-	18,107,661	17,893,665	11,877,952	3,695,152	2,320,561	1,341,700	417,394
2068	0.4268%	3,273,943	18,748,243	-	18,748,243	18,526,676	12,298,150	3,825,872	2,402,654	1,337,020	415,938
2069	0.4256%	3,264,997	19,306,423	-	19,306,423	19,078,259	12,664,295	3,939,778	2,474,187	1,325,146	412,244
2070	0.4256%	3,264,997	19,936,572	-	19,936,572	19,700,962	13,077,650	4,068,369	2,554,943	1,317,034	409,720
2071	0.4256%	3,264,997	20,588,188	-	20,588,188	20,344,877	13,505,085	4,201,342	2,638,450	1,309,028	407,230
2072	0.4268%	3,273,943	21,320,270	-	21,320,270	21,068,307	13,985,304	4,350,735	2,732,268	1,304,692	405,881
2073	2.7555%	21,138,041	77,575,837	-	77,575,837	76,659,045	50,886,863	15,830,563	9,941,619	4,569,053	1,421,402
2074	0.3887%	2,981,839	14,169,397	-	14,169,397	14,001,943	9,294,597	2,891,487	1,815,859	803,222	249,877
	100.0000%	$ 767,124,126	$ 2,217,446,996	$ 334,342,937	$ 1,883,104,059	$ 1,860,849,535	$ 1,235,246,207	$ 384,276,844	$ 241,326,484	$ 297,744,149	$ 92,626,216

	QUALIFIED	NON-QUAL	TOTAL
NPV @12/31/10	$ 297,744,149	$ 92,626,216	$ 390,370,365
LESS BALANCE @ 12/31/10	434,816,794	135,268,600	570,085,395
PV OF FUNDING REQUIREMENTS	$ (137,072,645)	$ (42,642,384)	$ (179,715,029)
MONTHLY FUNDING REQUIREMENT	-	-	-
ANNUAL FUNDING REQUIREMENT	-	-	-
MONTHLY ACCRUAL	-	-	-
ANNUAL ACCRUAL	-	-	-

ST. LUCIE UNIT 2

	NOMINAL ANNUAL	NOMINAL MONTHLY
EARNINGS RATE QUALIFIED FUND	3.900%	0.319331%
EARNINGS RATE NON-QUALIFIED FUND	3.900%	0.319331%
CORPORATE TAX RATE	38.575%	
FPL'S SHARE OF COST (NET OF PARTICIPANTS)	85.15848%	
JURISDICTIONAL FACTOR	98.8182%	
Adjusted QUALIFIED % 78.779%		
LICENSE ENDS	4/6/43	
MONTHS TO FUND as of 12/31/10	387	

YEAR	SPENDING CURVE	ESTIMATED COST IN ($2010)	ESTIMATED COST IN NOMINAL $	ESTIMATED DOE RECOVERY NOMINAL $	NET NOMINAL $	JURISDICTIONAL AMOUNT	QUALIFIED AMOUNT	NON-QUAL AMOUNT	TAX SAVINGS	PV @ 3.9% QUALIFIED AMOUNT	PV @ 3.9% NON-QUAL AMOUNT
2043	7.2603%	$ 51,666,152	$ 145,542,471	$ -	$ 145,542,471	$ 122,477,012	$ 96,486,362	$ 15,964,757	$ 10,025,893	$ 27,299,385	$ 4,516,991
2044	15.9100%	113,220,394	307,186,195	7,570,834	299,615,361	252,132,550	198,627,907	32,865,227	20,639,416	54,089,336	8,949,691
2045	16.3563%	116,396,666	326,318,490	7,045,951	319,272,539	268,674,473	211,659,495	35,021,450	21,993,528	55,474,525	9,178,886
2046	12.8404%	91,375,817	263,668,872	6,542,082	257,126,791	216,377,535	170,460,406	28,204,596	17,712,532	42,999,540	7,114,759
2047	11.4581%	81,539,376	242,396,672	19,936,326	222,460,346	187,205,002	147,478,529	24,401,986	15,324,487	35,805,813	5,924,475
2048	10.6598%	75,858,124	229,494,991	25,676,684	203,818,307	171,517,339	135,119,920	22,357,114	14,040,304	31,573,925	5,224,262
2049	5.1805%	36,866,171	109,606,654	28,263,514	81,343,140	68,451,942	53,925,866	8,922,643	5,603,434	12,128,044	2,006,722
2050	3.8215%	27,194,652	85,650,699	13,559,848	72,090,851	60,665,949	47,792,125	7,907,746	4,966,077	10,345,094	1,711,712
2051	3.4814%	24,774,614	80,539,493	10,870,412	69,669,081	58,627,979	46,186,630	7,642,099	4,799,250	9,622,298	1,592,118
2052	0.4601%	3,273,943	11,295,768	11,396,792	(101,024)	(85,014)	(66,973)	(11,081)	(6,959)	(13,429)	(2,222)
2053	0.4588%	3,264,997	11,622,879	11,654,722	(31,844)	(26,797)	(21,110)	(3,493)	(2,194)	(4,074)	(674)
2054	0.4588%	3,264,997	11,992,877	11,992,877	-	-	-	-	-	-	-
2055	0.4588%	3,264,997	12,375,314	12,375,314	-	-	-	-	-	-	-
2056	0.4601%	3,273,943	12,805,611	12,770,623	34,988	29,443	23,195	3,838	2,410	3,991	660
2057	0.4588%	3,264,997	13,179,246	13,215,354	(36,108)	(30,385)	(23,937)	(3,961)	(2,487)	(3,964)	(656)
2058	0.4588%	3,264,997	13,601,646	13,601,646	-	-	-	-	-	-	-
2059	0.4588%	3,264,997	14,038,298	14,038,298	-	-	-	-	-	-	-
2060	0.4601%	3,273,943	14,529,395	14,489,698	39,698	33,407	26,317	4,355	2,735	3,886	643
2061	0.4588%	3,264,997	14,956,354	14,997,331	(40,976)	(34,482)	(27,165)	(4,495)	(2,823)	(3,860)	(639)
2062	0.4588%	3,264,997	15,438,798	15,438,798	-	-	-	-	-	-	-
2063	0.4588%	3,264,997	15,937,575	-	15,937,575	13,411,800	10,565,704	1,748,215	1,097,882	1,390,831	230,129
2064	0.4601%	3,273,943	16,498,330	-	16,498,330	13,883,687	10,937,452	1,809,725	1,136,510	1,385,724	229,284
2065	0.4588%	3,264,997	16,986,418	-	16,986,418	14,294,424	11,261,027	1,863,264	1,170,133	1,373,165	227,206
2066	0.4588%	3,264,997	17,537,678	-	17,537,678	14,758,320	11,626,481	1,923,732	1,208,107	1,364,513	225,774
2067	0.4588%	3,264,997	18,107,661	-	18,107,661	15,237,973	12,004,347	1,986,255	1,247,371	1,355,977	224,362
2068	0.4601%	3,273,943	18,748,243	-	18,748,243	15,777,036	12,429,016	2,056,521	1,291,498	1,351,248	223,579
2069	0.4588%	3,264,997	19,306,423	-	19,306,423	16,246,756	12,799,058	2,117,748	1,329,949	1,339,247	221,594
2070	0.4588%	3,264,997	19,936,572	-	19,936,572	16,777,040	13,216,811	2,186,870	1,373,358	1,331,048	220,237
2071	0.4588%	3,264,997	20,588,188	-	20,588,188	17,325,388	13,648,795	2,258,347	1,418,246	1,322,958	218,898
2072	0.4601%	3,273,943	21,320,270	-	21,320,270	17,941,450	14,134,124	2,338,650	1,468,676	1,318,575	218,173
2073	2.9704%	21,138,038	77,575,661	-	77,575,661	65,281,530	51,428,242	8,509,382	5,343,906	4,617,662	764,044
2074	0.4190%	2,981,478	14,147,389	-	14,147,389	11,905,322	9,378,913	1,551,847	974,562	810,508	134,108
	100.0000%	$ 711,630,095	$ 2,212,931,132	$ 265,437,103	$ 1,947,494,030	$ 1,638,858,677	$ 1,291,077,537	$ 213,623,337	$ 134,155,803	$ 298,281,966	$ 49,354,115

	QUALIFIED	NON-QUAL	TOTAL
NPV @12/31/10	$ 298,281,966	$ 49,354,115	$ 347,636,081
LESS BALANCE @ 12/31/10	397,751,171	65,812,416	463,563,587
PV OF FUNDING REQUIREMENTS	$ (99,469,205)	$ (16,458,302)	$ (115,927,507)
MONTHLY FUNDING REQUIREMENT	-	-	-
ANNUAL FUNDING REQUIREMENT	-	-	-
MONTHLY ACCRUAL	-	-	-
ANNUAL ACCRUAL	-	-	-

SECTION 10

SUPPORT SCHEDULE H
St Lucie Unit No 2 - FPL Ownership Percentage
Cost Allocation Analysis

Florida Power & Light Company
2010 Decommissioning Study
St. Lucie Unit No. 2 - FPL Ownership Percentage
Support Schedule : Cost Allocation Analysis
(thousands 2010 Dollars)

			Base Case	From Pages 2 & 3
				$37,977
1	St. Lucie Unit No. 2		$711,630	3,948
				25
2	Common Facilities (Note 1)		42,066	116
				$42,066
3	St. Lucie Unit No. 2 Excluding Costs of Common Facilities	(L.1 - L.2)	$669,564	
4	St. Lucie Unit No. 2 Share of Costs of Common Facilities (Note 2)		39,487	$78,973 / 2
5	Total costs Upon Which Allocation to Participants is Computed	(L. 3 + L. 4)	$709,051	
6	Participants Share of Total Costs (Note 3)		14.89551%	
7	Total Costs Allocated to Participants	(L. 5 x L. 6)	$105,617	
8	Total Costs (line 1 above)		$711,630	
9	Percent of Total Applicable to Participants	(L. 7 / L. 8)	14.84152%	
10	Percent of Total Applicable to FPL Ownership	100% - L. 9	85.15848%	

Note:

1 Common (shared) facilities that are expected to be decommissioned at the same time as St. Lucie Unit No. 2 and are included with the decommissioning costs of Unit No. 2.

2 The Participants share of the common facilities has been calculated in compliance with the Participation Agreement which provides that the Participants pay for only their ownership share times one-half of the common facility costs.

3 Allocation is based on ownership share of 8.80600% for Florida Municipal Power Agency and 6.08951% for Orlando Utilities Commission. (Total = 14.89551%)

Support Schedule H
Page 2 of 3

TABLE 3.5
SUMMARY OF COSTS
SHARED SYSTEMS and STRUCTURES
(thousands, 2010 dollars)

	UNIT 1	UNIT 2	TOTAL
STRUCTURES			
Contaminated Soil	$28,379	$26,365	$54,744
Mixed/Hazardous Waste	$6,557	6,557	$13,113
Shared Miscellaneous Site Structures	$0	$4,476	$4,476
Steam Generator Blowdown Treatment Facility	$0	$579	$579
Subtotal	$34,936	$37,977	$72,912
SYSTEMS			
Auxiliary Steam - Insulated	$25	$18	$44
Condensate Polish Filter Demin	$27	$0	$27
Condensate Polish Filter Demin - Ins	$78	$0	$78
Demineralized Makeup Water - RCA	$31	$15	$46
Demineralized Makeup Water	$17	$6	$23
Domestic/Makeup/Service Water	$198	$9	$207
Domestic/Makeup/Service Water-Ins	$4	$1	$5
Domestic/Makeup/Service Water-Ins-RCA	$30	$0	$30
Domestic/Makeup/Service Water - RCA	$267	$60	$327
Fire Protection	$77	$59	$136
Fire Protection - Insulated	$7	$6	$14
Fire Protection - Insulated - RCA	$6	$16	$21
Fire Protection - RCA	$71	$179	$250
Neutralization Basin Recirculation	$19	$0	$19
Primary Water	$579	$558	$1,137
Primary Water - Insulated	$6	$6	$12
Service & Instrument Air	$28	$22	$50
Service & Instrument Air - Ins	$15	$11	$25
Service & Instrument Air - Ins - RCA	$143	$98	$241
Service & Instrument Air - Ins	$15	$11	$25

TABLE 3.5 (continued)
SUMMARY OF COSTS
SHARED SYSTEMS and STRUCTURES
(thousands, 2010 dollars)

	UNIT 1	UNIT 2	TOTAL
SYSTEMS (continued)			
SGBTF Blowdown - Insulated	$26	$2,058	$2,085
SGBTF Demin - Ins - RCA	$0	$115	$115
SGBTF Demin - RCA	$0	$231	$231
SGBTF HVAC	$64	$0	$64
SGBTF Misc - RCA	$16	$0	$16
SGBTF Miscellaneous - RCA	$0	$87	$87
SGBTF Waste Management	$10	$195	$205
SGBTF Waste Management - Insulated	$95	$136	$231
Sodium Hypochlorite	$0	$51	$51
Water Treatment - Insulated	$43	$0	$43
Water Treatment	$75	$0	$75
Subtotal	$1,971	$3,948	$5,919
MISCELLANEOUS COMPONENTS *			
Clean Miscellaneous Components			$25
Contaminated Miscellaneous Component			$116
Subtotal			$142
TOTAL			$78,973

* Includes Shared Refueling Equipment (20), Valves & Piping for Condensate Storage Tank Interconnection, Turbine Lube Oil Storage Tank, Waste Oil Storage Tank, Miscellaneous Small Bore Piping, Valves & Piping for Holdup Tanks Interconnection, Valves & Piping for Aerated Waste Storage Tank Interconnect, SGBTF Electrical (9), Tank,Valves, Piping - UHS Valves & Emergency Air, and Piping for Waste Management System Interconnects

SECTION 11

DECOMMISSIONING COST ANALYSIS FOR THE ST LUCIE NUCLEAR PLANT UNITS 1 AND 2

Prepared By

TLG SERVICES, INC.

DECOMMISSIONING COST ANALYSIS

for the

ST. LUCIE NUCLEAR PLANT, UNITS 1 AND 2



prepared for

Florida Power & Light Company

prepared by

TLG Services, Inc.
Bridgewater, Connecticut

December 2010

APPROVALS

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REVISION LOG

No.	Date	Item Revised	Reason for Revision
0	12-02-2010		Original Issue

EXECUTIVE SUMMARY

This report presents estimates of the cost to decommission the St. Lucie Nuclear Plant, Units 1 and 2 (St. Lucie). The analysis relies upon site-specific, technical information from an evaluation prepared in 2005,[1] updated to reflect current assumptions pertaining to the disposition of the two nuclear units and relevant industry experience in undertaking such projects. The station inventory, the basis for the decontamination and dismantling requirements and cost, and the decommissioning waste streams, were reviewed for this analysis. The current estimates reflect any substantive changes over the five year period to the configuration of the plant or site that would impact decommissioning.

The current estimates are designed to provide Florida Power & Light Company (FPL) with sufficient information to assess its financial obligations, as they pertain to the decommissioning of the nuclear station. The estimates do not reflect the actual plan to decommission all aspects of St. Lucie; the plan may differ from the assumptions made in the cost estimates based on facts that exist at the time of the decommissioning activity.

The primary goal of the decommissioning is the removal and disposal of the contaminated systems and structures so that the operating licenses for the nuclear units can be terminated. The analysis recognizes that spent fuel will be stored at the site in the wet storage pools and/or in an independent spent fuel storage installation (ISFSI) until such time that it can be transferred to the U.S. Department of Energy (DOE). Consequently, the estimates also include those costs to manage and subsequently decommission these interim storage facilities.

The currently projected cost to promptly decommission the station (DECON alternative), manage the spent fuel, and restore the site, is estimated at $1,478.8 million, as reported in 2010 dollars. The cost to defer decommissioning by placing the unit in safe-storage (SAFSTOR alternative) for approximately 50 years is estimated at $1,725.6 million, as reported in 2010 dollars. A portion of the costs associated with spent fuel management is considered to be recoverable from the DOE, as described later in this section and in more detail in Section 3.

The estimates are based on numerous fundamental assumptions, including regulatory requirements, low-level radioactive waste disposal practices, high-level radioactive waste management options, project contingencies, and site restoration requirements. The estimates incorporate a minimum cooling period for the spent

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1 "Decommissioning Cost Analysis for the St. Lucie Nuclear Plant, Units 1 and 2," Document F02-1512-002, Rev. 0, TLG Services, Inc., October 2005

fuel that resides in the storage pools when operations cease. Once sufficiently cooled the spent fuel is transferred to the DOE or to the ISFSI for interim storage. The prompt decommissioning scenario assumes that the dismantling of Unit 1 will be delayed so as to sequence decommissioning operations with the Unit 2 (there is a seven year offset in plant shutdown dates). The estimates also include the dismantling of site structures and non-essential facilities and the limited restoration of the site.

Alternatives and Regulations

The ultimate objective of the decommissioning process is to reduce the inventory of contaminated and activated material so that the license can be terminated. The Nuclear Regulatory Commission (NRC) provided initial decommissioning requirements in its rule adopted on June 27, 1988.[2] In this rule, the NRC set forth financial criteria for decommissioning licensed nuclear power facilities. The regulations addressed planning needs, timing, funding methods, and environmental review requirements for decommissioning. The rule also defined three decommissioning alternatives as being acceptable to the NRC: DECON, SAFSTOR, and ENTOMB.

> DECON is defined as "the alternative in which the equipment, structures, and portions of a facility and site containing radioactive contaminants are removed or decontaminated to a level that permits the property to be released for unrestricted use shortly after cessation of operations."[3]
>
> SAFSTOR is defined as "the alternative in which the nuclear facility is placed and maintained in a condition that allows the nuclear facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use."[4] Decommissioning is to be completed within 60 years, although longer time periods will be considered when necessary to protect public health and safety.
>
> ENTOMB is defined as "the alternative in which radioactive contaminants are encased in a structurally long-lived material, such as concrete; the entombed structure is appropriately maintained and continued surveillance is carried out until the radioactive material

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2 U.S. Code of Federal Regulations, Title 10, Parts 30, 40, 50, 51, 70 and 72 "General Requirements for Decommissioning Nuclear Facilities," Nuclear Regulatory Commission, Federal Register Volume 53, Number 123 (p 24018 et seq.), June 27, 1988

3 Ibid. Page 24022, Column 3

4 Ibid.

> decays to a level permitting unrestricted release of the property."[5] As with the SAFSTOR alternative, decommissioning is currently required to be completed within 60 years.
>
> The 60-year restriction has limited the practicality for the ENTOMB alternative at commercial reactors that generate significant amounts of long-lived radioactive material. In 1997, the NRC directed its staff to re-evaluate this alternative and identify the technical requirements and regulatory actions that would be necessary for entombment to become a viable option. The resulting evaluation provided several recommendations; however, rulemaking has been deferred pending the completion of additional research studies, for example, on engineered barriers.

In 1996, the NRC published revisions to the general requirements for decommissioning nuclear power plants to clarify ambiguities and codify procedures and terminology as a means of enhancing efficiency and uniformity in the decommissioning process.[6] The amendments allow for greater public participation and better define the transition process from operations to decommissioning. Regulatory Guide 1.184, issued in July 2000, further described the methods and procedures acceptable to the NRC staff for implementing the requirements of the 1996 revised rule relating to the initial activities and major phases of the decommissioning process. The costs and schedules presented in this analysis follow the general guidance and processes described in the amended regulations. The format and content of the estimates is also consistent with the recommendations of Regulatory Guide 1.202, issued in February 2005.[7]

St. Lucie Decommissioning Scenarios

Two decommissioning scenarios were evaluated for the St. Lucie nuclear units. In both instances a 60-year operating life was assumed. The scenarios selected are representative of alternatives available to the owner and are defined as follows:

1. DECON: The operating licenses for Units 1 and 2 currently expire in March 2036 and April 2043, respectively. The first scenario assumes that decommissioning activities at the two units are sequenced and integrated so as to minimize the total duration of the physical dismantling processes. As

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5 Ibid. Page 24023, Column 2

6 U.S. Code of Federal Regulations, Title 10, Parts 2, 50, and 51, "Decommissioning of Nuclear Power Reactors," Nuclear Regulatory Commission, Federal Register Volume 61, (p 39278 et seq.), July 29, 1996

7 "Standard Format and Content of Decommissioning Cost Estimates for Nuclear Power Reactors," Regulatory Guide 1.202, U.S. Nuclear Regulatory Commission, February 2005

such, Unit 1 is placed into an abbreviated period of safe-storage until Unit 2 completes its operations. Decontamination and dismantling activities at Unit 1 begin shortly after decommissioning operations commence at Unit 2 and follow a similar dismantling sequence. Any residual spent fuel is transferred to the ISFSI so as to facilitate decontamination and dismantling activities within the fuel handling buildings. Spent fuel storage operations continue at the site until the transfer of the fuel to the DOE is complete, assumed to be in the year 2073.

2. SAFSTOR: The units are placed into safe-storage shortly after the permanent cessation of operations and defueling. Spent fuel remaining in the spent fuel storage pools after a minimum cooling period is transferred to the ISFSI for interim storage, consistent with the DECON spent fuel management plan. Decommissioning is deferred beyond the fuel storage period to the maximum extent possible; termination of the licenses would conclude within the required 60-year period. As with the DECON scenario, decommissioning activities at the two units are sequenced and integrated so as to minimize the total duration of the physical dismantling processes.

Methodology

The methodology used to develop the estimates described within this document follows the basic approach originally presented in the cost estimating guidelines[8] developed by the Atomic Industrial Forum (now Nuclear Energy Institute). This reference describes a unit factor method for determining decommissioning activity costs. The unit factors used in this analysis incorporate site-specific costs and the latest available information on worker productivity in decommissioning.

The estimates also reflect lessons learned from TLG's involvement in the Shippingport Station decommissioning, completed in 1989, and the decommissioning of the Cintichem reactor, hot cells and associated facilities, completed in 1997. In addition, the planning and engineering for the Pathfinder, Shoreham, Rancho Seco, Trojan, Yankee Rowe, Big Rock Point, Maine Yankee, Humboldt Bay-3, Connecticut Yankee and San Onofre-1 nuclear units have provided additional insight into the process, the regulatory aspects, and technical challenges of decommissioning commercial nuclear units.

An activity duration critical path is used to determine the total decommissioning program schedule. The schedule is relied upon in calculating the carrying costs, which

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8 T.S. LaGuardia et al., "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986

include program management, administration, field engineering, equipment rental, and support services, such as quality control and security.

Contingency

Consistent with cost estimating practice, contingencies are applied to the decontamination and dismantling costs developed as "specific provision for unforeseeable elements of cost within the defined project scope, particularly important where previous experience relating estimates and actual costs has shown that unforeseeable events which will increase costs are likely to occur."[9] The cost elements in the estimates are based on ideal conditions; therefore, the types of unforeseeable events that are almost certain to occur in decommissioning, based on industry experience, are addressed through a percentage contingency applied on a line-item basis. This contingency factor is a nearly universal element in all large-scale construction and demolition projects. It should be noted that contingency, as used in this analysis, does not account for price escalation and inflation in the cost of decommissioning over the remaining operating life of the nuclear units.

Contingency funds are expected to be fully expended throughout the program. As such, inclusion of contingency is necessary to provide assurance that sufficient funding will be available to accomplish the intended tasks.

Low-Level Radioactive Waste Disposal

The contaminated and activated material generated in the decontamination and dismantling of a commercial nuclear reactor is classified as low-level (radioactive) waste, although not all of the material is suitable for "shallow-land" disposal. With the passage of the "Low-Level Radioactive Waste Policy Act" in 1980,[10] and its Amendments of 1985,[11] the states became ultimately responsible for the disposition of low-level radioactive waste generated within their own borders. However, with the exception of Texas (which has issued a license for a new facility), no new compact facilities have been successfully sited, licensed, and constructed.

In past studies, there were two facilities available to FPL for the disposal of low-level radioactive waste generated by St. Lucie. As of July 1, 2008, however, the facility in Barnwell, South Carolina was closed to generators outside the Atlantic Compact (comprised of the states of Connecticut, New Jersey and South Carolina). This leaves the facility in Clive, Utah, operated by EnergySolutions, as the only currently available destination for low-level radioactive waste requiring controlled disposal, until

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9 Project and Cost Engineers' Handbook, Second Edition, American Association of Cost Engineers, Marcel Dekker, Inc., New York, New York, p. 239

10 "Low-Level Radioactive Waste Policy Act of 1980," Public Law 96-573, 1980

11 "Low-Level Radioactive Waste Policy Amendments Act of 1985," Public Law 99-240, 1986

the construction of Waste Control Specialist's facility in Andrews County, Texas, is complete.

For the purpose of this analysis, the EnergySolutions' facility is used as the basis for estimating the disposal cost for the majority of the radioactive waste (Class A [12]). EnergySolutions does not have a license to dispose of the more highly radioactive waste (Classes B and C), for example, generated in the dismantling of the reactor vessel. As a proxy, the disposal cost for this material is based upon the last published rate schedule for non-compact waste for the Barnwell facility, adjusted for escalation of the Atlantic Compact rates.

The dismantling of the components residing closest to the reactor core generates radioactive waste that may be considered unsuitable for shallow-land disposal (i.e., low-level radioactive waste with concentrations of radionuclides that exceed the limits established by the NRC for Class C radioactive waste (GTCC)). The Low-Level Radioactive Waste Policy Amendments Act of 1985 assigned the federal government the responsibility for the disposal of this material. The Act also stated that the beneficiaries of the activities resulting in the generation of such radioactive waste bear all reasonable costs of disposing of such waste. However, to date, the federal government has not identified a cost for disposing of GTCC or a schedule for acceptance. For purposes of this estimate, the GTCC radioactive waste has been assumed to be packaged and disposed of as high-level waste, at a cost equivalent to that envisioned for the spent fuel.

For purposes of this analysis, GTCC is packaged in the same canisters that are designated for the disposal of spent fuel (modified for the different waste form). The GTCC material is stored with the spent fuel at the ISFSI in the DECON scenario and shipped at the conclusion of the spent fuel transfer process. GTCC is shipped as it is generated in the SAFSTOR scenario since it occurs after the fuel has been removed from the site.

A significant portion of the waste material generated during decommissioning may only be potentially contaminated by radioactive materials. This waste can be analyzed on site or shipped off site to licensed facilities for further analysis, for processing and/or for conditioning/recovery. Reduction in the volume of low-level radioactive waste requiring disposal in a licensed low-level radioactive waste disposal facility can be accomplished through a variety of methods, including analyses and surveys or decontamination to eliminate the portion of waste that does not require disposal as radioactive waste, compaction, incineration or metal melt. The estimates for St. Lucie reflect the savings from waste recovery/volume reduction.

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12 U.S. Code of Federal Regulations, Title 10, Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste"

High-Level Radioactive Waste Management

Congress passed the "Nuclear Waste Policy Act"[13] (NWPA) in 1982, assigning the federal government's long-standing responsibility for disposal of the spent nuclear fuel and high level radioactive waste created by the commercial nuclear generating plants to the DOE. The NWPA provided that DOE would enter into contracts with utilities in which DOE would promise to take the utilities' spent fuel and high-level radioactive waste and utilities would pay the cost of the disposition services for that material. The NWPA, along with the individual contracts with the utilities, specified that the DOE was to begin accepting spent fuel by January 31, 1998.

Since the original legislation, the DOE has announced several delays in the program schedule. By January 1998, the DOE had failed to accept any spent fuel or high level waste, as required by the NWPA and utility contracts. Delays continue and, as a result, generators have initiated legal action against the DOE in an attempt to obtain compensation for DOE's breach of contract.

A federal appeals court has ruled that DOE's obligation to take possession of spent nuclear fuel is unconditional and cannot be excused either by the absence of a repository or by a claim of unavoidable delay. FPL filed a lawsuit in 2004 claiming damages for DOE's failure to perform as originally prescribed in the standard disposal contract.

On March 31, 2009, FPL executed a Settlement Agreement with the DOE and the Department of Justice (DoJ). In the Agreement, FPL settled the lawsuit in exchange for payments. The payments are intended to cover those costs incurred for managing and storing the spent fuel that it would not have incurred but for DOE's delay in performance.

While the DOE is responsible for the costs incurred until it fulfills its obligation, certain assumptions are needed to assess the financial impact on the identified decommissioning cost scenarios. The assumptions and methodology employed to quantify the expected level of compensation are outlined in Section 3.8.

It is generally necessary that spent fuel be cooled and stored for a minimum period at the generating site prior to transfer. As such, the NRC requires that licensees establish a program to manage and provide funding for the management of all irradiated fuel at the reactor site until title of the fuel is transferred to the Secretary of Energy, pursuant to 10 CFR Part 50.54(bb).[14] This funding requirement is fulfilled

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13 "Nuclear Waste Policy Act of 1982 and Amendments," DOE's Office of Civilian Radioactive Management, 1982

14 U.S. Code of Federal Regulations, Title 10, Part 50, "Domestic Licensing of Production and Utilization Facilities," Subpart 54 (bb), "Conditions of Licenses"

through inclusion of certain cost elements in the decommissioning estimates, for example, expansion and operation of the ISFSI subsequent to plant shutdown and continued operation of the spent fuel pools.

The spent fuel pools are expected to contain freshly discharged assemblies (from the most recent refueling cycles) as well as the final reactor core at shutdown. Over the following five and one half years the assemblies are packaged into DOE-provided multi-purpose canisters (MPCs) for transfer to the DOE or dry shielded canisters (DSCs) to the ISFSI for interim storage. It is assumed that this period provides the necessary cooling for the final core to meet the transport and/or storage requirements for decay heat.

DOE's contracts with utilities order the acceptance of spent fuel from utilities based upon the oldest fuel receiving the highest priority.[15] However, DOE contracts provide mechanisms for altering the oldest fuel first allocation scheme, including emergency deliveries, exchanges of allocations amongst utilities and the option of providing priority acceptance from permanently shutdown nuclear reactors. Because it is unclear how these mechanisms may operate once DOE begins accepting spent fuel from commercial reactors, this study conservatively assumes that DOE will accept spent fuel in an oldest fuel first order. For purposes of this analysis, the first assemblies removed from the St. Lucie site are conservatively assumed to be in 2032. With an estimated, maximum rate of transfer of 3,000 metric tons of uranium (MTU)/year, completion of the removal of fuel from the site is conservatively projected to be in the year 2073. Consequently, costs are included within the estimates for the long-term caretaking of the spent fuel at the St. Lucie site until the year 2073.

FPL's position is that the DOE has a contractual obligation to accept St. Lucie's fuel far 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. However, at this time, including the cost of storing spent fuel in this study is the most reasonable approach because it insures the availability of sufficient decommissioning funds at the end of the station's life if, contrary to its contractual obligation, the DOE has not performed earlier.

An ISFSI, which is operated under a general (10 CFR Part 50) license, has been constructed to support management of the spent fuel at the site until the DOE is able to complete the transfer to a federal repository. It is assumed that the ISFSI will be expanded subsequent to plant shutdown to support decommissioning operations. As

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15 DOE's acceptance priority ranking is based on the date that spent nuclear fuel was permanently discharged, with the oldest spent nuclear fuel, on an industry-wide basis, given the higher priority. However, the generator has the right to determine which spent nuclear fuel is delivered, provided that it is in compliance with the Standard Contract.

such, the fuel that cannot be transferred directly to the DOE from the wet pools is packaged for interim storage at the ISFSI. This will allow decommissioning to continue on the nuclear units.

Site Restoration

The efficient removal of the contaminated materials at the site may result in damage to many of the site structures. Blasting, coring, drilling, and the other decontamination activities will substantially damage power block structures, potentially weakening the footings and structural supports. Prompt dismantling of site structures (once the facilities are decontaminated) is clearly the most appropriate and cost-effective option. It is unreasonable to anticipate that these structures would be repaired and preserved after the radiological contamination is removed. The cost to dismantle site structures with a work force already mobilized on site is more efficient than if the process is deferred. Site facilities quickly degrade without maintenance, adding additional expense and creating potential hazards to the public and the demolition work force. Consequently, this study assumes that site structures are removed to a nominal depth of three feet below the local grade level wherever possible. The site is then to be graded and stabilized.

Summary

The cost to decommission St. Lucie assumes the removal of all contaminated and activated plant components and structural materials such that the owner may then have unrestricted use of the site with no further requirements for an operating license. Low-level radioactive waste, other than GTCC waste, is sent to a commercial processor for treatment/conditioning or to a controlled disposal facility.

Decommissioning is accomplished within the 60-year period required by current NRC regulations. In the interim, the spent fuel remains in storage at the site until such time that the transfer to a DOE facility is complete. Once emptied, the fuel storage facilities can be decommissioned (DECON alternative) or placed in storage and decommissioned with the reactor complex (SAFSTOR alternative).

The decommissioning scenarios are described in Section 2. The assumptions are presented in Section 3, along with schedules of annual expenditures. The major cost contributors are identified in Section 6, with detailed activity costs, waste volumes, and associated manpower requirements delineated in Appendices C and D for the DECON and SAFSTOR alternatives. The major cost components are also identified in the cost summary provided at the end of this section.

The cost elements in the estimates are assigned to one of three subcategories: NRC License Termination, Spent Fuel Management, and Site Restoration. The subcategory

"NRC License Termination" is used to accumulate costs that are consistent with "decommissioning" as defined by the NRC in its financial assurance regulations (i.e., 10 CFR Part 50.75). The cost reported for this subcategory is generally sufficient to terminate the operating licenses for the two reactors, recognizing that there may be some additional cost impact from spent fuel management.

The "Spent Fuel Management" subcategory contains costs anticipated to be incurred once the nuclear units cease operation for the off-loading of the pools either directly to the DOE or to the ISFSI for interim storage, and the eventual transfer of fuel from the ISFSI to the DOE. Costs are also included for the operation of the ISFSI until such time that the transfer of all fuel from this facility to an off-site location (e.g., geologic repository or interim facility) is complete. Under the terms of the settlement agreement with the DOE, there are activities and costs identified in the decommissioning cost study that are expected to be eligible for reimbursement (depending upon the timing of the activities). The activities are identified in Section 3.8 and the costs in Tables 3.7 through 3.9.

"Site Restoration" is used to capture costs associated with the dismantling and demolition of buildings and facilities demonstrated to be free from contamination. This includes structures never exposed to radioactive materials, as well as those facilities that have been decontaminated to appropriate levels. Structures are removed to a depth of three feet and backfilled to conform to local grade.

It should be noted that the costs assigned to these subcategories are allocations. Delegation of cost elements is for the purposes of comparison (e.g., with NRC financial guidelines) or to permit specific financial treatment (e.g., ARO determinations). In reality, there can be considerable interaction between the activities in the three subcategories. For example, an owner may decide to remove non-contaminated structures early in the project to improve access to highly contaminated facilities or plant components. In these instances, the non-contaminated removal costs could be reassigned from Site Restoration to an NRC License Termination support activity. However, in general, the allocations represent a reasonable accounting of those costs that can be expected to be incurred for the specific subcomponents of the total estimated program cost, if executed as described.

As noted within this document, the estimates were developed and costs are presented in 2010 dollars. As such, the estimates do not reflect the escalation of costs (due to inflationary and market forces) over the remaining operating life of the station or during the decommissioning period.

DECON COST SUMMARY
DECOMMISSIONING COST ELEMENTS
(thousands of 2010 dollars)

Cost Element	Unit 1	Unit 2	Total
Decontamination	10,975	15,025	26,001
Removal	85,842	96,766	182,608
Packaging	19,909	21,263	41,172
Transportation	21,113	21,924	43,036
Waste Disposal	73,210	81,882	155,092
Off-site Waste Processing	20,676	20,789	41,466
Program Management [1]	303,781	300,142	603,923
Spent Fuel Pool Isolation	11,477	7,652	19,129
Spent Fuel Management (Direct Costs) [2]	130,991	84,608	215,599
Insurance and Regulatory Fees	20,934	14,633	35,567
Energy	19,105	15,342	34,447
Characterization and Licensing Surveys	10,816	13,433	24,248
Property Taxes	17,356	3,811	21,167
Miscellaneous Equipment	8,358	6,535	14,894
Fixed Overhead	6,664	3,254	9,918
INPO, NEI Fees	3,356	2,201	5,557
Florida LLRW Inspection Fee	2,560	2,373	4,932
Total [3]	767,124	711,630	1,478,754

Cost Element			
License Termination	534,825	517,410	1,052,235
Spent Fuel Management [4]	188,629	142,476	331,105
Site Restoration	43,670	51,744	95,414
Total [3]	767,124	711,630	1,478,754

[1] Includes engineering costs
[2] Excludes program management costs (staffing) but includes costs for dry shielded storage canisters and horizontal storage modules, spent fuel loading/transfer/spent fuel pool O&M and EP fees
[3] Columns may not add due to rounding
[4] Includes period-dependent costs such as Program Management costs

SAFSTOR COST SUMMARY
DECOMMISSIONING COST ELEMENTS
(thousands of 2010 dollars)

Cost Element	Unit 1	Unit 2	Total
Decontamination	10,491	11,029	21,519
Removal	85,475	96,030	181,505
Packaging	15,981	16,226	32,208
Transportation	19,293	19,032	38,325
Waste Disposal	66,152	68,438	134,590
Off-site Waste Processing	19,592	20,273	39,866
Program Management [1]	383,479	407,293	790,773
Spent Fuel Pool Isolation	11,477	7,652	19,129
Spent Fuel Management (Direct Costs) [2]	127,625	81,241	208,866
Insurance and Regulatory Fees	46,089	38,843	84,932
Energy	30,629	28,971	59,600
Characterization and Licensing Surveys	14,553	11,087	25,641
Property Taxes	19,213	5,666	24,878
Miscellaneous Equipment	15,505	16,986	32,491
Fixed Overhead	10,861	10,246	21,107
INPO, NEI Fees	2,600	2,601	5,201
Florida LLRW Inspection Fee	2,561	2,369	4,930
Total [3]	881,577	843,982	1,725,560

Cost Element			
License Termination	624,427	616,916	1,241,342
Spent Fuel Management [4]	210,881	173,178	384,059
Site Restoration	46,270	53,889	100,159
Total [3]	881,577	843,982	1,725,560

[1] Includes engineering costs
[2] Excludes program management costs (staffing) but includes costs for dry shielded storage canisters and horizontal storage modules, spent fuel loading/transfer/spent fuel pool O&M and EP fees
[3] Columns may not add due to rounding
[4] Includes period-dependent costs such as Program Management costs

1. INTRODUCTION

This report presents estimates of the costs to decommission the St. Lucie Nuclear Plant, Units 1 and 2, (St. Lucie), assuming a 60-year operating life for the selected decommissioning alternatives. The analysis relies upon site-specific, technical information from an earlier evaluation prepared in 2005,[1]* updated to reflect current assumptions pertaining to the disposition of the nuclear station and relevant industry experience in undertaking such projects. The station inventory, the basis for the decontamination and dismantling requirements and cost, and the decommissioning waste streams, were reviewed for this analysis. The current estimates reflect any substantive changes over the five year period to the configuration of the plant or site that would impact decommissioning.

The current estimates are designed to provide Florida Power & Light Company (FPL) with sufficient information to assess their financial obligations, as they pertain to the decommissioning of the nuclear station. It is not a detailed engineering document, but a financial analysis prepared in advance of the detailed engineering that will be required to carry out the decommissioning activity.

1.1 OBJECTIVES OF STUDY

The objectives of this analysis are to present comprehensive estimates of the costs to decommission St. Lucie, to provide a sequence or schedule for the associated activities, and to identify the waste streams expected from the decontamination and dismantling activities.

For the purposes of this study, the cessation of operations is assumed to be on March 1, 2036 and April 6, 2043 for Units 1 and 2, respectively, based upon the full term of the current operating licenses.

1.2 SITE DESCRIPTION

The St. Lucie site is located approximately halfway between the cities of Fort Pierce and Stuart on the east coast of Florida. Units 1 and 2 are essentially identical pressurized water reactors with supporting facilities (Figure 1.1, Site Photo). FPL is the primary owner and operator of the station. The nuclear units were designed and constructed by Ebasco Services, Inc.

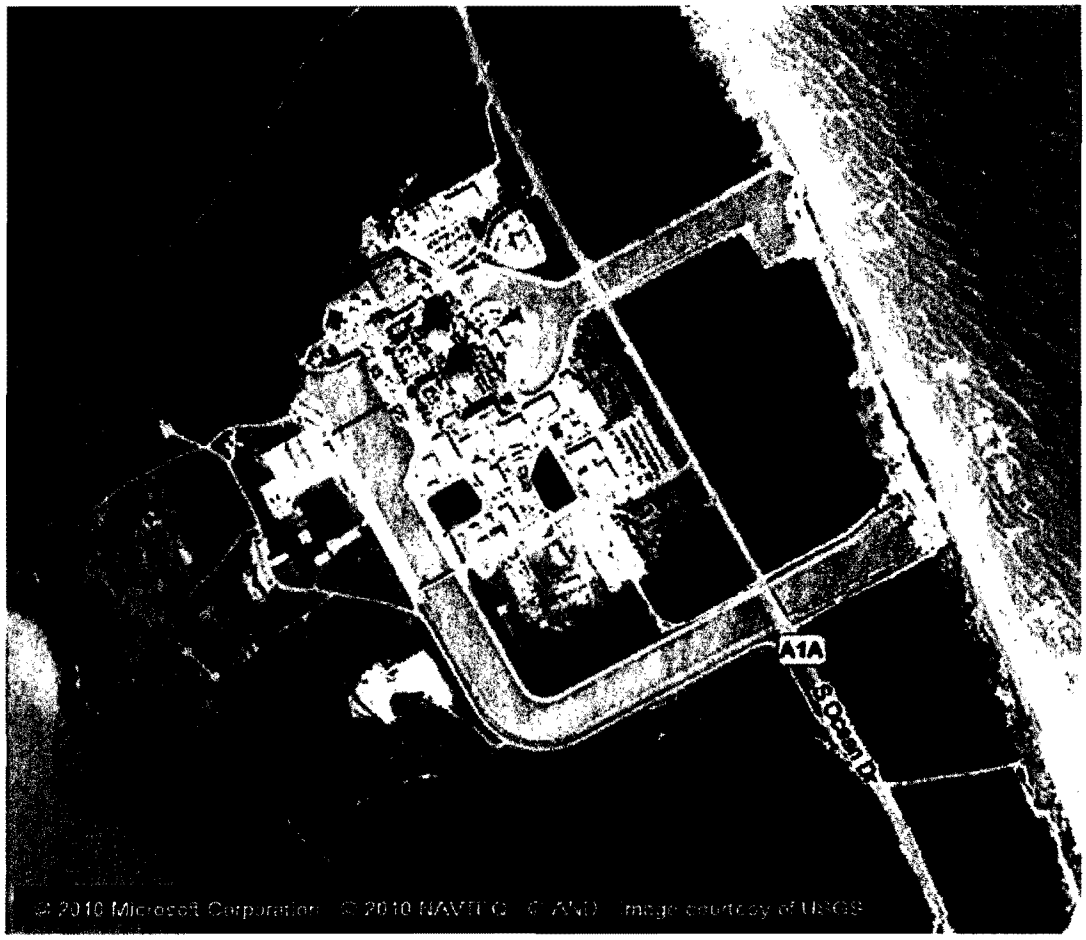
The nuclear steam supply systems (NSSS) were designed by Combustion Engineering. The reactor coolant systems (RCS) consist of two similar heat

* References provided in Section 7 of the document

transfer loops connected in parallel to the reactor pressure vessel. Each loop contains two reactor coolant pumps, one steam generator, and associated piping and valves. In addition, the systems include a pressurizer, a pressurizer relief tank, interconnecting piping, and instrumentation necessary for operational control. All the system equipment, except for the digital pressure indicator, three wide range pressure transmitters, and the containment isolation and process actuated valves located in the lines connected to the pressurizer relief tank, are located in the containment buildings.

The containments are a dual containment design comprised of a steel containment vessel surrounded by an annular space and enclosed by reinforced concrete shield buildings. The vessel is cylindrical in shape with a hemispherical dome and ellipsoidal bottom.

Figure 1.1
Site Photo



Heat produced in the reactors is converted to electrical energy by the steam and power conversion system. The function of the turbine generators, which serve no safety function, is to receive steam from steam generators, economically convert a portion of the thermal energy contained in the steam to electrical energy, and provide extraction steam for five stages of feedwater heating. Steam is directed from the high pressure turbine element to four combination moisture-separator/reheater assemblies before entering the low pressure turbines. The exhaust steam from the two low pressure turbines is condensed in the condenser. With the completion of the extended power uprate activities (described below), Units 1 and 2 will have a maximum potential cold winter capability of 1,052 megawatt-electric (MWe) gross and 1,072 MW gross, respectively.

Heat rejected in the main condensers is removed by the circulating water systems, which condenses the steam exhaust from the turbine. Cooling water for the condenser is supplied by the Atlantic Ocean.

Modifications are underway to increase the power output for each unit. The Extended Power Uprate (EPU) will be a 12-percent uprate. The original licensed core rated thermal power level was 2,560 megawatts-thermal (MWt), and after a 5.5-percent stretch power uprate in 1981, the current licensed thermal power rating is 2,700 MWt. The uprate licensed thermal power would then be 3,020 MWt. The modifications necessary to support the power uprate will be implemented during the 2010, 2011 and 2012 refueling outages. The impact of the EPU (e.g., from increased neutron fluence), although not significant in decommissioning, is considered in this analysis.

1.3 REGULATORY GUIDANCE

The Nuclear Regulatory Commission (NRC) provided initial decommissioning requirements in its rule "General Requirements for Decommissioning Nuclear Facilities," issued in June 1988.[2] This rule set forth financial criteria for decommissioning licensed nuclear power facilities. The regulation addressed decommissioning planning needs, timing, funding methods, and environmental review requirements. The intent of the rule was to ensure that decommissioning would be accomplished in a safe and timely manner and that adequate funds would be available for this purpose. Subsequent to the rule, the NRC issued Regulatory Guide 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors,"[3] which provided additional guidance to the licensees of nuclear facilities on the financial methods acceptable to the NRC staff for complying with the requirements of the rule. The regulatory guide addressed the funding requirements and provided guidance on the content and form of the financial assurance mechanisms indicated in the rule.

The rule defined three decommissioning alternatives as being acceptable to the NRC: DECON, SAFSTOR, and ENTOMB. The DECON alternative assumes that any contaminated or activated portion of the plant's systems, structures and facilities are removed or decontaminated to levels that permit the site to be released for unrestricted use shortly after the cessation of plant operations. The rule also placed limits on the time allowed to complete the decommissioning process. For SAFSTOR, the process is restricted in overall duration to 60 years, unless it can be shown that a longer duration is necessary to protect public health and safety. The guidelines for ENTOMB are similar, providing the NRC with both sufficient leverage and flexibility to ensure that these deferred options are only used in situations where it is reasonable and consistent with the definition of decommissioning. At the conclusion of a 60-year dormancy period (or longer for ENTOMB if the NRC approves such a case), the site would still require significant remediation to meet the unrestricted release limits for license termination.

The ENTOMB alternative has not been viewed as a viable option for power reactors due to the significant time required to isolate the long-lived radionuclides for decay to permissible levels. However, with rulemaking permitting the controlled release of a site,[4] the NRC has re-evaluated this alternative. The resulting feasibility study, based upon an assessment by Pacific Northwest National Laboratory, concluded that the method did have conditional merit for some, if not most reactors. However, the staff also found that additional rulemaking would be needed before this option could be treated as a generic alternative. The NRC had considered rulemaking to alter the 60-year time for completing decommissioning and to clarify the use of engineered barriers for reactor entombments.[5]

The NRC's staff has recommended that rulemaking be deferred, based upon several factors, e.g., no licensee has committed to pursuing the option, disposition of certain waste forms, effectiveness of engineering barriers, and the NRC's current priorities, at least until after the additional research studies are complete. The NRC concurred with the staff's recommendation.

In 1996, the NRC published revisions to the general requirements for decommissioning nuclear power plants.[6] When the decommissioning regulations were adopted in 1988, it was assumed that the majority of licensees would operate for their full licensed life. However, shortly after the regulations were enacted, several licensees permanently and prematurely ceased operations. Exemptions from certain operating requirements were required once the reactor was defueled to facilitate the decommissioning. Each case was handled individually, without clearly defined generic requirements. The NRC amended the decommissioning regulations in 1996 to clarify

ambiguities and codify procedures and terminology as a means of enhancing efficiency and uniformity in the decommissioning process. The amendments allow for greater public participation and better define the transition process from operations to decommissioning.

Under the revised regulations, licensees will submit written certification to the NRC within 30 days after the decision to cease operations. Certification will also be required once the fuel is permanently removed from the reactor vessel. Submittal of these notices will entitle the licensee to a fee reduction and eliminate the obligation to follow certain requirements needed only during operation of the reactor. Within two years of submitting notice of permanent cessation of operations, the licensee is required to submit a Post-Shutdown Decommissioning Activities Report (PSDAR) to the NRC. The PSDAR describes the planned decommissioning activities, the associated sequence and schedule, and an estimate of expected costs. Prior to completing decommissioning, the licensee is required to submit an application to the NRC to terminate the license, which will include a license termination plan (LTP).

1.3.1 Nuclear Waste Policy Act

Congress passed the "Nuclear Waste Policy Act"[7] (NWPA) in 1982, assigning the federal government's long-standing responsibility for disposal of the spent nuclear fuel and high level radioactive waste created by the commercial nuclear generating plants to the DOE. The NWPA provided that DOE would enter into contracts with utilities in which DOE would promise to take the utilities' spent fuel and high-level radioactive waste and utilities would pay the cost of the disposition services for that material. The NWPA, along with the individual contracts with the utilities, specified that the DOE was to begin accepting spent fuel by January 31, 1998.

Since the original legislation, the DOE has announced several delays in the program schedule. By January 1998, the DOE had failed to accept any spent fuel or high level waste, as required by the NWPA and utility contracts. Delays continue and, as a result, generators have initiated legal action against the DOE in an attempt to obtain compensation for DOE's breach of contract.

A federal appeals court has ruled that DOE's obligation to take possession of spent nuclear fuel is unconditional and cannot be excused either by the absence of a repository or by a claim of unavoidable delay. FPL filed a lawsuit in 2004 claiming damages for DOE's failure to perform as originally prescribed in the standard disposal contract.

On March 31, 2009, FPL executed a Settlement Agreement with the DOE and the Department of Justice (DoJ). In the Agreement, FPL settled the lawsuit in exchange for payments. The payments are intended to cover those costs incurred for managing and storing the spent fuel that it would not have incurred but for DOE's delay in performance.

While the DOE is responsible for the costs incurred until it fulfills its obligation, certain assumptions are needed to assess the financial impact on the identified decommissioning cost scenarios. The assumptions and methodology employed to quantify the expected level of compensation are outlined in Section 3.8.

It is generally necessary that spent fuel be cooled and stored for a minimum period at the generating site prior to transfer. As such, the NRC requires that licensees establish a program to manage and provide funding for the management of all irradiated fuel at the reactor site until title of the fuel is transferred to the Secretary of Energy, pursuant to 10 CFR Part 50.54(bb).[8] This funding requirement is fulfilled through inclusion of certain cost elements in the decommissioning estimates, for example, expansion and operation of the Independent Spent Fuel Storage Facility (ISFSI) subsequent to plant shutdown, and continued operation of the spent fuel pools.

The spent fuel pools are expected to contain freshly discharged assemblies (from the most recent refueling cycles) as well as the final reactor core at shutdown. Over the following five and one half years the assemblies are packaged into DOE-provided multi-purpose canisters (MPCs) for transfer to the DOE or in dry-shielded canisters (DSCs) for interim storage at the ISFSI. It is assumed that this period provides the necessary cooling for the final core to meet the transport and/or storage requirements for decay heat.

DOE's contracts with utilities order the acceptance of spent fuel from utilities based upon the oldest fuel receiving the highest priority. [While DOE's acceptance priority ranking is based on the date that spent nuclear fuel was permanently discharged, with the oldest spent nuclear fuel, on an industry-wide basis, given the higher priority, the generator has the right to determine which spent nuclear fuel is delivered, provided that it is in compliance with the Standard Contract. DOE contracts also provide mechanisms for altering the oldest fuel first allocation scheme, including emergency deliveries, exchanges of allocations amongst utilities and the option of providing priority

acceptance from permanently shutdown nuclear reactors.] Because it is unclear how these mechanisms may operate once DOE begins accepting spent fuel from commercial reactors, this study conservatively assumes that DOE will accept spent fuel in an oldest fuel first order. For purposes of this analysis, the first assemblies removed from the St. Lucie site are conservatively assumed to be in 2032. With an estimated, maximum rate of transfer of 3,000 metric tons of uranium (MTU)/year, completion of the removal of fuel from the site is conservatively projected to be in the year 2073. Consequently, costs are included within the estimates for the long-term caretaking of the spent fuel at the St. Lucie site until the year 2073.

FPL's position is that the DOE has a contractual obligation to accept St. Lucie's fuel far 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. However, at this time, including the cost of storing spent fuel in this study is the most reasonable approach because it insures the availability of sufficient decommissioning funds at the end of the station's life if, contrary to its contractual obligation, the DOE has not performed earlier.

An ISFSI, which is operated under a general (10 CFR Part 50) license, has been constructed to support management of the spent fuel at the site until the DOE is able to complete the transfer to a federal repository. It is assumed that the ISFSI will be expanded subsequent to plant shutdown to support decommissioning operations. As such, the fuel that cannot be transferred directly to the DOE from the wet pools is packaged for interim storage at the ISFSI. This will allow decommissioning to continue on the nuclear units.

1.3.2 Low-Level Radioactive Waste Acts

The contaminated and activated material generated in the decontamination and dismantling of a commercial nuclear reactor is classified as low-level (radioactive) waste, although not all of the material is suitable for "shallow-land" disposal. With the passage of the "Low-Level Radioactive Waste Policy Act" in 1980,[9] and its Amendments of 1985,[10] the states became ultimately responsible for the disposition of low-level radioactive waste generated within their own borders. However, with the exception of Texas (which has issued a license for a new facility), no new compact facilities have been successfully sited, licensed, and constructed.

In past studies, there were two facilities available to FPL for the disposal of low-level radioactive waste generated by St. Lucie. As of July 1, 2008, however, the facility in Barnwell, South Carolina was closed to generators outside the Atlantic Compact (comprised of the states of Connecticut, New Jersey and South Carolina). This leaves the facility in Clive, Utah, operated by EnergySolutions, as the only currently available destination for low-level radioactive waste requiring controlled disposal, until the construction of Waste Control Specialist's facility in Andrews County, Texas, is complete.

For the purpose of this analysis, the EnergySolutions' facility is used as the basis for estimating the disposal cost for the majority of the radioactive waste (Class A [11]). EnergySolutions does not have a license to dispose of the more highly radioactive waste (Classes B and C), for example, generated in the dismantling of the reactor vessel. As a proxy, the disposal cost for this material is based upon the last published rate schedule for non-compact waste for the Barnwell facility, adjusted for escalation of the Atlantic Compact rates.

The dismantling of the components residing closest to the reactor core generates radioactive waste that may be considered unsuitable for shallow-land disposal (i.e., low-level radioactive waste with concentrations of radionuclides that exceed the limits established by the NRC for Class C radioactive waste (GTCC)). The Low-Level Radioactive Waste Policy Amendments Act of 1985 assigned the federal government the responsibility for the disposal of this GTCC material. The Act also stated that the beneficiaries of the activities resulting in the generation of such radioactive waste bear all reasonable costs of disposing of such waste. However, to date, the federal government has not identified a cost for disposing of GTCC or a schedule for acceptance. For purposes of this estimate, the GTCC radioactive waste has been assumed to be packaged and disposed of as high-level waste, at a cost equivalent to that envisioned for the spent fuel.

For purposes of this analysis, GTCC is packaged in the same canisters that are designated for the disposal of spent fuel (modified for the different waste form). The GTCC material is stored with the spent fuel at the ISFSI in the DECON scenario and shipped at the conclusion of the spent fuel transfer process. GTCC is shipped as it is generated in the SAFSTOR scenario since it occurs after the fuel has been removed from the site.

A significant portion of the waste material generated during decommissioning may only be potentially contaminated by radioactive materials. This waste can be analyzed on site or shipped off site to licensed facilities for further analysis, for processing and/or for conditioning/recovery. Reduction in the volume of low-level radioactive waste requiring disposal in a licensed low-level radioactive waste disposal facility can be accomplished through a variety of methods, including analyses and surveys or decontamination to eliminate the portion of waste that does not require disposal as radioactive waste, compaction, incineration or metal melt. The estimates for St. Lucie reflect the savings from waste recovery/volume reduction.

1.3.3 Radiological Criteria for License Termination

In 1997, the NRC published Subpart E, "Radiological Criteria for License Termination,"[12] amending 10 CFR Part 20. This subpart provides radiological criteria for releasing a facility for unrestricted use. The regulation states that the site can be released for unrestricted use if radioactivity levels are such that the average member of a critical group would not receive a Total Effective Dose Equivalent (TEDE) in excess of 25 millirem per year, and provided that residual radioactivity has been reduced to levels that are As Low As Reasonably Achievable (ALARA). The decommissioning estimates assume that the St. Lucie site will be remediated to a residual level consistent with the NRC-prescribed level. It should be noted that the NRC and the Environmental Protection Agency (EPA) differ on the amount of residual radioactivity considered acceptable in site remediation. The EPA has two limits that apply to radioactive materials. An EPA limit of 15 millirem per year is derived from criteria established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund).[13] An additional and separate limit of 4 millirem per year, as defined in 40 CFR §141.16, is applied to drinking water.[14]

On October 9, 2002, the NRC signed an agreement with the EPA on the radiological decommissioning and decontamination of NRC-licensed sites. The Memorandum of Understanding (MOU)[15] provides that EPA will defer exercise of authority under CERCLA for the majority of facilities decommissioned under NRC authority. The MOU also includes provisions for NRC and EPA consultation for certain sites when, at the time of license termination, (1) groundwater contamination exceeds EPA-permitted levels; (2) NRC contemplates restricted release of the site; and/or (3) residual radioactive soil concentrations exceed levels defined in the MOU.

The MOU does not impose any new requirements on NRC licensees and should reduce the involvement of the EPA with NRC licensees who are decommissioning. Most sites are expected to meet the NRC criteria for unrestricted use, and the NRC believes that only a few sites will have groundwater or soil contamination in excess of the levels specified in the MOU that trigger consultation with the EPA. However, if there are other hazardous materials on the site, the EPA may be involved in the cleanup. As such, the possibility of dual regulation remains for certain licensees. The present study does not include any costs for this occurrence.

2. DECOMMISSIONING ALTERNATIVES

Detailed cost estimates were developed to decommission St. Lucie based upon the approved decommissioning alternatives: DECON and SAFSTOR. Although the alternatives differ with respect to technique, process, cost, and schedule, they attain the same result: the ultimate release of the site for unrestricted use.

Two decommissioning scenarios were evaluated for the St. Lucie nuclear units. In both instances a 60-year operating life was assumed. The scenarios selected are representative of alternatives available to the owner and are defined as follows:

1. DECON: The operating licenses for Units 1 and 2 currently expire in March 2036 and April 2043, respectively. The first scenario assumes that decommissioning activities at the two units are sequenced and integrated so as to minimize the total duration of the physical dismantling processes. As such, Unit 1 is placed into an abbreviated period of safe-storage until Unit 2 completes its operations. Decontamination and dismantling activities at Unit 1 begin shortly after decommissioning operations commence at Unit 2 and follow a similar dismantling sequence. Any residual spent fuel is transferred to the ISFSI so as to facilitate decontamination and dismantling activities within the fuel handling buildings. Spent fuel storage operations continue at the site until the transfer of the fuel to the DOE is complete, assumed to be in the year 2073.

2. SAFSTOR: The units are placed into safe-storage shortly after the permanent cessation of operations and defueling. Spent fuel remaining in the spent fuel storage pools after a minimum cooling period is transferred to the ISFSI for interim storage, consistent with the DECON spent fuel management plan. Decommissioning is deferred beyond the fuel storage period to the maximum extent possible; termination of the licenses would conclude within the required 60-year period. As with the DECON scenario, decommissioning activities at the two units are sequenced and integrated so as to minimize the total duration of the physical dismantling processes.

The following sections describe the basic activities associated with each alternative. Although detailed procedures for each activity identified are not provided, and the actual sequence of work may vary, the activity descriptions provide a basis not only for estimating but also for the expected scope of work, i.e., engineering and planning at the time of decommissioning.

The conceptual approach that the NRC has described in its regulations divides decommissioning into three phases. The initial phase commences with the effective date of permanent cessation of operations and involves the transition of both plant

and licensee from reactor operations (i.e., power production) to facility de-activation and closure. During the first phase, notification is to be provided to the NRC certifying the permanent cessation of operations and the removal of fuel from the reactor vessel. The licensee is then prohibited from reactor operation.

The second phase encompasses activities during the storage period or during major decommissioning activities, or a combination of the two. The third phase pertains to the activities involved in license termination. The decommissioning estimates developed for St. Lucie are also divided into phases or periods; however, demarcation of the phases is based upon major milestones within the project or significant changes in the projected expenditures.

2.1 DECON

The DECON alternative, as defined by the NRC, is "the alternative in which the equipment, structures, and portions of a facility and site containing radioactive contaminants are removed or decontaminated to a level that permits the property to be released for unrestricted use shortly after cessation of operations." This study does not address the cost to dispose of the spent fuel residing at the site; such costs are funded through a surcharge on electrical generation. However, the study does estimate the costs incurred with the interim on-site storage of the fuel pending shipment by the DOE to an off-site disposal facility.

2.1.1 Period 1 - Preparations

In anticipation of the cessation of plant operations, detailed preparations are undertaken to provide a smooth transition from plant operations to site decommissioning. Through implementation of a staffing transition plan, the organization required to manage the intended decommissioning activities is assembled from available plant staff and outside resources. Preparations include the planning for permanent defueling of the reactor, revision of technical specifications applicable to the operating conditions and requirements, a characterization of the facility and major components, and the development of the PSDAR.

Engineering and Planning

The PSDAR, required within two years of the notice to cease operations, provides a description of the licensee's planned decommissioning activities, a timetable, and the associated financial requirements of the intended decommissioning program. Upon receipt of the PSDAR, the

NRC will make the document available to the public for comment in a local hearing to be held in the vicinity of the reactor site. Ninety days following submittal and NRC receipt of the PSDAR, the licensee may begin to perform major decommissioning activities under a modified 10 CFR §50.59 procedure, i.e., without specific NRC approval. Major activities are defined as any activity that results in permanent removal of major radioactive components, permanently modifies the structure of the containment, or results in dismantling components (for shipment) containing GTCC, as defined by 10 CFR §61. Major components are further defined as comprising the reactor vessel and internals, large bore reactor coolant system piping, steam generators, and other large components that are radioactive. The NRC includes the following additional criteria for use of the §50.59 process in decommissioning. The proposed activity must not:

- foreclose release of the site for possible unrestricted use,
- significantly increase decommissioning costs,
- cause any significant environmental impact, or
- violate the terms of the licensee's existing license.

Existing operational technical specifications are reviewed and modified to reflect plant conditions and the safety concerns associated with permanent cessation of operations. The environmental impact associated with the planned decommissioning activities is also considered. Typically, a licensee will not be allowed to proceed if the consequences of a particular decommissioning activity are greater than that bounded by previously evaluated environmental assessments or impact statements. In this instance, the licensee would have to submit a license amendment for the specific activity and update the environmental report.

The decommissioning program outlined in the PSDAR will be designed to accomplish the required tasks within the ALARA guidelines (as defined in 10 CFR §20) for protection of personnel from exposure to radiation hazards. It will also address the continued protection of the health and safety of the public and the environment during the dismantling activity. Consequently, with the development of the PSDAR, activity specifications, cost-benefit and safety analyses, and work packages and procedures, would be assembled to support the proposed decontamination and dismantling activities.

Site Preparations

Following final plant shutdown, and in preparation for actual decommissioning activities, the following activities are initiated:

- Characterization of the site and surrounding environs. This includes radiation surveys of work areas, major components (including the reactor vessel and its internals), internal piping, and primary shield cores.
- Isolation of the spent fuel storage pools and fuel handling systems, such that decommissioning operations can commence on the balance of the plant. The pools will remain operational for approximately five and one half years following the cessation of operations before the inventory resident in the core at shutdown can be transferred to the DOE or to the ISFSI for interim storage.
- Specification of transport and disposal requirements for activated materials and/or hazardous materials, including shielding and waste stabilization.
- Development of procedures for occupational exposure control, control and release of liquid and gaseous effluent, processing of radwaste (including dry-active waste, resins, filter media, metallic and non-metallic components generated in decommissioning), site security and emergency programs, and industrial safety.

The DECON cost model for Unit 1 uses the nomenclature of the SAFSTOR alternative to accommodate the seven year offset in unit shutdown dates and the inclusion of a delay in the start of Unit 1 decommissioning. As such, Period 2, for Unit 1, is an abbreviated period of storage, awaiting the cessation of operations at Unit 2. During this period the fuel is offloaded from the Unit 1 storage pool to either the DOE or the ISFSI. Essential systems (to future decommissioning operations) are maintained and operational waste inventories processed during this period. Period 2 is followed by preparations to reactivate the unit for decontamination and dismantling, referred to as Period 3 for purposes of the cost model. The activities in Periods 4 and 5 for Unit 1 are identical to those delineated in Period 2 and Period 3 below with the exception of any defueling activities that have already been performed at Unit 1.

2.1.2 Period 2 - Decommissioning Operations

This period includes the physical decommissioning activities associated with the removal and disposal of contaminated and activated components and structures, including the amendment of the 10 CFR §50 operating license(s) to release the remediated property for unrestricted use. Significant decommissioning activities in this phase include:

- Construction of temporary facilities and/or modification of existing facilities to support dismantling activities. This may include a centralized processing area to facilitate equipment removal and component preparations for off-site disposal.
- Reconfiguration and modification of site structures and facilities as needed to support decommissioning operations. This may include the upgrading of roads (on- and off-site) to facilitate hauling and transport. Modifications may be required to the containment structure to facilitate access of large/heavy equipment. Modifications may also be required to the refueling area of the building to support the segmentation of the reactor vessel internals and component extraction.
- Design and fabrication of temporary and permanent shielding to support removal and transportation activities, construction of contamination control envelopes, and the procurement of specialty tooling.
- Procurement (lease or purchase) of shipping canisters, shielded cask liners, and industrial packages.
- Decontamination of components and piping systems as required to control (minimize) worker exposure.
- Removal of piping and components no longer essential to support decommissioning operations.
- Removal of control rod drive housings and the head service structure from reactor vessel head.
- Removal and segmentation of the upper internals assemblies. Segmentation will maximize the loading of the shielded transport casks, i.e., by weight and activity. The operations are conducted under water using remotely operated tooling and contamination controls.
- Disassembly and segmentation of the remaining reactor internals, including the core shroud and lower core support assembly. Some material is expected to exceed Class C disposal requirements. As

such, the segments will be packaged in modified fuel storage canisters for geologic disposal.

- Segmentation of the reactor vessel. A shielded platform is installed for segmentation as cutting operations are performed in-air using remotely operated equipment within a contamination control envelope. The water level is maintained just below the cut to minimize the working area dose rates. Segments are transferred in-air to containers that are stored under water, for example, in an isolated area of the refueling canal.
- Removal of the activated portions of the concrete biological shield and accessible contaminated concrete surfaces. If dictated by the steam generator and pressurizer removal scenarios, those portions of the associated cubicles necessary for access and component extraction are removed.
- Removal of the steam generators and pressurizer for material recovery and controlled disposal. The generators will be moved to an on-site processing center, the steam domes removed and the internal components segregated for recycling. The lower shell and tube bundle will be packaged for direct disposal. These components can serve as their own burial containers provided that all penetrations are properly sealed and the internal contaminants are stabilized, e.g., with grout. Steel shielding will be added, as necessary, to those external areas of the package to meet transportation limits and regulations.

At least two years prior to the anticipated date of the completion of the remediation process, an LTP is required. Submitted as a supplement to the Final Safety Analysis Report (FSAR) or its equivalent, the plan must include: a site characterization, description of the remaining dismantling activities, plans for site remediation, procedures for the final radiation survey, designation of the end use of the site, an updated cost estimate to complete the decommissioning, and any associated environmental concerns. The NRC will notice the receipt of the plan, make the plan available for public comment, and schedule a local hearing. LTP approval will be subject to any conditions and limitations as deemed appropriate by the NRC. The licensee may then commence with the final remediation of site facilities and services, including:

- Removal of remaining plant systems and associated components as they become nonessential to the decommissioning program or worker health and safety (e.g., waste collection and treatment systems, electrical power and ventilation systems).

- Removal of the steel liners from refueling canal, disposing of the activated and contaminated sections as radioactive waste. Removal of any activated/ contaminated concrete.
- Surveys of the decontaminated areas of the containment structure.
- Remediation and removal of the contaminated equipment and material from the auxiliary and fuel buildings and any other contaminated facility. Radiation and contamination controls will be utilized until residual levels indicate that the structures and equipment can be released for unrestricted access and conventional demolition. This activity may necessitate the dismantling and disposition of most of the systems and components (both clean and contaminated) located within these buildings. This activity facilitates surface decontamination and subsequent verification surveys required prior to obtaining release for demolition.
- Routing of material removed in the decontamination and dismantling to a central processing area. Material certified to be free of contamination is released for unrestricted disposition, e.g., as scrap, recycle, or general disposal. Contaminated material is characterized and segregated for additional off-site processing (disassembly, chemical cleaning, volume reduction, and waste treatment), and/or packaged for controlled disposal at a low-level radioactive waste disposal facility.

Incorporated into the LTP is the Final Survey Plan. This plan identifies the radiological surveys to be performed once the decontamination activities are completed and is developed using the guidance provided in the "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)."[16] This document incorporates the statistical approaches to survey design and data interpretation used by the EPA. It also identifies commercially available instrumentation and procedures for conducting radiological surveys. Use of this guidance ensures that the surveys are conducted in a manner that provides a high degree of confidence that applicable NRC criteria are satisfied. Once the survey is complete, the results are provided to the NRC in a format that can be verified. The NRC then reviews and evaluates the information, performs an independent confirmation of radiological site conditions, and makes a determination on the requested change to the operating license (that would release the property, exclusive of the ISFSI, for unrestricted use).

The NRC will amend the operating license(s) if it determines that site remediation has been performed in accordance with the LTP, and that

the terminal radiation survey and associated documentation demonstrate that the facility is suitable for release.

2.1.3 Period 3 - Site Restoration

Following completion of decommissioning operations, site restoration activities will begin. Efficient removal of the contaminated materials and verification that residual radionuclide concentrations are below the NRC limits will result in substantial damage to many of the structures. Although performed in a controlled, safe manner, blasting, coring, drilling, scarification (surface removal), and the other decontamination activities will substantially degrade power block structures including the reactor, auxiliary, radwaste warehouse and fuel buildings. Under certain circumstances, verifying that subsurface radionuclide concentrations meet NRC site release requirements will require removal of grade slabs and lower floors, potentially weakening footings and structural supports. This removal activity will be necessary for those facilities and plant areas where historical records, when available, indicate the potential for radionuclides having been present in the soil, where system failures have been recorded, or where it is required to confirm that subsurface process and drain lines were not breached over the operating life of the station.

Prompt dismantling of site structures is clearly the most appropriate and cost-effective option. It is unreasonable to anticipate that these structures would be repaired and preserved after the radiological contamination is removed. The cost to dismantle site structures with a work force already mobilized on site is more efficient than if the process were deferred. Site facilities quickly degrade without maintenance, adding additional expense and creating potential hazards to the public as well as to future workers. Abandonment creates a breeding ground for vermin infestation as well as other biological hazards.

This cost study presumes that non-essential structures and site facilities are dismantled as a continuation of the decommissioning activity. Foundations and exterior walls are removed to a nominal depth of three feet below grade. The three-foot depth allows for the placement of gravel for drainage, as well as topsoil, so that vegetation can be established for erosion control. Site areas affected by the dismantling activities are restored and the plant area graded as required to prevent ponding and inhibit the refloating of subsurface materials.

Non-contaminated concrete rubble produced by demolition activities is processed to remove reinforcing steel and miscellaneous embedments. The processed material is then used on site to backfill foundation voids. Excess non-contaminated materials are trucked to an off-site area for disposal as construction debris.

2.1.4 ISFSI Operations and Decommissioning

The ISFSI will continue to operate under a general license (10 CFR §50) following the amendment of the operating license(s) to release the adjacent property. Assuming the DOE starts accepting fuel from the St. Lucie spent fuel storage pools in 2032, transfer of spent fuel from the ISFSI is anticipated to begin in 2049, and continue through the year 2073.

At the conclusion of the spent fuel transfer process, the ISFSI will be decommissioned. The NRC will terminate the §50 license when it determines that the remediation of the ISFSI has been performed in accordance with an ISFSI license termination plan and that the final radiation survey and associated documentation demonstrate that the facility is suitable for release. Once the requirements are satisfied, the NRC can terminate the license for the ISFSI.

Spent fuel is stored on the ISFSI in multi-purpose canisters, with a concrete overpack. For purposes of this cost analysis, it is assumed that once the inner canisters containing the spent fuel assemblies have been removed, any required decontamination performed on the storage overpack (some minor activation is assumed), and the license for the facility terminated, the concrete overpacks can be dismantled using conventional techniques for the demolition of reinforced concrete. The concrete storage pad is then removed and the area regraded.

2.2 SAFSTOR

The NRC defines SAFSTOR as "the alternative in which the nuclear facility is placed and maintained in a condition that allows the nuclear facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use." The facility is left intact (during the dormancy period), with structures maintained in a sound condition. Systems that are not required to support the spent fuel pools or site surveillance and security are drained, de-energized, and secured. Minimal cleaning/removal of loose contamination and/or fixation and sealing of

remaining contamination are performed. Access to contaminated areas is secured to provide controlled access for inspection and maintenance.

The engineering and planning requirements are similar to those for the DECON alternative, although they are limited in scope with no large scale dismantling activities anticipated. Site preparations are also similar to those for the DECON alternative. However, with the exception of the required radiation surveys and site characterizations, the mobilization and preparation of site facilities is less extensive.

2.2.1 Period 1 - Preparations

Preparations for long-term storage include the planning for permanent defueling of the reactor, revision of technical specifications appropriate to the operating conditions and requirements, a characterization of the facility and major components, and the development of the PSDAR.

The process of placing the station in safe-storage includes, but is not limited to, the following activities:

- Isolating of the spent fuel storage services and fuel handling systems so that safe-storage operations may commence on the balance of the plant. This activity may be carried out by plant personnel in accordance with existing operating technical specifications. Activities are scheduled around the fuel handling systems to the greatest extent possible.
- Transferring of the spent fuel from the storage pools to the DOE or to the ISFSI for interim storage, following the minimum required cooling period in the spent fuel pools.
- Draining and de-energizing of the non-contaminated systems not required to support continued site operations or maintenance.
- Disposing of contaminated filter elements and resin beds not required for processing wastes from layup activities for future operations.
- Draining of the reactor vessel, with the internals left in place and the vessel head secured.
- Draining and de-energizing non-essential, contaminated systems with decontamination as required for future maintenance and inspection.

- Preparing lighting and alarm systems whose continued use is required; de-energizing portions of fire protection, electric power, and HVAC systems whose continued use is not required.
- Cleaning of the loose surface contamination from building access pathways.
- Performing an interim radiation survey of the plant, posting warning signs where appropriate.
- Erecting physical barriers and/or securing all access to radioactive or contaminated areas, except as required for inspection and maintenance.
- Installing security and surveillance monitoring equipment and relocating security fence around secured structures, as required.

2.2.2 Period 2 - Dormancy

The second phase identified by the NRC in its rule addresses licensed activities during a storage period and is applicable to the dormancy phases of the deferred decommissioning alternatives. Dormancy activities include a 24-hour security force, preventive and corrective maintenance on security systems, area lighting, general building maintenance, heating and ventilation of buildings, routine radiological inspections of contaminated structures, maintenance of structural integrity, and a site environmental and radiation monitoring program. Resident maintenance personnel perform equipment maintenance, inspection activities, routine services to maintain safe conditions, adequate lighting, heating, and ventilation, and periodic preventive maintenance on essential site services.

An environmental surveillance program is carried out during the dormancy period to ensure that releases of radioactive material to the environment are prevented and/or detected and controlled. Appropriate emergency procedures are established and initiated for potential releases that exceed prescribed limits. The environmental surveillance program constitutes an abbreviated version of the program in effect during normal plant operations.

Security during the dormancy period is conducted primarily to prevent unauthorized entry and to protect the public from the consequences of its own actions. The security fence, sensors, alarms, and other surveillance equipment provide security. Fire and radiation alarms are also monitored and maintained.

Consistent with the DECON alternative, the spent fuel storage pools are emptied within five and one half years of the cessation of operations. The transfer of the spent fuel to the DOE continues throughout the dormancy period until completed in 2073. Once emptied, the ISFSI is secured for storage and decommissioned along with the power block structures in Period 4.

After a period of storage (such that license termination is accomplished within 60 years of final shutdown), it is required that the licensee submit an application to terminate the license, along with an LTP (described in Section 2.1.2), thereby initiating the third phase.

2.2.3 Periods 3 and 4 - Delayed Decommissioning

Prior to the commencement of decommissioning operations, preparations are undertaken to reactivate site services and prepare for decommissioning. Preparations include engineering and planning, a detailed site characterization, and the assembly of a decommissioning management organization. Final planning for activities and the writing of activity specifications and detailed procedures are also initiated at this time.

Much of the work in developing a termination plan is relevant to the development of the detailed engineering plans and procedures. The activities associated with this phase and the follow-on decontamination and dismantling processes are detailed in Sections 2.1.1 and 2.1.2. The primary difference between the sequences anticipated for the DECON and this deferred scenario is the absence, in the latter, of any constraint on the availability of the fuel storage facilities for decommissioning.

The additional decay time is not expected to significantly affect the quantities of radioactive wastes generated from system and structure removal operations. Given the levels of radioactivity and spectrum of radionuclides expected from sixty years of plant operation, no plant process system identified as being contaminated upon final shutdown will become releasable due to the decay period alone, i.e., there is no significant reduction in the waste generated from the decommissioning activities. However, due to the lower activity levels, a greater percentage of the waste volume can be designated for off-site processing and recovery.

The delay in decommissioning also yields lower working area radiation levels. As such, the estimates for this delayed scenario incorporate

reduced ALARA controls for the SAFSTOR's lower occupational exposure potential.

Although the initial radiation levels due to ^{60}Co will decrease during the dormancy period, the internal components of the reactor vessel will still exhibit sufficiently high radiation dose rates to require remote sectioning under water due to the presence of long-lived radionuclides such as ^{94}Nb, ^{59}Ni, and ^{63}Ni. Therefore, the dismantling procedures described for the DECON alternative would still be employed during this scenario. Portions of the biological shield wall will still be radioactive due to the presence of activated trace elements with long half-lives (^{152}Eu and ^{154}Eu). Decontamination will require controlled removal and disposal. It is assumed that radioactive corrosion products on inner surfaces of piping and components will not have decayed to levels that will permit unrestricted use or allow conventional removal. These systems and components will be surveyed as they are removed and disposed of in accordance with the existing radioactive release criteria.

2.2.4 Period 5 - Site Restoration

Following completion of decommissioning operations, site-restoration activities can begin. Dismantling, as a continuation of the decommissioning process, is clearly the most appropriate and cost-effective option, as described in Section 2.1.3. The basis for the dismantling cost in this scenario is consistent with that described for DECON, presuming the removal of structures and site facilities to a nominal depth of three feet below grade and the limited restoration of the site.

3. COST ESTIMATE

The cost estimates prepared for decommissioning St. Lucie consider the unique features of the site, including the NSSS, power generation systems, support services, site buildings, and ancillary facilities. The basis of the estimates, including the sources of information relied upon, the estimating methodology employed, site-specific considerations, and other pertinent assumptions, is described in this section.

3.1 BASIS OF ESTIMATE

The estimates were developed using the site-specific, technical information from the 2005 analysis. This information was reviewed for the current analysis and updated as deemed appropriate. The site-specific considerations and assumptions used in the previous evaluation were also revisited. Modifications were incorporated where new information was available or experience from ongoing decommissioning programs provided viable alternatives or improved processes.

3.2 METHODOLOGY

The methodology used to develop the estimates follows the basic approach originally presented in the AIF/NESP-036 study report, "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates,"[17] and the DOE "Decommissioning Handbook."[18] These documents present a unit factor method for estimating decommissioning activity costs, which simplifies the estimating calculations. Unit factors for concrete removal ($/cubic yard), steel removal ($/ton), and cutting costs ($/inch) are developed using local labor rates. The activity-dependent costs are estimated with the item quantities (cubic yards and tons), developed from plant drawings and inventory documents. Removal rates and material costs for the conventional disposition of components and structures rely upon information available in the industry publication, "Building Construction Cost Data," published by R.S. Means.[19]

The unit factor method provides a demonstrable basis for establishing reliable cost estimates. The detail provided in the unit factors, including activity duration, labor costs (by craft), and equipment and consumable costs, ensures that essential elements have not been omitted. Appendix A presents the detailed development of a typical unit factor. Appendix B provides the values contained within one set of factors developed for this analysis.

This analysis reflects lessons learned from TLG's involvement in the Shippingport Station Decommissioning Project, completed in 1989, as well as the decommissioning of the Cintichem reactor, hot cells, and associated facilities, completed in 1997. In addition, the planning and engineering for the Pathfinder, Shoreham, Rancho Seco, Trojan, Yankee Rowe, Big Rock Point, Maine Yankee, Humboldt Bay-3, Oyster Creek, Connecticut Yankee, and San Onofre-1 nuclear units have provided additional insight into the process, the regulatory aspects, and the technical challenges of decommissioning commercial nuclear units.

Work Difficulty Factors

TLG has historically applied work difficulty adjustment factors (WDFs) to account for the inefficiencies in working in a power plant environment. WDFs are assigned to each unique set of unit factors, commensurate with the inefficiencies associated with working in confined, hazardous environments. The ranges used for the WDFs are as follows:

- Access Factor 10% to 20%
- Respiratory Protection Factor 10% to 50%
- Radiation/ALARA Factor 10% to 37%
- Protective Clothing Factor 10% to 30%
- Work Break Factor 8.33%

The factors and their associated range of values were developed in conjunction with the AIF/NESP-036 study. The application of the factors is discussed in more detail in that publication.

Scheduling Program Durations

The unit factors, adjusted by the WDFs as described above, are applied against the inventory of materials to be removed in the radiological controlled areas. The resulting man-hours, or crew-hours, are used in the development of the decommissioning program schedule, using resource loading and event sequencing considerations. The scheduling of conventional removal and dismantling activities is based upon productivity information available from the "Building Construction Cost Data" publication.

An activity duration critical path is used to determine the total decommissioning program schedule. The schedule is relied upon in calculating the carrying costs, which include program management, administration, field

engineering, equipment rental, and support services such as quality control and security. This systematic approach for assembling decommissioning estimates ensures a high degree of confidence in the reliability of the resulting costs.

3.3 IMPACT OF DECOMMISSIONING MULTIPLE REACTOR UNITS

In estimating the near simultaneous decommissioning of two co-located reactor units there can be opportunities to achieve economies of scale, by sharing costs between units, and coordinating the sequence of work activities. There will also be schedule constraints, particularly where there are requirements for specialty equipment and staff, or practical limitations on when final status surveys can take place. For purposes of the estimates, Units 1 and 2 are assumed to be essentially identical. Common facilities have been assigned to Unit 2. A summary of the principal impacts are listed below.

- The sequence of work generally follows the principal that the work is done at Unit 2 first, followed by similar work at Unit 1. This permits the experience gained at Unit 2 to be applied by the workforce at the second unit. It should be noted however, that the estimates do not consider productivity improvements at the second unit, since there is little documented experience with decommissioning two units simultaneously. The work associated with developing activity specifications and procedures can, however, be considered essentially identical between the two units, therefore the second unit costs are assumed to be a fraction of the first unit (e.g., ~ 43% in DECON).
- Segmenting the reactor vessel and internals will require the use of special equipment. The decommissioning project will be scheduled such that Unit 1's reactor internals and vessel are segmented after the activities at Unit 2 have been completed, permitting the sharing of the cutting equipment.
- Some program management and support costs, particularly costs associated with the more senior positions, can be avoided with two reactors undergoing decommissioning simultaneously. As a result, the estimates are based on a "lead" unit that includes these senior positions, and a "second" unit that excludes these positions. The designation as lead is based on the unit undertaking the most complex tasks (for instance vessel segmentation) or performing tasks for the first time.
- The final radiological survey schedule is also affected by a two-unit decommissioning schedule. It would be considered impractical to try to complete the final status survey of Unit 2, while Unit 1 still has ongoing radiological remediation work and waste handling in process. As such, the transfer of the spent fuel from the storage pools and subsequent

decontamination of the fuel building is coordinated so as to synchronize the final status survey for the station.

- The final demolition of buildings at Units 1 and 2 are considered to take place concurrently.
- The first unit to enter decommissioning incurs the majority of site characterization costs.
- Shared systems and structures are generally assigned to Unit 2.
- Station costs such as emergency response fees, regulatory agency fees, corporate overhead, and insurance are generally allocated on an equal basis between the two units.
- Dormancy costs (to maintain the units in safe-storage) in the SAFSTOR scenario are allocated on an equal basis between the two units.

3.4 FINANCIAL COMPONENTS OF THE COST MODEL

TLG's proprietary decommissioning cost model, DECCER, produces a number of distinct cost elements. These direct expenditures, however, do not comprise the total cost to accomplish the project goal, i.e., license termination and site restoration.

Inherent in any cost estimate that does not rely on historical data is the inability to specify the precise source of costs imposed by factors such as tool breakage, accidents, illnesses, weather delays, and labor stoppages. In the DECCER cost model, contingency fulfills this role. Contingency is added to each line item to account for costs that are difficult or impossible to develop analytically. Such costs are historically inevitable over the duration of a job of this magnitude; therefore, this cost analysis includes funds to cover these types of expenses.

3.4.1 Contingency

The activity- and period-dependent costs are combined to develop the total decommissioning cost. A contingency is then applied on a line-item basis, using one or more of the contingency types listed in the AIF/NESP-036 study. "Contingencies" are defined in the American Association of Cost Engineers "Project and Cost Engineers' Handbook"[20] as "specific provision for unforeseeable elements of cost within the defined project scope; particularly important where previous experience relating estimates and actual costs has shown that unforeseeable events which will increase costs are likely to occur." The cost elements in this analysis are based upon ideal conditions and

maximum efficiency; therefore, consistent with industry practice, contingency is included. In the AIF/NESP-036 study, the types of unforeseeable events that are likely to occur in decommissioning are discussed and guidelines are provided for percentage contingency in each category. It should be noted that contingency, as used in this analysis, does not account for price escalation and inflation in the cost of decommissioning over the remaining operating life of the station.

Contingency funds are an integral part of the total cost to complete the decommissioning process. Exclusion of this component puts at risk a successful completion of the intended tasks and, potentially, subsequent related activities. For this study, TLG examined the major activity-related problems (decontamination, segmentation, equipment handling, packaging, transport, and waste disposal) that necessitate a contingency. Individual activity contingencies ranged from 10% to 75%, depending on the degree of difficulty judged to be appropriate from TLG's actual decommissioning experience. The contingency values used in this study are as follows:

• Decontamination	50%
• Contaminated Component Removal	25%
• Contaminated Component Packaging	10%
• Contaminated Component Transport	15%
• Low-Level Radioactive Waste Disposal	25%
• Reactor Segmentation	75%
• NSSS Component Removal	25%
• Reactor Waste Packaging	25%
• Reactor Waste Transport	25%
• Reactor Vessel Component Disposal	50%
• GTCC Disposal	15%
• Non-Radioactive Component Removal	15%
• Heavy Equipment and Tooling	15%
• Supplies	25%
• Engineering	15%
• Energy	15%
• Characterization and Termination Surveys	30%
• Construction	15%
• Taxes and Fees	10%
• Insurance	10%
• Staffing	15%

The contingency values are applied to the appropriate components of the estimates on a line item basis. A composite value is then reported at the end of each detailed estimate (as provided in Appendix C and D). For example, the composite contingency value reported for the decommissioning activity for the DECON alternative in Appendix C is approximately 17.5% and for the SAFSTOR alternative in Appendix D is approximately 16.7%.

3.4.2 Financial Risk

In addition to the routine uncertainties addressed by contingency, another cost element that is sometimes necessary to consider when bounding decommissioning costs relates to uncertainty, or risk. Examples can include changes in work scope, pricing, job performance, and other variations that could conceivably, but not necessarily, occur. Consideration is sometimes necessary to generate a level of confidence in the estimate, within a range of probabilities. TLG considers these types of costs under the broad term "financial risk." Included within the category of financial risk are:

- Transition activities and costs: ancillary expenses associated with eliminating 50% to 80% of the site labor force shortly after the cessation of plant operations, added cost for worker separation packages throughout the decommissioning program, national or company-mandated retraining, and retention incentives for key personnel.
- Delays in approval of the decommissioning plan due to intervention, public participation in local community meetings, legal challenges, and national and local hearings.
- Changes in the project work scope from the baseline estimate, involving the discovery of unexpected levels of contaminants, contamination in places not previously expected, contaminated soil previously undiscovered (either radioactive or hazardous material contamination), variations in plant inventory or configuration not indicated by the as-built drawings.
- Regulatory changes, for example, affecting worker health and safety, site release criteria, waste transportation, and disposal.
- Policy decisions altering national commitments (e.g., in the ability to accommodate certain waste forms for disposition), or in the timetable for such, for example, the start and rate of acceptance of spent fuel by the DOE.

- Pricing changes for basic inputs such as labor, energy, materials, and disposal. Items subject to widespread price competition (such as materials) may not show significant variation; however, others such as waste disposal could exhibit large pricing uncertainties, particularly in markets where limited access to services is available.

This cost study does not add any additional costs to the estimate for financial risk, since there is insufficient historical data from which to project future liabilities. Consequently, the areas of uncertainty or risk are revisited periodically and addressed through repeated revisions or updates of the base estimates.

3.5 SITE-SPECIFIC CONSIDERATIONS

There are a number of site-specific considerations that affect the method for dismantling and removal of equipment from the site and the degree of restoration required. The cost impact of the considerations identified below is included in this cost study.

3.5.1 Spent Fuel Management

The cost to dispose the spent fuel generated from plant operations is not reflected within the estimates to decommission St. Lucie. Ultimate disposition of the spent fuel is within the province of the DOE's Waste Management System, as defined by the Nuclear Waste Policy Act. As such, the disposal cost is financed by a 1 mill/kWhr surcharge paid into the DOE's waste fund during operations. However, the NRC requires licensees to establish a program to manage and provide funding for the management of all irradiated fuel at the reactor site until title of the fuel is transferred to the Secretary of Energy. This funding requirement is fulfilled through inclusion of certain high-level waste cost elements within the estimates, as described below.

Completion of the decommissioning process is highly dependent upon the DOE's ability to remove spent fuel from the site. The timing for removal of spent fuel from the site is based upon the DOE's most recently published annual acceptance rates of 400 MTU/year for year 1, 3,800 MTU total for years 2 through 4 and 3,000 MTU/year for year 5 and beyond. The DOE contracts provide mechanisms for altering the oldest fuel first allocation scheme, including emergency deliveries, exchanges of allocations amongst utilities and the option of providing priority acceptance from permanently shutdown nuclear reactors. Because it is unclear how these mechanisms may operate once DOE

begins accepting spent fuel from commercial reactors, this study assumes that DOE will accept spent fuel in an oldest fuel first order.

ISFSI

An ISFSI, which is operated under the plant's general license, has been constructed to support management of the spent fuel during operations. The facility is assumed to be available to support spent fuel management once the units cease operation, until the DOE is able to removal all spent fuel from the site.

The ISFSI will continue to operate throughout decommissioning, and beyond the termination of the operating license in the DECON decommissioning alternative, until such time that the transfer of spent fuel to the DOE can be completed. Assuming, conservatively, that DOE begins to remove spent fuel from the site in 2032, the process is expected to be completed by the year 2073. The scenario is similar for the SAFSTOR alternative; however, based upon the expected completion date for fuel transfer, the ISFSI will be emptied prior to the commencement of decommissioning operations.

Post-shutdown and maintenance costs for the spent fuel pools and the ISFSI are also included and address the cost for staffing the facility, as well as security, insurance, and licensing fees. Costs are provided for the final disposition of the facilities once the transfer is complete.

Canister Design

A Transnuclear NUHOMS®-32PT system (with a 32 fuel assembly capacity) is assumed for future acquisitions. For fuel transferred directly from the pools to the DOE, the DOE is assumed to provide Transport, Aging and Disposal (TAD) canisters with a 32 assembly capacity. DOE has not provided details about the TAD canisters other than assembly capacity.

Canister Loading and Transfer

The estimates include the cost for the labor and equipment to transfer and load each spent fuel canister into the DOE transport cask or to the ISFSI from the wet storage pools. Since the DOE has not published details about its cask system, this rough estimate is necessary. However, use of this estimate should not be used to infer that TLG has any detailed information on the cask system DOE will ultimately provide.

Operations and Maintenance

The estimates include the cost of operating and maintaining the spent fuel pools and the ISFSI, respectively. Pool operations are expected to continue approximately five and one half years after the cessation of operations. ISFSI operating costs are based upon a 30 year period of operations following the shutdown of Unit 2.

ISFSI Design Considerations

A multi-purpose (storage and transport) dry shielded storage canister (DSC) with a horizontal storage module (HSM) is used as a basis for the cost analyses. The HSMs are assumed to have some level of neutron-induced activation as a result of the long-term storage of the fuel, i.e., to levels exceeding free-release limits. The cost of the disposition of this material, as well as the demolition of the ISFSI facility, is included in the estimates.

GTCC

The dismantling of the reactor internals may generate radioactive waste considered unsuitable for shallow land disposal (i.e., low-level radioactive waste with concentrations of radionuclides that exceed the limits established by the NRC for Class C radioactive waste (GTCC)). The Low-Level Radioactive Waste Policy Amendments Act of 1985 assigned the federal government the responsibility for the disposal of this material. The Act also stated that the beneficiaries of the activities resulting in the generation of such radioactive waste bear all reasonable costs of disposing of such waste. Although the DOE is responsible for disposing of GTCC waste, any costs for that service have not been determined. For purposes of this estimate, the GTCC radioactive waste is assumed to be packaged and disposed of as high-level waste, at a cost equivalent to that envisioned for the spent fuel.

For purposes of this study, GTCC is packaged in the same canisters used to store spent fuel. Disposal costs are based upon a cost equivalent to that envisioned for the spent fuel. It is not anticipated that the DOE would accept this waste prior to completing the transfer of spent fuel. Therefore, until such time the DOE is ready to accept GTCC waste, it is reasonable to assume that this material would remain in storage at the St. Lucie site (for the DECON alternative). In the SAFSTOR alternative, the GTCC material is shipped directly to a DOE facility as it is removed

since spent the fuel will have been removed from the site prior to the start of decommissioning.

The estimates also include an additional GTCC canister (per unit) to accommodate the highly-activated legacy waste currently being stored in baskets in the spent fuel pool.

3.5.2 Reactor Vessel and Internal Components

The reactor pressure vessel and internal components are segmented for disposal in shielded, reusable transportation casks. Segmentation is performed in the refueling canal, where a turntable and remote cutter are installed. The vessel is segmented in place, using a mast-mounted cutter supported off the lower head and directed from a shielded work platform installed overhead in the reactor cavity. Transportation cask specifications and transportation regulations dictate the segmentation and packaging methodology.

Intact disposal of reactor vessel shells has been successfully demonstrated at several of the sites that have been decommissioned. Access to navigable waterways has allowed these large packages to be transported, in most instances, to the Barnwell disposal site in South Carolina with minimal overland travel.

Intact disposal of the reactor vessel and internal components can provide additional savings in cost and worker exposure by eliminating the complex segmentation requirements, isolation of the GTCC material, and transport/storage of the resulting waste packages. Portland General Electric (PGE) was able to dispose of the Trojan reactor as an intact package (including the internals). However, its location on the Columbia River simplified the transportation analysis since:

- the reactor package could be secured to the transport vehicle for the entire journey, i.e., the package was not lifted during transport,
- there were no man-made or natural terrain features between the plant site and the disposal location that could produce a large drop, and
- transport speeds were very low, limited by the overland transport vehicle and the river barge.

As a member of the Northwest Compact, PGE had a site available for disposal of the package - the US Ecology facility in Washington State. The characteristics of this arid site proved favorable in demonstrating compliance with land disposal regulations.

It is not known whether intact disposal (of the vessel shell or the complete vessel and internals) will be available when the St. Lucie plant ceases operation. Future viability of this option will depend upon the ultimate location of the disposal site, as well as the disposal site licensee's ability to accept highly radioactive packages and effectively isolate them from the environment. Consequently, this study assumes that the reactor vessel will require segmentation, as a bounding condition.

3.5.3 Primary System Components

In the DECON alternative, the reactor coolant system components are assumed to be decontaminated using chemical agents prior to the start of dismantling operations. This type of decontamination can be expected to have a significant ALARA impact, since in this scenario the removal work is done within the first few years of shutdown. A decontamination factor (average reduction) of 10 is assumed for the process. Disposal of the decontamination solution effluent is included within the estimate as a "process chemical waste" charge. In the SAFSTOR alternative, radionuclide decay is expected to provide the same benefit and, therefore, a chemical decontamination is not included.

The following discussion deals with the removal and disposition of the steam generators, but the techniques involved are also applicable to other large components, such as heat exchangers, component coolers, and the pressurizer. The steam generators' size and weight, as well as their location within the reactor building, will ultimately determine the removal strategy.

A trolley crane is set up for the removal of the generators. It can also be used to move portions of the steam generator cubicle walls and floor slabs from the reactor building to a location where they can be decontaminated and transported to the material handling area. Interferences within the work area, such as grating, piping, and other components are removed to create sufficient laydown space for processing these large components.

The generators are rigged for removal, disconnected from the surrounding piping and supports, and maneuvered into the open area where they are lowered onto a dolly. Each generator is rotated into the horizontal position for extraction from the containment and placed onto a multi-wheeled vehicle for transport to an on-site processing and storage area.

The generators are disassembled on-site with the steam domes and lightly contaminated subassemblies designated for off-site recycling. For cost estimating purposes, the more highly contaminated lower assembly containing the tube sheet and tube bundle are packaged for direct disposal, although additional processing may be an option. The interior volume is filled with low-density cellular concrete for stabilization of the internal contamination. Each component is then loaded onto a barge for transport to a railhead. The steam generators are then transferred to a dedicated train for transport to the disposal facility.

The original steam generators and reactor closure heads have been replaced at both units (along with the Unit 1 pressurizer and a Unit 2 reactor coolant pump motor). The replaced components have been shipped off-site for controlled disposal and are therefore not addressed in this analysis.

Reactor coolant piping is cut from the reactor vessel once the water level in the vessel (used for personnel shielding during dismantling and cutting operations in and around the vessel) is dropped below the nozzle zone. The piping is boxed and transported by shielded van. The reactor coolant pumps and motors are lifted out intact, packaged, and transported for processing and/or disposal.

3.5.4 Main Turbine and Condenser

The main turbine is dismantled using conventional maintenance procedures. The turbine rotors and shafts are removed to a laydown area. The lower turbine casings are removed from their anchors by controlled demolition. The main condensers are also disassembled and moved to a laydown area. Material is then prepared for transportation to an off-site recycling facility where it is surveyed and designated for either decontamination or volume reduction, conventional disposal, or controlled disposal. Components are packaged and readied for transport in accordance with the intended disposition.

3.5.5 Transportation Methods

Contaminated piping, components, and structural material other than the highly-activated reactor vessel and internal components will qualify as LSA-I, II or III or Surface Contaminated Object, SCO-I or II, as described in Title 49 of the Code of Federal Regulations.[21] The contaminated material will be packaged in Industrial Packages (IP-1, IP-2, or IP-3, as defined in 49 CFR 173.411) for transport unless demonstrated to qualify as their own shipping containers. The reactor vessel and internal components are expected to be transported in accordance with 10 CFR Part 71, as Type B. It is conceivable that the reactor, due to its limited specific activity, could qualify as LSA II or III. However, the high radiation levels on the outer surface would require that additional shielding be incorporated within the packaging so as to attenuate the dose to levels acceptable for transport.

Any fuel cladding failure that occurred during the lifetime of the plant is assumed to have released fission products at sufficiently low levels that the buildup of quantities of long-lived isotopes (e.g., ^{137}Cs, ^{90}Sr, or transuranics) has been prevented from reaching levels exceeding those that permit the major reactor components to be shipped under current transportation regulations and disposal requirements.

Transport of the highly-activated metal, produced in the segmentation of the reactor vessel and internal components, will be by shielded truck cask. Cask shipments may exceed 95,000 pounds, including vessel segment(s), supplementary shielding, cask tie-downs, and tractor-trailer. The maximum level of activity per shipment assumed permissible was based upon the license limits of the available shielded transport casks. The segmentation scheme for the vessel and internal segments is designed to meet these limits.

The transport of large intact components (e.g., large heat exchangers and other oversized components) will be by a combination of truck, barge, rail, and/or multi-wheeled transporter.

Transportation costs for material requiring controlled disposal are based upon the mileage to EnergySolutions' facility in Clive, Utah. Transportation costs for off-site waste processing are based upon the mileage to Oak Ridge, Tennessee. Truck transport costs are estimated using published tariffs from Tri-State Motor Transit.[22]

Contaminated soil is moved by truck to the nearest rail siding where it is loaded onto rail cars for transport to Utah. The waste containers, once emptied, are returned to the St. Lucie site for reuse.

3.5.6 Low-Level Radioactive Waste Disposal

To the greatest extent practical, metallic material generated in the decontamination and dismantling processes is processed to reduce the total cost of controlled disposal. Material meeting the regulatory and/or site release criterion, is released as scrap, requiring no further cost consideration. Conditioning (preparing the material to meet the waste acceptance criteria of the disposal site) and recovery of the waste stream is performed off site at a licensed processing center. Any material leaving the site is subject to a survey and release charge, at a minimum.

The mass of radioactive waste generated during the various decommissioning activities at the site is shown on a line-item basis in the detailed Appendices C and D, and summarized in Section 5. The quantified waste summaries shown in these tables are consistent with 10 CFR Part 61 classifications. Commercially available steel containers are presumed to be used for the disposal of piping, small components, and concrete. Larger components can serve as their own containers, with proper closure of all openings, access ways, and penetrations. The volumes are calculated based on the exterior package dimensions for containerized material or a specific calculation for components serving as their own waste containers.

The more highly-activated reactor components will be shipped in reusable, shielded truck casks with disposable liners. In calculating disposal costs, the burial fees are applied against the liner volume, as well as the special handling requirements of the payload. Packaging efficiencies are lower for the highly-activated materials (greater than Type A quantity waste), where high concentrations of gamma-emitting radionuclides limit the capacity of the shipping canisters.

Disposal fees are based upon estimated charges, with surcharges added for the highly-activated components, for example, generated in the segmentation of the reactor vessel. The cost to dispose of the lowest level and majority of the material generated from the decontamination and dismantling activities is based upon FPL's current cost for disposal at the EnergySolutions facility in Clive, Utah. Disposal costs for the higher activity waste (Class B and C) were based upon the last published rate

schedule for non-compact waste for the Barnwell facility (as a proxy), adjusted for escalation of the Atlantic Compact rates.

3.5.7 Site Conditions Following Decommissioning

The NRC will terminate the site license if it determines that site remediation has been performed in accordance with the license termination plan, and that the terminal radiation survey and associated documentation demonstrate that the facility is suitable for release. The NRC's involvement in the decommissioning process will end at this point. Building codes and environmental regulations will dictate the next step in the decommissioning process, as well as the owner's own future plans for the site.

Non-essential structures or buildings severely damaged in decontamination process are removed to a nominal depth of three feet below grade. Concrete rubble generated from demolition activities is processed and made available as clean fill for the power block foundations. Excess construction debris is trucked off site as an alternative to onsite disposal. The excavations will be regraded such that the power block area will have a final contour consistent with adjacent surroundings.

The existing electrical switchyard and access roads will remain in support of the electrical transmission and distribution system. The site access road will be left intact.

3.6 ASSUMPTIONS

The following are the major assumptions made in the development of the estimates for decommissioning the site.

3.6.1 Estimating Basis

The study follows the principles of ALARA through the use of work duration adjustment factors. These factors address the impact of activities such as radiological protection instruction, mock-up training, and the use of respiratory protection and protective clothing. The factors lengthen a task's duration, increasing costs and lengthening the overall schedule. ALARA planning is considered in the costs for engineering and planning, and in the development of activity specifications and detailed procedures. Changes to worker exposure limits may impact the decommissioning cost and project schedule.

3.6.2 Labor Costs

The craft labor required to decontaminate and dismantle the nuclear units will be acquired through standard site contracting practices. The current cost of labor at the site is used as an estimating basis. Costs for site administration, operations, construction, and maintenance personnel are based upon average salary information provided by FPL.

FPL will hire a Decommissioning Operations Contractor (DOC) to manage the decommissioning. The licensee will provide site security, radiological health and safety, quality assurance and overall site administration during the decommissioning and demolition phases. Contract personnel will provide engineering services, e.g., for preparing the activity specifications, work procedures, activation, and structural analyses, under the direction of the owner.

Reductions in the operating organization are handled through normal company practices. No costs have been included for this activity.

Security, while reduced from operating levels, is maintained throughout the decommissioning for access control, material control, and to safeguard the spent fuel.

3.6.3 Design Conditions

Any fuel cladding failure that occurred during the lifetime of the plant is assumed to have released fission products at sufficiently low levels that the buildup of quantities of long-lived isotopes (e.g., ^{137}Cs, ^{90}Sr, or transuranics) has been prevented from reaching levels exceeding those that permit the major NSSS components to be shipped under current transportation regulations and disposal requirements.

The curie contents of the vessel and internals at final shutdown are derived from those listed in NUREG/CR-3474.[23] Actual estimates are derived from the curie/gram values contained therein and adjusted for the different mass of the St. Lucie components, projected operating life, and different periods of decay. Additional short-lived isotopes were derived from NUREG/CR-0130[24] and NUREG/CR-0672,[25] and benchmarked to the long-lived values from NUREG/CR-3474.

The control elements are disposed of along with the spent fuel, i.e., there is no additional cost provided for their disposal.

This study assumes that contamination (activation) of the containment building structure is confined to the biological shield. It should be noted that more extensive activation (at very low levels) of the interior structures within containment has been detected at several reactors and the owners have elected to dispose of the affected material at a controlled facility rather than reuse the material as fill on site or send it to a landfill. The ultimate disposition of the material removed from the reactor building will depend upon the site release criteria selected, as well as the designated end use for the site.

Contaminated Soil

The estimates include an allowance for the remediation of contaminated soil and storm drains at several site areas that have been identified by FPL to contain concentrations of radionuclides in excess of NRC release limits. The areas include the primary and refueling water storage tanks, the east settling pond, storm drain system and the contaminated discharge canal dredge spoils pile. The requirements assumed for soil remediation may be affected by continued plant operations and/or future regulatory actions, such as the development of site-specific release criteria.

Asbestos and Hazardous Waste

The estimates include an allowance for the remediation of asbestos structural fireproofing coatings at Unit 1, removal of soil contaminated with diesel fuel and lubricating oil at both Unit 1 and Unit 2, and disposal of mixed/hazardous waste left over from plant operations.

3.6.4 General

Transition Activities

Existing warehouses are cleared of non-essential material and remain for use by FPL and its subcontractors. The plant's operating staff performs the following activities at no additional cost or credit to the project during the transition period:

- Drain and collect fuel oils, lubricating oils, and transformer oils for recycle and/or sale.
- Drain and collect acids, caustics, and other chemical stores for recycle and/or sale.

- Process operating waste inventories; the disposal of operating wastes during this initial period is not considered a decommissioning expense. The estimates do not address the disposition of any legacy or retired components (except for the highly-activated material currently stored in the spent fuel pool and some mixed/hazardous wastes).

Scrap and Salvage

The existing plant equipment is considered obsolete and suitable for scrap as deadweight quantities only. FPL will make economically reasonable efforts to salvage equipment following final plant shutdown. However, dismantling techniques assumed by TLG for equipment in this analysis are not consistent with removal techniques required for salvage (resale) of equipment. Experience has indicated that some buyers wanted equipment stripped down to very specific requirements before they would consider purchase. This required expensive rework after the equipment had been removed from its installed location. Since placing a salvage value on this machinery and equipment would be speculative, and the value would be small in comparison to the overall decommissioning expenses, this analysis does not attempt to quantify the value that an owner may realize based upon those efforts.

It is assumed, for purposes of this analysis, that any value received from the sale of scrap generated in the dismantling process would be more than offset by the on-site processing costs. The dismantling techniques assumed in the decommissioning estimates do not include the additional cost for size reduction and preparation to meet "furnace ready" conditions. For example, the recovery of copper from electrical cabling may require the removal and disposition of any contaminated insulation, an added expense. With a volatile market, the potential profit margin in scrap recovery is highly speculative, regardless of the ability to free release this material. This assumption is an implicit recognition of scrap value in the disposal of clean metallic waste at no additional cost to the project.

Furniture, tools, mobile equipment such as forklifts, trucks, bulldozers, and other property is removed at no cost or credit to the decommissioning project. Disposition may include relocation to other facilities. Spare parts are also made available for alternative use.

Energy

For estimating purposes, the plant is assumed to be de-energized, with the exception of those facilities associated with spent fuel storage. Replacement power costs are used to calculate the cost of energy consumed during decommissioning for tooling, lighting, ventilation, and essential services.

Insurance

Costs for continuing coverage (nuclear liability and property insurance) following cessation of plant operations and during decommissioning are included and based upon current operating premiums. Reductions in premiums, throughout the decommissioning process, are based upon the guidance and the limits for coverage defined in the NRC's proposed rulemaking "Financial Protection Requirements for Permanently Shutdown Nuclear Power Reactors."[26] The NRC's financial protection requirements are based on various reactor (and spent fuel) configurations.

Taxes

Property taxes assessed during decommissioning are considered a decommissioning cost. From the time Unit 1 ceases operation to the end of year 2043 (the year in which Unit 2 ceases operation), taxes for the site are assumed to be assessed on the land value only (assuming no significant value for the site structures). After 2043, the tax charged to decommissioning is reduced to the portion of the tax applicable to only the protected area and ISFSI. This assessment (split 50/50 between the units) continues to be applied until the site is released for unrestricted use.

Site Modifications

The perimeter fence and in-plant security barriers will be moved, as appropriate, to conform to the Site Security Plan in force during the various stages of the project.

Site Restoration

All structures will be removed except for the switchyard and discharge diffuser. The switchyard is required for grid operations. The discharge diffuser will be removed at the breakaway flange and a plug welded in

place. Structures to be removed include but are not limited to the reactor, fuel, auxiliary, radwaste warehouse, safeguard, diesel generator, and turbine buildings.

3.7 COST ESTIMATE SUMMARY

Schedules of expenditures are provided in Tables 3.1 through 3.4 for the DECON and SAFSTOR alternatives. The tables delineate the cost contributors by year of expenditures as well as cost contributor (e.g., labor, materials, and waste disposal).

Additional tables in Appendices C and D provide detailed cost elements. The cost elements are also assigned to one of three subcategories: "License Termination," "Spent Fuel Management," and "Site Restoration." The subcategory "License Termination" is used to accumulate costs that are consistent with "decommissioning" as defined by the NRC in its financial assurance regulations (i.e., 10 CFR §50.75). The cost reported for this subcategory is generally sufficient to terminate the plant's operating license, recognizing that there may be some additional cost impact from spent fuel management.

The "Spent Fuel Management" subcategory contains costs anticipated to be incurred once the nuclear units cease operation for the off-loading of the pools either directly to the DOE or to the ISFSI for interim storage, and the eventual transfer of dry shielded canisters from the ISFSI to the DOE. Costs are also included for the operation of the ISFSI until such time that the transfer of all fuel from this facility to an off-site location (e.g., geologic repository) is complete.

"Site Restoration" is used to capture costs associated with the dismantling and demolition of buildings and facilities demonstrated to be free from contamination. This includes structures never exposed to radioactive materials, as well as those facilities that have been decontaminated to appropriate levels. Structures are removed to a depth of three feet and backfilled to conform to local grade.

As discussed in Section 3.4.1, it is not anticipated that the DOE will accept the GTCC waste prior to completing the transfer of spent fuel. Therefore, the cost of GTCC disposal is shown in the final year of ISFSI operation (for the DECON alternative). While designated for disposal at the geologic repository along with the spent fuel, GTCC waste is still classified as low-level radioactive waste and, as such, included as a "License Termination" expense.

Decommissioning costs are reported in 2010 dollars. Costs are not inflated, escalated, or discounted over the period of expenditure (or projected lifetime of the plant). The schedules are based upon the detailed activity costs reported in Appendices C and D, along with the timeline presented in Section 4.

The "Burial" column contains costs for the processing of low-level radioactive waste, as well as for the controlled disposal of material that cannot be recovered (released for unrestricted use). Since the following tables are often used in escalation analyses, costs associated with the disposition of GTCC have been reassigned to the "Other" column, commensurate with contractual payments for a one-time disposal service, although the cost is still reported in the "LLRW Disposal Costs" column in Appendices C and D and as a "Waste Disposal" cost in the summary tables (i.e., on pages xvii, xviii, 6-4 and 6-5). "Off-site Waste Processing," separately reported in the summary tables, has been included in the "Burial" column as well.

TABLE 3.1
ST. LUCIE NUCLEAR PLANT, UNIT 1
INTEGRATED DECON ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2036	31,443	4,183	7	24	8,118	43,774
2037	30,410	8,702	1,082	1,062	19,277	60,533
2038	10,863	11,752	3	10	5,229	27,857
2039	10,863	11,752	3	10	5,229	27,857
2040	10,893	11,784	3	10	5,243	27,933
2041	8,280	10,483	2	8	4,751	23,525
2042	3,135	7,956	1	4	3,800	14,896
2043	3,135	7,956	1	4	3,800	14,896
2044	17,963	3,393	5	16	4,407	25,783
2045	34,993	10,472	2,053	11,406	4,894	63,819
2046	47,460	20,698	7,647	23,124	5,564	104,493
2047	40,621	8,880	4,849	17,767	6,645	78,762
2048	39,190	6,240	4,232	16,608	6,907	73,176
2049	22,534	3,312	1,183	4,642	9,399	41,071
2050	15,165	7,253	0	1	1,686	24,104
2051	13,844	6,715	0	0	1,349	21,908
2052	2,074	230	0	0	970	3,274
2053	2,069	230	0	0	967	3,265
2054	2,069	230	0	0	967	3,265
2055	2,069	230	0	0	967	3,265
2056	2,074	230	0	0	970	3,274
2057	2,069	230	0	0	967	3,265
2058	2,069	230	0	0	967	3,265
2059	2,069	230	0	0	967	3,265
2060	2,074	230	0	0	970	3,274
2061	2,069	230	0	0	967	3,265
2062	2,069	230	0	0	967	3,265
2063	2,069	230	0	0	967	3,265
2064	2,074	230	0	0	970	3,274
2065	2,069	230	0	0	967	3,265
2066	2,069	230	0	0	967	3,265

TABLE 3.1 (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 1
INTEGRATED DECON ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2067	2,069	230	0	0	967	3,265
2068	2,074	230	0	0	970	3,274
2069	2,069	230	0	0	967	3,265
2070	2,069	230	0	0	967	3,265
2071	2,069	230	0	0	967	3,265
2072	2,074	230	0	0	970	3,274
2073	2,064	662	0	0	18,411	21,138
2074	915	1,021	36	42	968	2,982
Total	387,244	148,038	21,109	74,735	135,998	767,124

TABLE 3.1a
ST. LUCIE NUCLEAR PLANT, UNIT 1
INTEGRATED DECON ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2036	30,350	902	7	24	6,779	38,061
2037	28,925	4,247	1,082	1,062	17,753	53,070
2038	7,052	317	3	10	3,851	11,232
2039	7,052	317	3	10	3,851	11,232
2040	7,071	318	3	10	3,861	11,263
2041	4,881	286	2	8	3,666	8,843
2042	557	224	1	4	3,300	4,085
2043	557	224	1	4	3,300	4,085
2044	17,015	1,105	5	16	3,906	22,046
2045	33,895	10,457	2,053	11,406	4,393	62,205
2046	44,245	20,628	7,647	23,124	5,057	100,700
2047	39,945	8,703	4,849	17,767	6,144	77,407
2048	39,085	6,038	4,232	16,608	6,406	72,368
2049	22,156	2,209	1,183	4,642	8,899	39,090
2050	558	24	0	1	482	1,065
2051	41	0	0	0	147	188
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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

TABLE 3.1a (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 1
INTEGRATED DECON ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
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	0	0	0	0	0	0
2073	0	440	0	0	17,443	17,883
2074	0	0	0	0	0	0
Total	283,387	56,439	21,072	74,693	99,235	534,825

TABLE 3.1b
ST. LUCIE NUCLEAR PLANT, UNIT 1
INTEGRATED DECON ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2036	1,094	3,281	0	0	1,339	5,713
2037	1,485	4,455	0	0	1,524	7,463
2038	3,812	11,435	0	0	1,378	16,625
2039	3,812	11,435	0	0	1,378	16,625
2040	3,822	11,466	0	0	1,382	16,670
2041	3,399	10,197	0	0	1,085	14,681
2042	2,578	7,733	0	0	500	10,810
2043	2,578	7,733	0	0	500	10,810
2044	763	2,288	0	0	501	3,552
2045	0	0	0	0	500	500
2046	0	0	0	0	500	500
2047	55	164	0	0	500	719
2048	67	202	0	0	501	770
2049	368	1,103	0	0	500	1,971
2050	1,911	256	0	0	999	3,166
2051	1,970	217	0	0	1,011	3,198
2052	2,074	230	0	0	970	3,274
2053	2,069	230	0	0	967	3,265
2054	2,069	230	0	0	967	3,265
2055	2,069	230	0	0	967	3,265
2056	2,074	230	0	0	970	3,274
2057	2,069	230	0	0	967	3,265
2058	2,069	230	0	0	967	3,265
2059	2,069	230	0	0	967	3,265
2060	2,074	230	0	0	970	3,274
2061	2,069	230	0	0	967	3,265
2062	2,069	230	0	0	967	3,265
2063	2,069	230	0	0	967	3,265
2064	2,074	230	0	0	970	3,274
2065	2,069	230	0	0	967	3,265
2066	2,069	230	0	0	967	3,265

TABLE 3.1b (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 1
INTEGRATED DECON ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2067	2,069	230	0	0	967	3,265
2068	2,074	230	0	0	970	3,274
2069	2,069	230	0	0	967	3,265
2070	2,069	230	0	0	967	3,265
2071	2,069	230	0	0	967	3,265
2072	2,074	230	0	0	970	3,274
2073	2,064	222	0	0	968	3,255
2074	915	1,021	36	42	968	2,982
Total	74,162	78,031	37	42	36,357	188,629

TABLE 3.1c
ST. LUCIE NUCLEAR PLANT, UNIT 1
INTEGRATED DECON ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2036	0	0	0	0	0	0
2037	0	0	0	0	0	0
2038	0	0	0	0	0	0
2039	0	0	0	0	0	0
2040	0	0	0	0	0	0
2041	0	0	0	0	0	0
2042	0	0	0	0	0	0
2043	0	0	0	0	0	0
2044	185	0	0	0	0	185
2045	1,098	15	0	0	2	1,114
2046	3,215	70	0	0	8	3,293
2047	621	13	0	0	1	636
2048	38	0	0	0	0	38
2049	11	0	0	0	0	11
2050	12,696	6,972	0	0	205	19,873
2051	11,833	6,498	0	0	191	18,522
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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

TABLE 3.1c (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 1
INTEGRATED DECON ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
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	0	0	0	0	0	0
2073	0	0	0	0	0	0
2074	0	0	0	0	0	0
Total	29,695	13,569	0	0	406	43,670

TABLE 3.2
ST. LUCIE NUCLEAR PLANT, UNIT 2
DECON ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2043	40,836	4,139	6	21	6,664	51,666
2044	63,230	16,293	2,490	15,006	16,202	113,220
2045	55,011	22,847	7,765	24,940	5,834	116,397
2046	45,788	17,488	4,735	17,194	6,171	91,376
2047	42,162	15,381	3,544	14,149	6,303	81,539
2048	38,825	15,754	2,999	12,147	6,134	75,858
2049	19,596	6,275	345	1,574	9,076	36,866
2050	17,564	7,940	0	1	1,689	27,195
2051	16,070	7,355	0	0	1,349	24,775
2052	2,074	230	0	0	970	3,274
2053	2,069	230	0	0	967	3,265
2054	2,069	230	0	0	967	3,265
2055	2,069	230	0	0	967	3,265
2056	2,074	230	0	0	970	3,274
2057	2,069	230	0	0	967	3,265
2058	2,069	230	0	0	967	3,265
2059	2,069	230	0	0	967	3,265
2060	2,074	230	0	0	970	3,274
2061	2,069	230	0	0	967	3,265
2062	2,069	230	0	0	967	3,265
2063	2,069	230	0	0	967	3,265
2064	2,074	230	0	0	970	3,274
2065	2,069	230	0	0	967	3,265
2066	2,069	230	0	0	967	3,265
2067	2,069	230	0	0	967	3,265
2068	2,074	230	0	0	970	3,274
2069	2,069	230	0	0	967	3,265
2070	2,069	230	0	0	967	3,265
2071	2,069	230	0	0	967	3,265
2072	2,074	230	0	0	970	3,274
2073	2,064	662	0	0	18,411	21,138
2074	914	1,024	35	42	968	2,981
Total	385,532	119,983	21,918	85,074	99,123	711,630

TABLE 3.2a
ST. LUCIE NUCLEAR PLANT, UNIT 2
DECON ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2043	39,413	1,156	6	21	5,483	46,079
2044	60,424	13,563	2,490	15,006	14,650	106,133
2045	50,158	20,297	7,765	24,940	4,448	107,607
2046	42,148	10,044	4,735	17,194	4,790	78,911
2047	38,999	6,014	3,544	14,149	4,925	67,630
2048	35,452	5,730	2,999	12,147	4,961	61,290
2049	18,128	1,871	345	1,574	8,576	30,495
2050	629	25	0	1	485	1,139
2051	97	0	0	0	147	243
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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	0	0	0	0	0	0
2073	0	440	0	0	17,443	17,883
2074	0	0	0	0	0	0
Total	285,447	59,140	21,883	85,032	65,907	517,410

TABLE 3.2b
ST. LUCIE NUCLEAR PLANT, UNIT 2
DECON ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2043	994	2,983	0	0	1,181	5,159
2044	903	2,708	0	0	1,550	5,161
2045	820	2,461	0	0	1,378	4,659
2046	2,473	7,418	0	0	1,378	11,269
2047	3,122	9,367	0	0	1,378	13,868
2048	3,341	10,023	0	0	1,173	14,537
2049	1,468	4,403	0	0	500	6,371
2050	2,031	256	0	0	999	3,286
2051	2,082	217	0	0	1,011	3,310
2052	2,074	230	0	0	970	3,274
2053	2,069	230	0	0	967	3,265
2054	2,069	230	0	0	967	3,265
2055	2,069	230	0	0	967	3,265
2056	2,074	230	0	0	970	3,274
2057	2,069	230	0	0	967	3,265
2058	2,069	230	0	0	967	3,265
2059	2,069	230	0	0	967	3,265
2060	2,074	230	0	0	970	3,274
2061	2,069	230	0	0	967	3,265
2062	2,069	230	0	0	967	3,265
2063	2,069	230	0	0	967	3,265
2064	2,074	230	0	0	970	3,274
2065	2,069	230	0	0	967	3,265
2066	2,069	230	0	0	967	3,265
2067	2,069	230	0	0	967	3,265
2068	2,074	230	0	0	970	3,274
2069	2,069	230	0	0	967	3,265
2070	2,069	230	0	0	967	3,265
2071	2,069	230	0	0	967	3,265
2072	2,074	230	0	0	970	3,274
2073	2,064	222	0	0	968	3,255
2074	914	1,024	35	42	968	2,981
Total	63,684	45,908	35	42	32,807	142,476

TABLE 3.2c
ST. LUCIE NUCLEAR PLANT, UNIT 2
DECON ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2043	429	0	0	0	0	429
2044	1,903	21	0	0	2	1,926
2045	4,033	90	0	0	8	4,131
2046	1,167	26	0	0	2	1,195
2047	41	0	0	0	0	41
2048	31	0	0	0	0	31
2049	0	0	0	0	0	0
2050	14,905	7,659	0	0	205	22,769
2051	13,891	7,138	0	0	191	21,221
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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	0	0	0	0	0	0
2073	0	0	0	0	0	0
2074	0	0	0	0	0	0
Total	36,400	14,935	0	0	409	51,744

TABLE 3.3
ST. LUCIE NUCLEAR PLANT, UNIT 1
SAFSTOR ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2036	33,653	4,183	7	24	8,118	45,983
2037	33,599	12,059	1,517	7,573	19,343	74,091
2038	12,561	16,844	3	10	5,229	34,647
2039	12,561	16,844	3	10	5,229	34,647
2040	12,595	16,890	3	10	5,243	34,742
2041	9,401	11,291	2	8	4,075	24,777
2042	3,106	229	1	4	1,777	5,118
2043	3,106	229	1	4	1,777	5,118
2044	3,115	230	1	4	1,782	5,132
2045	3,106	229	1	4	1,777	5,118
2046	3,106	229	1	4	1,777	5,118
2047	3,106	229	1	4	1,777	5,118
2048	3,115	230	1	4	1,782	5,132
2049	3,610	1,738	1	4	1,777	7,130
2050	3,178	445	1	4	1,777	5,405
2051	3,178	445	1	4	1,777	5,405
2052	3,187	445	1	4	1,782	5,419
2053	3,178	445	1	4	1,777	5,405
2054	3,178	445	1	4	1,777	5,405
2055	3,178	445	1	4	1,777	5,405
2056	3,187	445	1	4	1,782	5,419
2057	3,178	445	1	4	1,777	5,405
2058	3,178	445	1	4	1,777	5,405
2059	3,178	445	1	4	1,777	5,405
2060	3,187	445	1	4	1,782	5,419
2061	3,178	445	1	4	1,777	5,405
2062	3,178	445	1	4	1,777	5,405
2063	3,178	445	1	4	1,777	5,405
2064	3,187	445	1	4	1,782	5,419
2065	3,178	445	1	4	1,777	5,405
2066	3,178	445	1	4	1,777	5,405
2067	3,178	445	1	4	1,777	5,405
2068	3,187	445	1	4	1,782	5,419

TABLE 3.3 (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 1
SAFSTOR ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2069	3,178	445	1	4	1,777	5,405
2070	3,178	445	1	4	1,777	5,405
2071	3,178	445	1	4	1,777	5,405
2072	3,216	532	1	4	1,782	5,534
2073	3,247	660	1	4	1,775	5,687
2074	1,774	226	1	4	1,102	3,107
2075	1,774	226	1	4	1,102	3,107
2076	1,779	226	1	4	1,105	3,115
2077	1,774	226	1	4	1,102	3,107
2078	1,774	226	1	4	1,102	3,107
2079	1,774	226	1	4	1,102	3,107
2080	1,779	226	1	4	1,105	3,115
2081	1,774	226	1	4	1,102	3,107
2082	1,774	226	1	4	1,102	3,107
2083	1,774	226	1	4	1,102	3,107
2084	1,779	226	1	4	1,105	3,115
2085	1,774	226	1	4	1,102	3,107
2086	1,774	226	1	4	1,102	3,107
2087	1,774	226	1	4	1,102	3,107
2088	1,779	226	1	4	1,105	3,115
2089	5,107	344	2	6	1,380	6,838
2090	38,889	1,857	7	23	4,603	45,379
2091	51,417	15,526	4,704	13,072	16,029	100,749
2092	40,684	14,896	6,153	19,098	14,204	95,034
2093	28,173	5,638	3,918	15,237	6,668	59,635
2094	21,188	4,204	2,909	11,314	5,020	44,636
2095	9,044	459	4	13	5,636	15,154
2096	14,237	6,144	1	3	2,244	22,628
2097	14,115	7,185	0	0	837	22,137
2098	425	217	0	0	25	667
Total	466,084	152,288	19,289	66,594	177,323	881,577

TABLE 3.3a
ST. LUCIE NUCLEAR PLANT, UNIT 1
SAFSTOR ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2036	32,559	902	7	24	6,779	40,270
2037	29,535	5,947	1,517	7,573	17,042	61,614
2038	935	317	3	10	1,509	2,773
2039	935	317	3	10	1,509	2,773
2040	937	318	3	10	1,513	2,781
2041	1,215	288	2	8	1,380	2,894
2042	1,774	229	1	4	1,125	3,133
2043	1,774	229	1	4	1,125	3,133
2044	1,779	230	1	4	1,128	3,142
2045	1,774	229	1	4	1,125	3,133
2046	1,774	229	1	4	1,125	3,133
2047	1,774	229	1	4	1,125	3,133
2048	1,779	230	1	4	1,128	3,142
2049	1,774	229	1	4	1,125	3,133
2050	1,774	229	1	4	1,125	3,133
2051	1,774	229	1	4	1,125	3,133
2052	1,779	230	1	4	1,128	3,142
2053	1,774	229	1	4	1,125	3,133
2054	1,774	229	1	4	1,125	3,133
2055	1,774	229	1	4	1,125	3,133
2056	1,779	230	1	4	1,128	3,142
2057	1,774	229	1	4	1,125	3,133
2058	1,774	229	1	4	1,125	3,133
2059	1,774	229	1	4	1,125	3,133
2060	1,779	230	1	4	1,128	3,142
2061	1,774	229	1	4	1,125	3,133
2062	1,774	229	1	4	1,125	3,133
2063	1,774	229	1	4	1,125	3,133
2064	1,779	230	1	4	1,128	3,142
2065	1,774	229	1	4	1,125	3,133
2066	1,774	229	1	4	1,125	3,133
2067	1,774	229	1	4	1,125	3,133
2068	1,779	230	1	4	1,128	3,142

TABLE 3.3a (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 1
SAFSTOR ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2069	1,774	229	1	4	1,125	3,133
2070	1,774	229	1	4	1,125	3,133
2071	1,774	229	1	4	1,125	3,133
2072	1,779	230	1	4	1,128	3,142
2073	1,774	229	1	4	1,124	3,133
2074	1,774	226	1	4	1,102	3,107
2075	1,774	226	1	4	1,102	3,107
2076	1,779	226	1	4	1,105	3,115
2077	1,774	226	1	4	1,102	3,107
2078	1,774	226	1	4	1,102	3,107
2079	1,774	226	1	4	1,102	3,107
2080	1,779	226	1	4	1,105	3,115
2081	1,774	226	1	4	1,102	3,107
2082	1,774	226	1	4	1,102	3,107
2083	1,774	226	1	4	1,102	3,107
2084	1,779	226	1	4	1,105	3,115
2085	1,774	226	1	4	1,102	3,107
2086	1,774	226	1	4	1,102	3,107
2087	1,774	226	1	4	1,102	3,107
2088	1,779	226	1	4	1,105	3,115
2089	5,050	344	2	6	1,380	6,781
2090	38,188	1,857	7	23	4,603	44,677
2091	48,391	15,476	4,704	13,072	16,025	97,668
2092	38,436	14,829	6,145	19,089	14,027	92,526
2093	28,055	5,594	3,901	15,218	6,294	59,061
2094	21,101	4,171	2,897	11,300	4,742	44,210
2095	9,044	459	4	13	5,636	15,154
2096	2,493	120	1	3	1,542	4,159
2097	107	0	0	0	0	107
2098	3	0	0	0	0	3
Total	340,434	61,660	19,252	66,552	136,529	624,426

TABLE 3.3b
ST. LUCIE NUCLEAR PLANT, UNIT 1
SAFSTOR ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2036	1,094	3,281	0	0	1,339	5,713
2037	4,065	6,111	0	0	2,301	12,477
2038	11,626	16,527	0	0	3,720	31,873
2039	11,626	16,527	0	0	3,720	31,873
2040	11,658	16,572	0	0	3,730	31,961
2041	8,185	11,003	0	0	2,695	21,883
2042	1,332	0	0	0	652	1,985
2043	1,332	0	0	0	652	1,985
2044	1,336	0	0	0	654	1,990
2045	1,332	0	0	0	652	1,985
2046	1,332	0	0	0	652	1,985
2047	1,332	0	0	0	652	1,985
2048	1,336	0	0	0	654	1,990
2049	1,835	1,509	0	0	652	3,997
2050	1,404	216	0	0	652	2,272
2051	1,404	216	0	0	652	2,272
2052	1,408	216	0	0	654	2,278
2053	1,404	216	0	0	652	2,272
2054	1,404	216	0	0	652	2,272
2055	1,404	216	0	0	652	2,272
2056	1,408	216	0	0	654	2,278
2057	1,404	216	0	0	652	2,272
2058	1,404	216	0	0	652	2,272
2059	1,404	216	0	0	652	2,272
2060	1,408	216	0	0	654	2,278
2061	1,404	216	0	0	652	2,272
2062	1,404	216	0	0	652	2,272
2063	1,404	216	0	0	652	2,272
2064	1,408	216	0	0	654	2,278
2065	1,404	216	0	0	652	2,272
2066	1,404	216	0	0	652	2,272
2067	1,404	216	0	0	652	2,272
2068	1,408	216	0	0	654	2,278

TABLE 3.3b (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 1
SAFSTOR ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2069	1,404	216	0	0	652	2,272
2070	1,404	216	0	0	652	2,272
2071	1,404	216	0	0	652	2,272
2072	1,436	302	0	0	654	2,393
2073	1,472	431	0	0	651	2,554
2074	0	0	0	0	0	0
2075	0	0	0	0	0	0
2076	0	0	0	0	0	0
2077	0	0	0	0	0	0
2078	0	0	0	0	0	0
2079	0	0	0	0	0	0
2080	0	0	0	0	0	0
2081	0	0	0	0	0	0
2082	0	0	0	0	0	0
2083	0	0	0	0	0	0
2084	0	0	0	0	0	0
2085	0	0	0	0	0	0
2086	0	0	0	0	0	0
2087	0	0	0	0	0	0
2088	0	0	0	0	0	0
2089	0	0	0	0	0	0
2090	0	0	0	0	0	0
2091	0	0	0	0	0	0
2092	38	20	8	9	173	247
2093	82	44	17	19	375	537
2094	61	33	12	14	278	399
2095	0	0	0	0	0	0
2096	143	319	0	0	12	474
2097	171	380	0	0	15	566
2098	5	11	0	0	0	17
Total	93,738	77,816	37	42	39,249	210,881

TABLE 3.3c
ST. LUCIE NUCLEAR PLANT, UNIT 1
SAFSTOR ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2036	0	0	0	0	0	0
2037	0	0	0	0	0	0
2038	0	0	0	0	0	0
2039	0	0	0	0	0	0
2040	0	0	0	0	0	0
2041	0	0	0	0	0	0
2042	0	0	0	0	0	0
2043	0	0	0	0	0	0
2044	0	0	0	0	0	0
2045	0	0	0	0	0	0
2046	0	0	0	0	0	0
2047	0	0	0	0	0	0
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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

TABLE 3.3c (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 1
SAFSTOR ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2069	0	0	0	0	0	0
2070	0	0	0	0	0	0
2071	0	0	0	0	0	0
2072	0	0	0	0	0	0
2073	0	0	0	0	0	0
2074	0	0	0	0	0	0
2075	0	0	0	0	0	0
2076	0	0	0	0	0	0
2077	0	0	0	0	0	0
2078	0	0	0	0	0	0
2079	0	0	0	0	0	0
2080	0	0	0	0	0	0
2081	0	0	0	0	0	0
2082	0	0	0	0	0	0
2083	0	0	0	0	0	0
2084	0	0	0	0	0	0
2085	0	0	0	0	0	0
2086	0	0	0	0	0	0
2087	0	0	0	0	0	0
2088	0	0	0	0	0	0
2089	57	0	0	0	0	57
2090	702	0	0	0	0	702
2091	3,026	50	0	0	5	3,081
2092	2,210	47	0	0	4	2,261
2093	36	0	0	0	0	36
2094	27	0	0	0	0	27
2095	0	0	0	0	0	0
2096	11,600	5,705	0	0	690	17,995
2097	13,837	6,805	0	0	823	21,464
2098	417	205	0	0	25	647
Total	31,912	12,812	0	0	1,546	46,270

TABLE 3.4
ST. LUCIE NUCLEAR PLANT, UNIT 2
SAFSTOR ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2043	31,727	3,779	6	21	6,601	42,134
2044	38,806	8,909	1,255	6,824	14,236	70,028
2045	14,669	8,525	3	10	3,381	26,588
2046	14,669	8,525	3	10	3,381	26,588
2047	14,669	8,525	3	10	3,381	26,588
2048	11,933	6,574	2	8	2,971	21,490
2049	3,525	1,750	1	4	1,625	6,906
2050	3,094	456	1	4	1,625	5,181
2051	3,094	456	1	4	1,625	5,181
2052	3,102	457	1	4	1,630	5,194
2053	3,094	456	1	4	1,625	5,181
2054	3,094	456	1	4	1,625	5,181
2055	3,094	456	1	4	1,625	5,181
2056	3,102	457	1	4	1,630	5,194
2057	3,094	456	1	4	1,625	5,181
2058	3,094	456	1	4	1,625	5,181
2059	3,094	456	1	4	1,625	5,181
2060	3,102	457	1	4	1,630	5,194
2061	3,094	456	1	4	1,625	5,181
2062	3,094	456	1	4	1,625	5,181
2063	3,094	456	1	4	1,625	5,181
2064	3,102	457	1	4	1,630	5,194
2065	3,094	456	1	4	1,625	5,181
2066	3,094	456	1	4	1,625	5,181
2067	3,094	456	1	4	1,625	5,181
2068	3,102	457	1	4	1,630	5,194
2069	3,094	456	1	4	1,625	5,181
2070	3,094	456	1	4	1,625	5,181
2071	3,094	456	1	4	1,625	5,181
2072	3,131	543	1	4	1,630	5,309
2073	3,166	672	1	4	1,624	5,467
2074	2,993	237	1	4	1,095	4,330
2075	2,993	237	1	4	1,095	4,330

TABLE 3.4 (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 2
SAFSTOR ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2076	3,001	238	1	4	1,098	4,342
2077	2,993	237	1	4	1,095	4,330
2078	2,993	237	1	4	1,095	4,330
2079	2,993	237	1	4	1,095	4,330
2080	3,001	238	1	4	1,098	4,342
2081	2,993	237	1	4	1,095	4,330
2082	2,993	237	1	4	1,095	4,330
2083	2,993	237	1	4	1,095	4,330
2084	3,001	238	1	4	1,098	4,342
2085	2,993	237	1	4	1,095	4,330
2086	2,993	237	1	4	1,095	4,330
2087	2,993	237	1	4	1,095	4,330
2088	3,001	238	1	4	1,098	4,342
2089	2,993	237	1	4	1,095	4,330
2090	12,131	771	3	11	2,371	15,287
2091	27,391	4,167	6	22	4,081	35,668
2092	50,099	21,801	7,605	23,582	19,613	122,699
2093	43,887	9,944	4,756	18,003	9,011	85,602
2094	41,740	6,260	3,778	15,897	5,652	73,326
2095	25,766	3,015	1,556	6,544	7,896	44,776
2096	15,964	7,426	1	3	2,258	25,651
2097	16,175	8,710	0	0	838	25,723
2098	487	263	0	0	25	775
Total	485,967	123,999	19,026	71,114	143,877	843,982

TABLE 3.4a
ST. LUCIE NUCLEAR PLANT, UNIT 2
SAFSTOR ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2043	30,733	796	6	21	5,420	36,975
2044	35,345	4,849	1,255	6,824	12,565	60,837
2045	2,993	329	3	10	1,489	4,823
2046	2,993	329	3	10	1,489	4,823
2047	2,993	329	3	10	1,489	4,823
2048	2,515	309	2	8	1,401	4,237
2049	955	241	1	4	1,105	2,306
2050	955	241	1	4	1,105	2,306
2051	955	241	1	4	1,105	2,306
2052	958	241	1	4	1,108	2,312
2053	955	241	1	4	1,105	2,306
2054	955	241	1	4	1,105	2,306
2055	955	241	1	4	1,105	2,306
2056	958	241	1	4	1,108	2,312
2057	955	241	1	4	1,105	2,306
2058	955	241	1	4	1,105	2,306
2059	955	241	1	4	1,105	2,306
2060	958	241	1	4	1,108	2,312
2061	955	241	1	4	1,105	2,306
2062	955	241	1	4	1,105	2,306
2063	955	241	1	4	1,105	2,306
2064	958	241	1	4	1,108	2,312
2065	955	241	1	4	1,105	2,306
2066	955	241	1	4	1,105	2,306
2067	955	241	1	4	1,105	2,306
2068	958	241	1	4	1,108	2,312
2069	955	241	1	4	1,105	2,306
2070	955	241	1	4	1,105	2,306
2071	955	241	1	4	1,105	2,306
2072	958	241	1	4	1,108	2,312
2073	961	241	1	4	1,105	2,311
2074	2,993	237	1	4	1,095	4,330
2075	2,993	237	1	4	1,095	4,330

TABLE 3.4a (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 2
SAFSTOR ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2076	3,001	238	1	4	1,098	4,342
2077	2,993	237	1	4	1,095	4,330
2078	2,993	237	1	4	1,095	4,330
2079	2,993	237	1	4	1,095	4,330
2080	3,001	238	1	4	1,098	4,342
2081	2,993	237	1	4	1,095	4,330
2082	2,993	237	1	4	1,095	4,330
2083	2,993	237	1	4	1,095	4,330
2084	3,001	238	1	4	1,098	4,342
2085	2,993	237	1	4	1,095	4,330
2086	2,993	237	1	4	1,095	4,330
2087	2,993	237	1	4	1,095	4,330
2088	3,001	238	1	4	1,098	4,342
2089	2,993	237	1	4	1,095	4,330
2090	12,018	771	3	11	2,371	15,174
2091	26,950	4,167	6	22	4,081	35,226
2092	45,108	21,696	7,605	23,582	19,606	117,596
2093	42,607	9,883	4,744	17,988	8,716	83,937
2094	41,612	6,214	3,762	15,878	5,275	72,740
2095	25,713	2,996	1,549	6,536	7,741	44,535
2096	2,442	123	1	3	1,555	4,125
2097	46	0	0	0	0	46
2098	1	0	0	0	0	1
Total	345,885	62,610	18,991	71,072	118,358	616,916

TABLE 3.4b
ST. LUCIE NUCLEAR PLANT, UNIT 2
SAFSTOR ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2043	994	2,983	0	0	1,181	5,159
2044	3,461	4,060	0	0	1,671	9,191
2045	11,676	8,196	0	0	1,892	21,764
2046	11,676	8,196	0	0	1,892	21,764
2047	11,676	8,196	0	0	1,892	21,764
2048	9,418	6,265	0	0	1,570	17,253
2049	2,570	1,509	0	0	521	4,600
2050	2,139	216	0	0	521	2,875
2051	2,139	216	0	0	521	2,875
2052	2,145	216	0	0	522	2,882
2053	2,139	216	0	0	521	2,875
2054	2,139	216	0	0	521	2,875
2055	2,139	216	0	0	521	2,875
2056	2,145	216	0	0	522	2,882
2057	2,139	216	0	0	521	2,875
2058	2,139	216	0	0	521	2,875
2059	2,139	216	0	0	521	2,875
2060	2,145	216	0	0	522	2,882
2061	2,139	216	0	0	521	2,875
2062	2,139	216	0	0	521	2,875
2063	2,139	216	0	0	521	2,875
2064	2,145	216	0	0	522	2,882
2065	2,139	216	0	0	521	2,875
2066	2,139	216	0	0	521	2,875
2067	2,139	216	0	0	521	2,875
2068	2,145	216	0	0	522	2,882
2069	2,139	216	0	0	521	2,875
2070	2,139	216	0	0	521	2,875
2071	2,139	216	0	0	521	2,875
2072	2,173	302	0	0	522	2,997
2073	2,205	431	0	0	519	3,156
2074	0	0	0	0	0	0
2075	0	0	0	0	0	0

TABLE 3.4b (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 2
SAFSTOR ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2076	0	0	0	0	0	0
2077	0	0	0	0	0	0
2078	0	0	0	0	0	0
2079	0	0	0	0	0	0
2080	0	0	0	0	0	0
2081	0	0	0	0	0	0
2082	0	0	0	0	0	0
2083	0	0	0	0	0	0
2084	0	0	0	0	0	0
2085	0	0	0	0	0	0
2086	0	0	0	0	0	0
2087	0	0	0	0	0	0
2088	0	0	0	0	0	0
2089	0	0	0	0	0	0
2090	0	0	0	0	0	0
2091	0	0	0	0	0	0
2092	0	0	0	0	0	0
2093	64	36	13	15	293	420
2094	82	46	16	19	377	540
2095	34	19	7	8	155	222
2096	143	319	0	0	12	474
2097	171	380	0	0	15	566
2098	5	11	0	0	0	17
Total	103,437	45,692	35	42	23,971	173,178

TABLE 3.4c
ST. LUCIE NUCLEAR PLANT, UNIT 2
SAFSTOR ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2043	0	0	0	0	0	0
2044	0	0	0	0	0	0
2045	0	0	0	0	0	0
2046	0	0	0	0	0	0
2047	0	0	0	0	0	0
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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	0	0	0	0	0	0
2073	0	0	0	0	0	0
2074	0	0	0	0	0	0
2075	0	0	0	0	0	0

TABLE 3.4c (continued)
ST. LUCIE NUCLEAR PLANT, UNIT 2
SAFSTOR ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2076	0	0	0	0	0	0
2077	0	0	0	0	0	0
2078	0	0	0	0	0	0
2079	0	0	0	0	0	0
2080	0	0	0	0	0	0
2081	0	0	0	0	0	0
2082	0	0	0	0	0	0
2083	0	0	0	0	0	0
2084	0	0	0	0	0	0
2085	0	0	0	0	0	0
2086	0	0	0	0	0	0
2087	0	0	0	0	0	0
2088	0	0	0	0	0	0
2089	0	0	0	0	0	0
2090	113	0	0	0	0	113
2091	441	0	0	0	0	441
2092	4,991	106	0	0	7	5,104
2093	1,217	26	0	0	2	1,244
2094	46	0	0	0	0	47
2095	19	0	0	0	0	19
2096	13,378	6,984	0	0	690	21,053
2097	15,958	8,330	0	0	824	25,112
2098	481	251	0	0	25	757
Total	36,645	15,697	0	0	1,548	53,889

TABLE 3.5
SUMMARY OF COSTS
SHARED SYSTEMS and STRUCTURES
(thousands, 2010 dollars)

	UNIT 1	UNIT 2	TOTAL
STRUCTURES			
Contaminated Soil	$28,379	$26,365	$54,744
Mixed/Hazardous Waste	$6,557	6,557	$13,113
Shared Miscellaneous Site Structures	$0	$4,476	$4,476
Steam Generator Blowdown Treatment Facility	$0	$579	$579
Subtotal	$34,936	$37,977	$72,912
SYSTEMS			
Auxiliary Steam - Insulated	$25	$18	$44
Condensate Polish Filter Demin	$27	$0	$27
Condensate Polish Filter Demin - Ins	$78	$0	$78
Demineralized Makeup Water - RCA	$31	$15	$46
Demineralized Makeup Water	$17	$6	$23
Domestic/Makeup/Service Water	$198	$9	$207
Domestic/Makeup/Service Water-Ins	$4	$1	$5
Domestic/Makeup/Service Water-Ins-RCA	$30	$0	$30
Domestic/Makeup/Service Water - RCA	$267	$60	$327
Fire Protection	$77	$59	$136
Fire Protection - Insulated	$7	$6	$14
Fire Protection - Insulated - RCA	$6	$16	$21
Fire Protection - RCA	$71	$179	$250
Neutralization Basin Recirculation	$19	$0	$19
Primary Water	$579	$558	$1,137
Primary Water - Insulated	$6	$6	$12
Service & Instrument Air	$28	$22	$50
Service & Instrument Air - Ins	$15	$11	$25
Service & Instrument Air - Ins - RCA	$143	$98	$241
Service & Instrument Air - Ins	$15	$11	$25

TABLE 3.5 (continued)
SUMMARY OF COSTS
SHARED SYSTEMS and STRUCTURES
(thousands, 2010 dollars)

	UNIT 1	UNIT 2	TOTAL
SYSTEMS (continued)			
SGBTF Blowdown - Insulated	$26	$2,058	$2,085
SGBTF Demin - Ins - RCA	$0	$115	$115
SGBTF Demin - RCA	$0	$231	$231
SGBTF HVAC	$64	$0	$64
SGBTF Misc - RCA	$16	$0	$16
SGBTF Miscellaneous - RCA	$0	$87	$87
SGBTF Waste Management	$10	$195	$205
SGBTF Waste Management - Insulated	$95	$136	$231
Sodium Hypochlorite	$0	$51	$51
Water Treatment - Insulated	$43	$0	$43
Water Treatment	$75	$0	$75
Subtotal	$1,971	$3,948	$5,919
MISCELLANEOUS COMPONENTS *			
Clean Miscellaneous Components			$25
Contaminated Miscellaneous Component			$116
Subtotal			$142
TOTAL			**$78,973**

* Includes Shared Refueling Equipment (20), Valves & Piping for Condensate Storage Tank Interconnection, Turbine Lube Oil Storage Tank, Waste Oil Storage Tank, Miscellaneous Small Bore Piping, Valves & Piping for Holdup Tanks Interconnection, Valves & Piping for Aerated Waste Storage Tank Interconnect, SGBTF Electrical (9), Tank,Valves, Piping - UHS Valves & Emergency Air, and Piping for Waste Management System Interconnects

3.8 COST RECOVERY

As discussed earlier, FPL filed a lawsuit in 2004 claiming damages for DOE's failure to perform as originally prescribed in the standard disposal contract.

On March 31, 2009, FPL executed a Settlement Agreement with the DOE and the Department of Justice (DoJ). In the Agreement, FPL settled the lawsuit in exchange for payments. The payments are intended to cover those costs incurred for managing and storing the spent fuel that it would not have incurred but for DOE's delay in performance.

While the DOE is responsible for the costs incurred until it fulfills its obligation, certain assumptions are needed to assess the financial impact on the previously identified decommissioning cost scenarios. The assumptions and methodology employed to quantify the expected level of compensation are as follows:

1. DOE Acceptance Obligations are defined based on the 1995 Acceptance Priority Ranking & Annual Capacity Report Table 1 acceptance rate from Year 1 to Year 10, with a continued steady state acceptance rate of 900 metric tons of uranium (MTU) per year until December 31, 2014 and 2,100 MTU/year thereafter as per the Settlement Agreement.

2. At the time the aggregate MTUs actually accepted by the DOE equals the aggregate MTUs allocated to FPL under the 1995 Acceptance Priority Ranking & Annual Capacity Report, the DOE's compensation obligation ceases.

3. The pickup of commercial fuel is assumed to begin in the year 2030. The first fuel from St. Lucie is expected to be transferred to the DOE in 2032, again assuming commercial fuel is accepted on an oldest fuel first basis.† The rate of transfer was based upon an annual acceptance capacity at the geologic repository of 3,000 metric tons.

† DOE's contracts with utilities order the acceptance of spent fuel from utilities based upon the oldest fuel receiving the highest priority. While DOE's acceptance priority ranking is based on the date that spent nuclear fuel was permanently discharged, with the oldest spent nuclear fuel, on an industry-wide basis, given the higher priority, the generator has the right to determine which spent nuclear fuel is delivered, provided that it is in compliance with the Standard Contract. DOE contracts also provide mechanisms for altering the oldest fuel first allocation scheme, including emergency deliveries, exchanges of allocations amongst utilities and the option of providing priority acceptance from permanently shutdown nuclear reactors.

The pickup schedule reflected in the 1995 Acceptance Priority Ranking & Annual Capacity Report is based upon an earlier start date (1998), but a lower rate of acceptance than that considered in the St. Lucie decommissioning analysis. As shown in Table 3.6, the two different pickup rates would achieve the same level of performance (equivalent number of St. Lucie spent fuel assemblies received by the DOE) in the year 2062 (approximately eleven years before the ISFSI would be decommissioned). Under the terms of the Settlement Agreement, if the DOE follows the pickup rate, its compensation obligation would terminate when this milestone is reached. Under this scenario, the DOE would provide no compensation after 2062.

4. This analysis addresses only those costs identified as spent fuel management costs in the decommissioning cost analysis (as delineated in the detailed cost tables in Appendix C and D). While the estimates do assign costs to spent fuel management during the active decommissioning period, the cost elements are generally limited in scope to the direct costs associated with purchasing DSCs and HSMs, loading and packaging the spent fuel into the canisters for long-term storage at the plant's ISFSI (or into TADs for direct transfer to the DOE). No attempt was made, for this analysis, to identify any additional ISFSI related costs during this time period that may also be eligible for reimbursement by DOE under the Agreement.

As shown on the graph at the bottom of Table 3.6, it is projected that the DOE will meet its obligation for cumulative acceptance of spent fuel in the year 2062, based upon the assumptions delineated in the decommissioning cost analysis. Costs incurred for spent fuel management prior to this time (conservatively, December 31, 2061) can be expected to be reimbursed. Costs incurred after that time would not be eligible. Each year, the claim requesting the prior year's costs is submitted for payment on or before April 30.

The activities (at a minimum), identified in the decommissioning cost study and expected to be eligible for reimbursement (depending upon the timing of the activities) are identified below.

I. Active Decommissioning (until the Operating Licenses are terminated)

- Spent Fuel Capital and Transfer
- ISFSI Operating Costs
- Emergency Planning Fees (once the spent fuel pool is emptied)

II. Site Restoration (with concurrent ISFSI Operations)

- Spent Fuel Capital and Transfer
- Insurance
- Energy
- NRC ISFSI Fees
- Emergency Planning Fees
- ISFSI Operating Costs
- Security Staff (allocation)
- Plant Staff (allocation)

III. Post-Decommissioning ISFSI Operations

- Spent Fuel Transfer
- Insurance
- Property Taxes
- NRC ISFSI Fees
- Emergency Planning Fees
- ISFSI Operating Costs
- Security Staff
- Plant Staff

The costs eligible for reimbursement would still be incurred over the life of decommissioning project. However, they will be recovered on an ongoing basis (i.e., the year after expenditure). Tables 3.7 and 3.8 identify the income stream that can be expected to offset spent fuel management expenses for the decommissioning scenarios. Under the current assumptions, costs incurred in the year 2062 and beyond would not be eligible for reimbursement.

Table 3.9 identifies cost to decommission the ISFSI. While the costs are incurred after 2061, they may also be reimbursable since ISFSI construction was in response to delays in the timely removal of spent fuel from the site.

TABLE 3.6
ST. LUCIE NUCLEAR PLANT
SPENT FUEL MANAGEMENT

	Fuel Assembly Inventory		Spent Fuel Acceptance	
Year	Assemblies in Pool	Assemblies at ISFSI	St. Lucie Projections (based upon 2004 APR)	DOE Obligations (based on 1995 APR and Settlement Agreement)
2030	2,616	2,720	-	2,278
2031	2,788	2,720	-	2,364
2032	2,840	2,720	-	2,450
2033	2,832	2,720	52	2,536
2034	2,724	2,720	208	2,622
2035	2,776	2,720	359	2,708
2036	2,889	2,720	524	2,794
2037	2,753	2,720	764	2,880
2038	2,593	2,720	931	2,966
2039	2,525	2,720	1,108	3,052
2040	2,453	2,720	1,260	3,138
2041	1,184	3,797	1,424	3,224
2042	1,112	3,797	1,508	3,310
2043	1,137	3,797	1,673	3,396
2044	1,009	3,797	1,796	3,482
2045	849	3,797	1,934	3,568
2046	721	3,797	2,011	3,654
2047	529	3,797	2,185	3,740
2048	-	4,198	2,278	3,826
2049	-	4,038	2,473	3,912
2050	-	3,878	2,668	3,998
2051	-	3,718	2,863	4,084
2052	-	3,558	3,058	4,170
2053	-	3,398	3,253	4,256
2054	-	3,238	3,448	4,342
2055	-	3,078	3,643	4,428
2056	-	2,918	3,838	4,514
2057	-	2,758	4,033	4,600
2058	-	2,598	4,228	4,686
2059	-	2,438	4,423	4,772
2060	-	2,278	4,618	4,858
2061	-	2,118	4,813	4,944

TABLE 3.6 (continued)
ST. LUCIE NUCLEAR PLANT
SPENT FUEL MANAGEMENT

	Fuel Assembly Inventory		Spent Fuel Acceptance	
Year	Assemblies in Pool	Assemblies at ISFSI	St. Lucie Projections (based upon 2004 APR)	DOE Obligations (based on 1995 APR and Settlement Agreement)
2062	-	1,958	5,008	5,030
2063	-	1,798	5,203	5,116
2064	-	1,649	5,398	5,202
2065	-	1,489	5,593	5,288
2066	-	1,329	5,788	5,374
2067	-	1,169	5,983	5,460
2068	-	1,009	6,178	5,546
2069	-	849	6,373	5,632
2070	-	689	6,568	5,718
2071	-	529	6,763	5,804
2072	-	305	6,958	5,890
2073	-	-	7,153	5,976

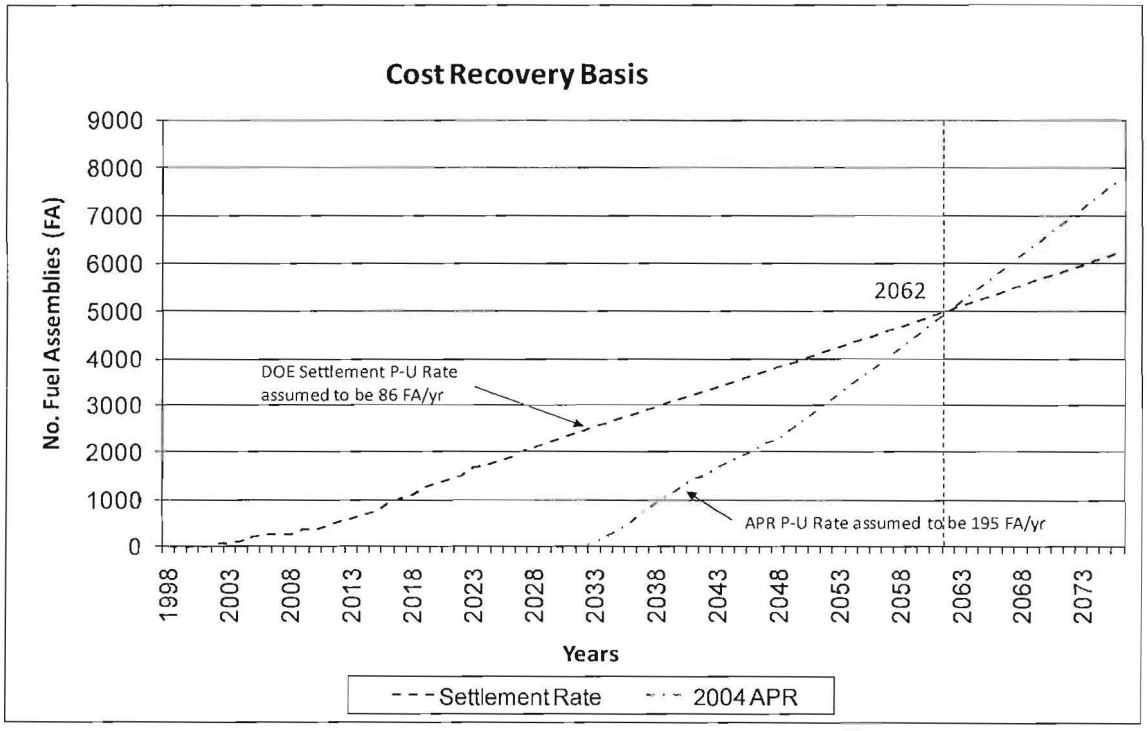


TABLE 3.7
ST. LUCIE NUCLEAR PLANT, UNIT 1
INTEGRATED DECON ALTERNATIVE
COSTS RECOVERED FOR SPENT FUEL MANAGEMENT
(thousands, 2010 dollars)

Year*	Labor	Equipment & Materials	Transport	Burial	Other	Total
2036						
2037	1,094	3,281	0	0	43	4,417
2038	1,485	4,455	0	0	51	5,990
2039	3,812	11,435	0	0	51	15,297
2040	3,812	11,435	0	0	51	15,297
2041	3,822	11,466	0	0	51	15,339
2042	3,399	10,197	0	0	201	13,797
2043	2,578	7,733	0	0	500	10,810
2044	2,578	7,733	0	0	500	10,810
2045	763	2,288	0	0	501	3,552
2046	0	0	0	0	500	500
2047	0	0	0	0	500	500
2048	55	164	0	0	500	719
2049	67	202	0	0	501	770
2050	368	1,103	0	0	500	1,971
2051	1,911	256	0	0	999	3,166
2052	1,970	217	0	0	1,011	3,198
2053	2,074	230	0	0	970	3,274
2054	2,069	230	0	0	967	3,265
2055	2,069	230	0	0	967	3,265
2056	2,069	230	0	0	967	3,265
2057	2,074	230	0	0	970	3,274
2058	2,069	230	0	0	967	3,265
2059	2,069	230	0	0	967	3,265
2060	2,069	230	0	0	967	3,265
2061	2,074	230	0	0	970	3,274
2062	2,069	230	0	0	967	3,265
Total	48,413	74,260	0	0	16,138	138,812

* Costs expended in prior year

TABLE 3.8
ST. LUCIE NUCLEAR PLANT, UNIT 2
DECON ALTERNATIVE
COSTS RECOVERED FOR SPENT FUEL MANAGEMENT
(thousands, 2010 dollars)

Year*	Labor	Equipment & Materials	Transport	Burial	Other	Total
2043						
2044	994	2,983	0	0	38	4,015
2045	903	2,708	0	0	51	3,662
2046	820	2,461	0	0	51	3,332
2047	2,473	7,418	0	0	51	9,942
2048	3,122	9,367	0	0	51	12,541
2049	3,341	10,023	0	0	158	13,523
2050	1,468	4,403	0	0	500	6,371
2051	2,031	256	0	0	999	3,286
2052	2,082	217	0	0	1,011	3,310
2053	2,074	230	0	0	970	3,274
2054	2,069	230	0	0	967	3,265
2055	2,069	230	0	0	967	3,265
2056	2,069	230	0	0	967	3,265
2057	2,074	230	0	0	970	3,274
2058	2,069	230	0	0	967	3,265
2059	2,069	230	0	0	967	3,265
2060	2,069	230	0	0	967	3,265
2061	2,074	230	0	0	970	3,274
2062	2,069	230	0	0	967	3,265
Total	37,936	42,135	0	0	12,588	92,659

* Costs expended in prior year

TABLE 3.9
ST. LUCIE NUCLEAR PLANT
ISFSI DECOMMISSIONING
COSTS RECOVERED FOR SPENT FUEL MANAGEMENT
(thousands, 2010 dollars)

Year [1]	Labor	Equipment & Materials	Transport	Burial	Other	Total [2]
2073						
2074	8	4	1	1	15	29
2075	1,828	2,045	71	83	1,936	5,963
Total	1,836	2,049	72	84	1,951	5,992

Notes:
1. Costs are expended in prior year
2. Costs are divided evenly between the units in the cost estimates and schedules of expenditure

4. SCHEDULE ESTIMATE

The schedules for the decommissioning scenarios considered in this study follow the sequences presented in the AIF/NESP-036 study, with minor changes to reflect recent experience and site-specific constraints. In addition, the scheduling has been revised to reflect the spent fuel management plan described in Section 3.5.1.

A schedule or sequence of activities for the DECON alternative is presented in Figure 4.1. The scheduling sequence is based on the fuel being removed from the spent fuel pools within five and one half years. The key activities listed in the schedule do not reflect a one-to-one correspondence with those activities in the cost tables, but reflect dividing some activities for clarity and combining others for convenience. The schedule was prepared using the "Microsoft Project Professional 2007" computer software.[27]

4.1 SCHEDULE ESTIMATE ASSUMPTIONS

The schedule reflects the results of a precedence network developed for the site decommissioning activities, i.e., a PERT (Program Evaluation and Review Technique) Software Package. The work activity durations used in the precedence network reflect the actual man-hour estimates from the cost table, adjusted by stretching certain activities over their slack range and shifting the start and end dates of others. The following assumptions were made in the development of the decommissioning schedule:

- The fuel handling area is isolated until such time that all spent fuel has been discharged from the spent fuel pools to the DOE or to the ISFSI for interim storage. Decontamination and dismantling of the storage pools is initiated once the transfer of spent fuel is complete (DECON alternative).
- All work (except vessel and internals removal) is performed during an 8-hour workday, 5 days per week, with no overtime. There are eleven paid holidays per year.
- Reactor and internals removal activities are performed by using separate crews for different activities working on different shifts, with a corresponding backshift charge for the second shift.
- Multiple crews work parallel activities to the maximum extent possible, consistent with optimum efficiency, adequate access for cutting, removal and laydown space, and with the stringent safety measures necessary during demolition of heavy components and structures.

- For plant systems removal, the systems with the longest removal durations in areas on the critical path are considered to determine the duration of the activity.

4.2 PROJECT SCHEDULE

The period-dependent costs presented in the detailed cost tables are based upon the durations developed in the schedules for decommissioning. Durations are established between several milestones in each project period; these durations are used to establish a critical path for the entire project. In turn, the critical path duration for each period is used as the basis for determining the period-dependent costs. A second critical path is shown for the spent fuel storage period, which determines the release of the fuel storage area for final decontamination.

Project timelines are provided in Figures 4.2 and 4.3, with milestone dates based on the 2036 and 2043 shutdown dates for Units 1 and 2, respectively. The fuel pools are emptied approximately five and one half years after shutdown, while ISFSI operations continue until the DOE can complete the transfer of assemblies to its geologic repository. Deferred decommissioning in the SAFSTOR alternative is assumed to commence so that the operating license is terminated within a 60-year period from the cessation of plant operations.

FIGURE 4.1
ACTIVITY SCHEDULE

ID	Task Name
1	SL Unit 1 & 2 schedule
2	Shutdown Unit 1
3	Period 1a Unit 1 - Shutdown through transition
4	Reconfigure plant (continued)
6	Fuel storage pool operations
7	Reconfigure plant
8	Dry fuel storage operations
5	Certificate of permanent cessation of operations submitted
9	PSDAR submitted
10	Written certificate of permanent removal of fuel submitted
11	Site specific decommissioning cost estimate submitted
34	Unit 2 Operations
12	Period 1b Unit 1 - Limited DECON activites
16	Prepare detailed work procedures
13	Fuel storage pool operations
14	Dry fuel storage operations
15	Reconfigure plant (continued)
17	Isolate spent fuel pool
18	Period 1c Unit 1 - Preparations for Wet Layup
19	Fuel storage pool operations
20	Dry fuel storage operations
21	Reconfigure plant (continued)
22	Period 2a Unit 1 - SAFSTOR dormancy / wet storage
23	Fuel storage pool operations
24	Dry fuel storage operations
25	Period 2b Unit 1 - SAFSTOR dormancy / dry fuel
26	Dry fuel storage operations
35	Shutdown Unit 2
36	Period 1a Unit 2 - Shutdown through transition
37	Fuel storage pool operations
38	Reconfigure plant
39	Certificate of permanent cessation of operations submitted
40	PSDAR submitted
41	Written certificate of permanent removal of fuel submitted
42	Site specific decommissioning cost estimate submitted
43	Period 1b Unit 2 - Preparations for delayed DECON
44	Fuel storage pool operations
45	Reconfigure plant (continued)
46	Dry fuel storage operations
47	Prepare detailed work procedures
48	Decon NSSS
49	Isolate spent fuel pool
27	Period 3a Unit 1 - Reactivate Site
28	Dry fuel storage operations
29	Prepare activity specifications
30	Perform site characterization
50	Period 2a Unit 2 - Large component removal
51	Preparation for reactor vessel removal
52	Reactor vessel & internals
53	Remaining large NSSS components disposition
54	Relocate vessel segmentation equipment
55	Fuel storage pool operations
56	Dry fuel storage operations
57	Non-essential systems

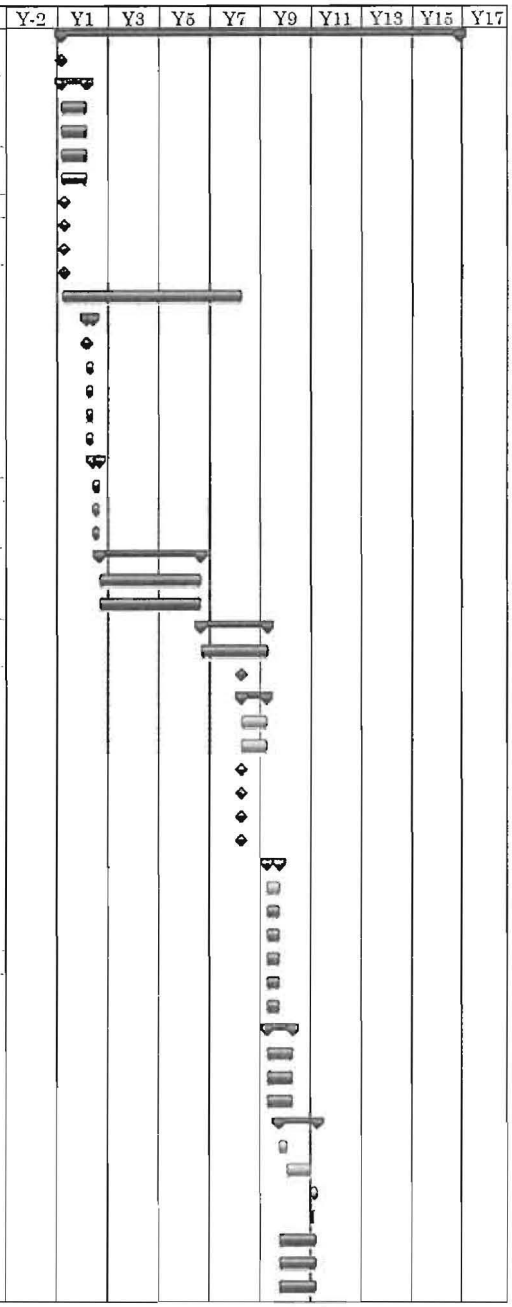


FIGURE 4.1 (continued)
ACTIVITY SCHEDULE

ID	Task Name
58	Main turbine/generator
59	Main condenser
60	License termination plan submitted
31	Period 3b Unit 1 - Preparations for delayed DECON
32	Dry fuel storage operations
33	Decon NSSS
72	Period 4a Unit 1 - Large component removal
73	Preparation for RPV removal
76	Systems removal not supporting vessel removal
77	Building decon not supporting vessel removal
78	Dry fuel storage operations
79	Non-essential systems
80	Main turbine/generator
81	Main condenser
74	Reactor vessel & internals
75	Remaining large NSSS components disposition
61	Period 2b Unit 2 - Decontamination (wet fuel)
62	Fuel storage pool operations
63	Dry fuel storage operations
64	Remove systems not supporting wet fuel storage
65	Decon buildings not supporting wet fuel storage
66	License termination plan approved
67	Fuel storage pool available for decommissioning
82	Period 4b Unit 1 - Site decontamination
83	Dry fuel storage operations
84	Systems removal not supporting vessel removal
85	Building decon not supporting vessel removal
86	License termination plan approved
68	Period 2d Unit 2 - Decontamination following wet fuel storage
69	Dry fuel storage operations
70	Remove remaining systems
71	Decon wet fuel storage area
87	Period 2e Unit 1 - Delay before License Term
88	Survey delay
89	End Delay
90	Period 2f Unit 1 & 2 - Plant license termination
91	Dry fuel storage operations
92	Final Site Survey
93	NRC review & approval
94	Part 50 license terminated
95	Period 3a Unit 1 & 2 - Site restoration delay
98	Period 3b Unit 1 & 2 - Site restoration
99	Dry fuel storage operations
100	Building demolitions, backfill and landscaping



FIGURE 4.2
DECOMMISSIONING TIMELINE
DECON
(not to scale)

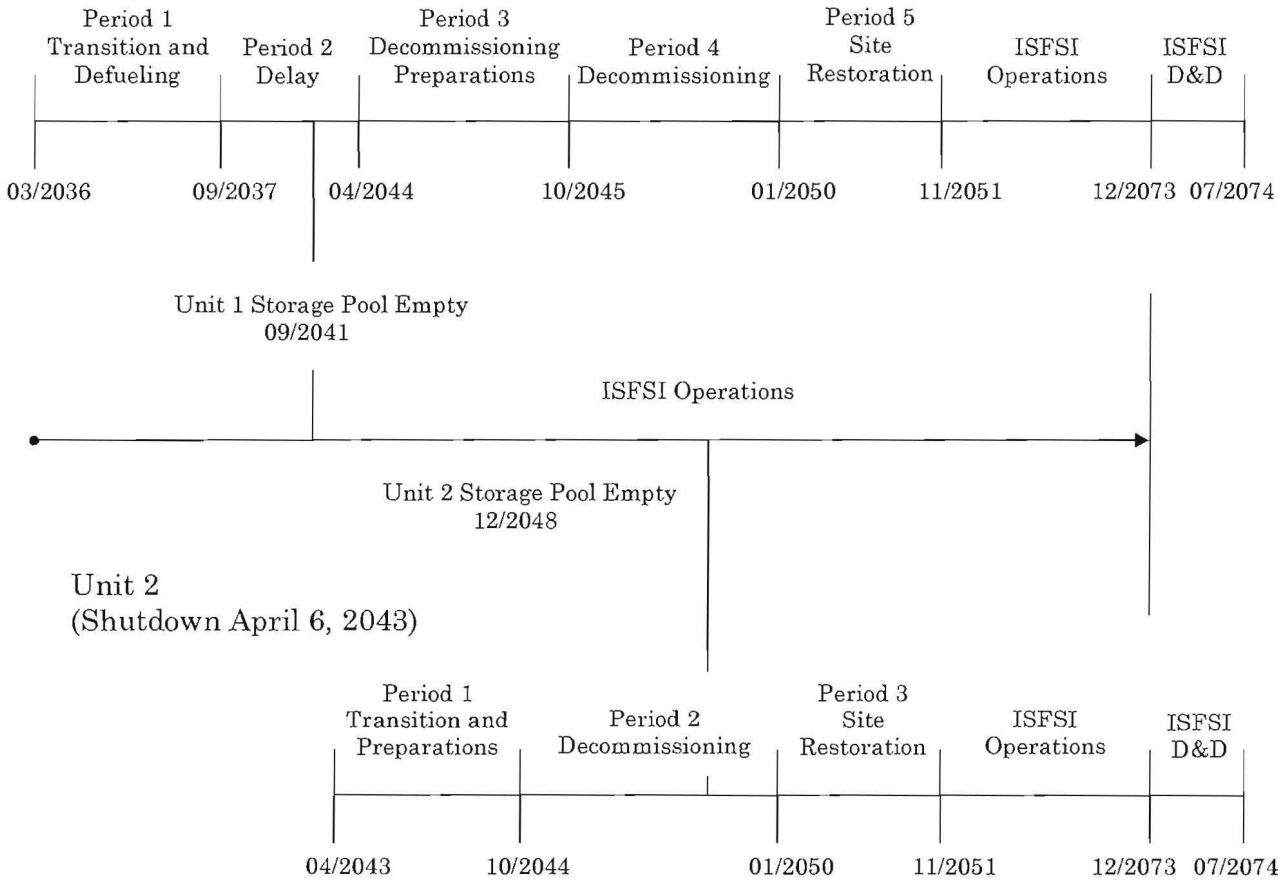
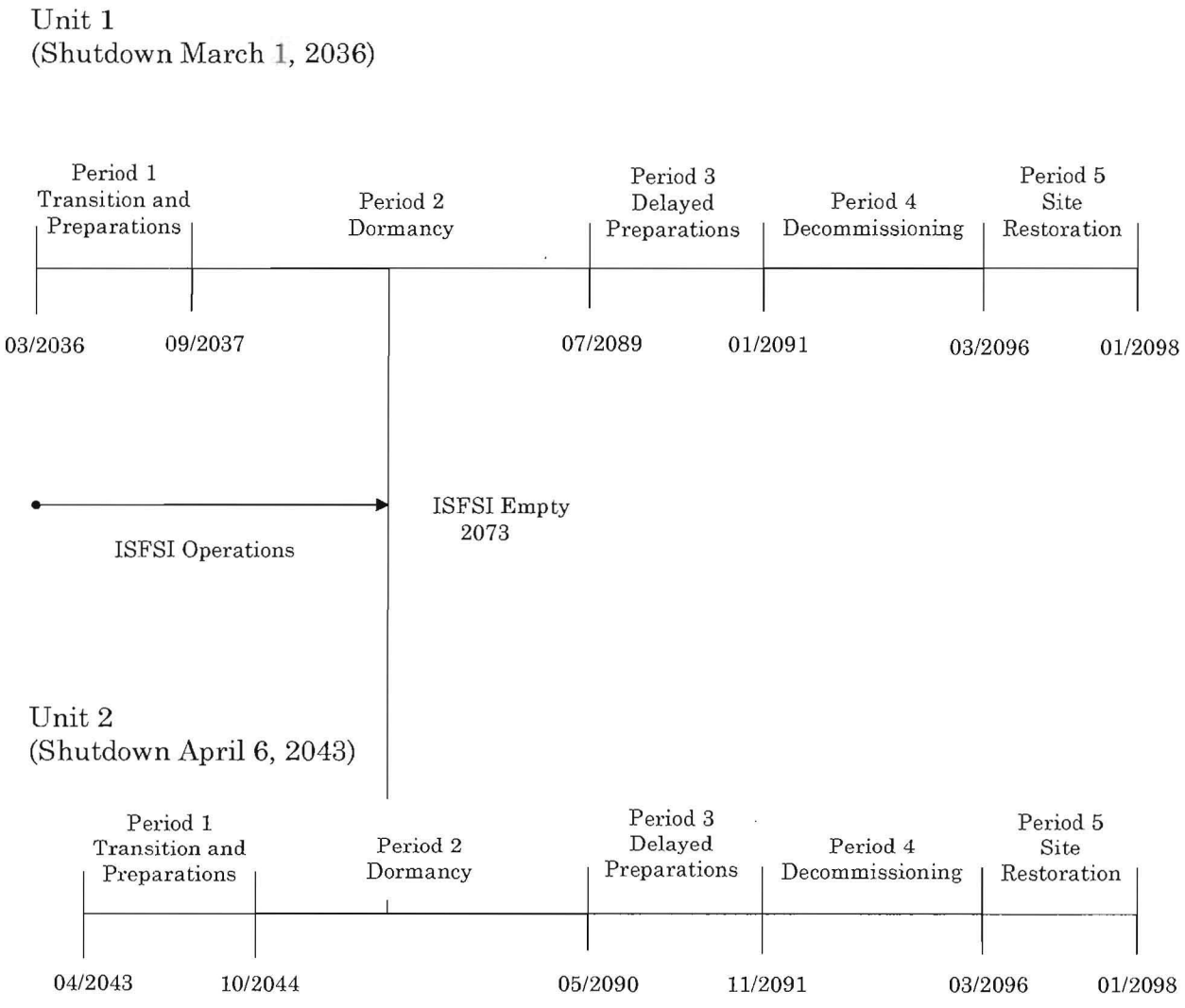


FIGURE 4.3
DECOMMISSIONING TIMELINE
SAFSTOR
(not to scale)



5. RADIOACTIVE WASTES

The objectives of the decommissioning process are the removal of all radioactive material from the site that would restrict its future use and the termination of the NRC license. This currently requires the remediation of all radioactive material at the site in excess of applicable legal limits. Under the Atomic Energy Act,[28] the NRC is responsible for protecting the public from sources of ionizing radiation. Title 10 of the Code of Federal Regulations delineates the production, utilization, and disposal of radioactive materials and processes. In particular, Part 71 defines radioactive material as it pertains to transportation and Part 61 specifies its disposition.

Most of the materials being transported for controlled burial are categorized as Low Specific Activity (LSA) or Surface Contaminated Object (SCO) materials containing Type A quantities, as defined in 49 CFR Parts 173-178. Shipping containers are required to be Industrial Packages (IP-1, IP-2 or IP-3, as defined in 10 CFR §173.411). For this study, commercially available steel containers are presumed to be used for the disposal of piping, small components, and concrete. Larger components can serve as their own containers, with proper closure of all openings, access ways, and penetrations.

The volumes of radioactive waste generated during the various decommissioning activities at the site are shown on a line-item basis in Appendices C and D, and summarized in Tables 5.1 and 5.2. The quantified waste volume summaries shown in these tables are consistent with 10 CFR Part 61 classifications. The volumes are calculated based on the exterior dimensions for containerized material and on the displaced volume of components serving as their own waste containers.

The reactor vessel and internals are categorized as large quantity shipments and, accordingly, will be shipped in reusable, shielded truck casks with disposable liners. In calculating disposal costs, the burial fees are applied against the liner volume, as well as the special handling requirements of the payload. Packaging efficiencies are lower for the highly-activated materials (greater than Type A quantity waste), where high concentrations of gamma-emitting radionuclides limit the capacity of the shipping canisters.

No process system containing/handling radioactive substances at shutdown is presumed to meet material release criteria by decay alone (i.e., systems radioactive at shutdown will still be radioactive over the time period during which the decommissioning is accomplished, due to the presence of long-lived radionuclides). While the dose rates decrease with time, radionuclides such as ^{137}Cs will still control the disposition requirements.

The waste material produced in the decontamination and dismantling of the nuclear plants is primarily generated during Period 2 of DECON and Period 4 of SAFSTOR. Material that is considered potentially contaminated when removed from the radiological controlled area is sent to processing facilities in Tennessee for conditioning and disposal. Heavily contaminated components and activated materials are routed for controlled disposal. The disposal volumes reported in the tables reflect the savings resulting from reprocessing and recycling.

For purposes of constructing the estimates, FPL's current cost for disposal at the EnergySolutions facility was used. Separate rates were used for containerized waste and large components, including the steam generators and reactor coolant pump motors. Demolition debris including miscellaneous steel, scaffolding, and concrete was disposed of at a bulk rate. The decommissioning waste stream also included resins and dry active waste.

Since EnergySolutions is not currently able to receive the more highly radioactive components generated in the decontamination and dismantling of the reactor, disposal costs for the Class B and C material were based upon the last published rate schedule for non-compact waste for the Barnwell facility (as a proxy), adjusted for escalation of the Atlantic Compact rates. Additional surcharges were included for activity, dose rate, and/or handling added as appropriate for the particular package.

TABLE 5.1
DECON ALTERNATIVE
DECOMMISSIONING WASTE SUMMARY

Waste Class	Waste Form	Cost Basis	Class [1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (at near-surface disposal facility)	Containerized and Bulk Debris	EnergySolutions	A	232,794	18,931,253
		Barnwell	B	1,984	232,555
		Barnwell	C	804	96,432
	Contaminated Soil	EnergySolutions	A	1,969,897	196,989,710
	Storm Drain Remediation	EnergySolutions	A	82,693	8,298,877
Greater than Class C (geologic repository)	Modified DSCs	Spent Fuel Equivalent	GTCC	1,502	306,632
Total [2]				2,289,673	224,855,459
Processed/Conditioned (at off-site recycling center)		Recycling Vendors	A	326,396	13,376,363

[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

[2] Columns may not add due to rounding.

TABLE 5.2
SAFSTOR ALTERNATIVE
DECOMMISSIONING WASTE SUMMARY

Waste Class	Waste Form	Cost Basis	Class [1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (at near-surface disposal facility)	Containerized and Bulk Debris	EnergySolutions	A	216,065	16,905,133
		Barnwell	B	1,252	150,786
		Barnwell	C	767	94,107
	Contaminated Soil	EnergySolutions	A	1,969,897	196,989,710
	Storm Drain Remediation	EnergySolutions	A	82,693	8,298,877
Greater than Class C (geologic repository)	Modified DSCs	Spent Fuel Equivalent	GTCC	1,502	306,632
Total [2]				2,272,176	222,745,245
Processed/Conditioned (at off-site recycling center)		Recycling Vendors	A	311,431	12,771,565

[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

[2] Columns may not add due to rounding.

6. RESULTS

The analysis to estimate the costs to decommission St. Lucie relied upon the site-specific, technical information developed for a previous analysis prepared in 2005, updated to reflect current assumptions pertaining to the disposition of the nuclear station and relevant industry experience in undertaking such projects. While not an engineering study, the estimates provide FPL with sufficient information to assess their financial obligations, as they pertain to the eventual decommissioning of the nuclear station.

The estimates described in this report are based on numerous fundamental assumptions, including a 60-year operating life, regulatory requirements, project contingencies, low-level radioactive waste disposal practices, high-level radioactive waste management options, and site restoration requirements. The decommissioning scenarios assume continued operation of the station's spent fuel pools for a minimum of five and one half years following the cessation of operations for continued cooling of the assemblies.

The cost projected to promptly decommission the station, manage the spent fuel, and restore the site is estimated to be $1,478.8 million. The majority of this cost (approximately 71.2%) is associated with the physical decontamination and dismantling of the nuclear plant so that the operating license can be terminated. Another 22.4% is associated with the management, interim storage, and eventual transfer of the spent fuel. The remaining 6.4% is for the demolition of the designated structures and limited restoration of the site.

The cost projected for deferred decommissioning (SAFSTOR) is estimated to be $1,725.6 million. The majority of this cost (approximately 71.9%) is associated with placing the plant in storage, ongoing caretaking of the plant during dormancy, and the eventual physical decontamination and dismantling of the nuclear plant so that the operating license can be terminated. Another 22.3% is associated with the management, interim storage, and eventual transfer of the spent fuel. The remaining 5.8% is for the demolition of the designated structures and limited restoration of the site.

The primary cost contributors, identified in Tables 6.1 and 6.2, are either labor-related or associated with the management and disposition of the radioactive waste. Program management is the largest single contributor to the overall cost. The magnitude of the expense is a function of both the size of the organization required to manage the decommissioning, as well as the duration of the program. It is assumed, for purposes of this analysis, that FPL will hire a Decommissioning Operations Contractor (DOC) to manage the decommissioning. The owner will

provide site security, radiological health and safety, quality assurance and overall site administration during the decommissioning and demolition phases. Contract personnel will provide engineering services, e.g., for preparing the activity specifications, work procedures, activation, and structural analyses, under the direction of the owner. The size and composition of the management organization varies with the decommissioning phase and associated site activities. However, once the operating licenses are terminated, the staff is substantially reduced for the conventional demolition and restoration of the site, and the long-term care of the spent fuel (for the DECON alternative).

As described in this report, the spent fuel pools will remain operational for a minimum of five and one half years following the cessation of operations. The pools will be isolated and an independent spent fuel island created. This will allow decommissioning operations to proceed in and around the pool area. Over the five and one half-year period, the spent fuel will be packaged into transportable canisters for loading into a DOE-provided transport cask or relocation to the ISFSI.

The cost for waste disposal includes only those costs associated with the controlled disposition of the low-level radioactive waste generated from decontamination and dismantling activities, including plant equipment and components, structural material, filters, resins and dry-active waste. As described in Section 5, disposition of the majority of the low-level radioactive material requiring controlled disposal is at the EnergySolutions' facility. Highly activated components, requiring additional isolation from the environment (GTCC), are packaged for geologic disposal. The cost of geologic disposal is based upon a cost equivalent for spent fuel.

A significant portion of the metallic waste is designated for additional processing and treatment at an off-site facility. Processing reduces the volume of material requiring controlled disposal through such techniques and processes as survey and sorting, decontamination, and volume reduction. The material that cannot be unconditionally released is packaged for controlled disposal at one of the currently operating facilities. The cost identified in the summary tables for processing is all-inclusive, incorporating the ultimate disposition of the material.

Removal costs reflect the labor-intensive nature of the decommissioning process, as well as the management controls required to ensure a safe and successful program. Decontamination and packaging costs also have a large labor component that is based upon prevailing wages. Non-radiological demolition is a natural extension of the decommissioning process. With a work force mobilized to support decommissioning operations, non-radiological demolition can be an integrated activity and a logical expansion of the work being performed in the process of terminating the operating license. Prompt demolition reduces future liabilities and

can be more cost effective than deferral, due to the deterioration of the facilities (and therefore the working conditions) with time.

The reported cost for transport includes the tariffs and surcharges associated with moving large components and/or overweight shielded casks overland, as well as the general expense, e.g., labor and fuel, of transporting material to the destinations identified in this report. For purposes of this analysis, material is primarily moved overland by truck.

Decontamination is used to reduce the plant's radiation fields and minimize worker exposure. Slightly contaminated material or material located within a contaminated area is sent to an off-site processing center, i.e., this analysis does not assume that contaminated plant components and equipment can be decontaminated for uncontrolled release in-situ. Centralized processing centers have proven to be a more economical means of handling the large volumes of material produced in the dismantling of a nuclear plant.

License termination survey costs are associated with the labor intensive and complex activity of verifying that contamination has been removed from the site to the levels specified by the regulating agency. This process involves a systematic survey of all remaining plant surface areas and surrounding environs, sampling, isotopic analysis, and documentation of the findings. The status of any plant components and materials not removed in the decommissioning process will also require confirmation and will add to the expense of surveying the facilities alone.

The remaining costs include allocations for heavy equipment and temporary services, as well as for other expenses such as regulatory fees and the premiums for nuclear insurance. While site operating costs are greatly reduced following the final cessation of plant operations, certain administrative functions do need to be maintained either at a basic functional or regulatory level.

TABLE 6.1
DECON ALTERNATIVE
DECOMMISSIONING COST ELEMENTS
(thousands of 2010 dollars)

Cost Element	Total	Percentage
Decontamination	26,001	1.8
Removal	182,608	12.3
Packaging	41,172	2.8
Transportation	43,036	2.9
Waste Disposal	155,092	10.5
Off-site Waste Processing	41,466	2.8
Program Management [1]	603,923	40.8
Spent Fuel Pool Isolation	19,129	1.3
Spent Fuel Management (Direct Costs) [2]	215,599	14.6
Insurance and Regulatory Fees	35,567	2.4
Energy	34,447	2.3
Characterization and Licensing Surveys	24,248	1.6
Property Taxes	21,167	1.4
Miscellaneous Equipment	14,894	1.0
Fixed Overhead	9,918	0.7
INPO,NEI Fees	5,557	0.4
Florida LLRW Inspection Fee	4,932	0.3
Total [3]	1,478,754	100.0

Cost Element	Total	Percentage
License Termination	1,052,235	71.2
Spent Fuel Management [4]	331,105	22.4
Site Restoration	95,414	6.4
Total [3]	1,478,754	100.0

[1] Includes engineering costs
[2] Excludes program management costs (staffing) but includes costs for dry shielded storage canisters and horizontal storage modules, spent fuel loading/transfer/spent fuel pool O&M and EP fees
[3] Columns may not add due to rounding
[4] Includes period-dependent costs such as Program Management costs

TABLE 6.2
SAFSTOR ALTERNATIVE
DECOMMISSIONING COST ELEMENTS
(thousands of 2010 dollars)

Cost Element	Total	Percentage
Decontamination	21,519	1.2
Removal	181,505	10.5
Packaging	32,208	1.9
Transportation	38,325	2.2
Waste Disposal	134,590	7.8
Off-site Waste Processing	39,866	2.3
Program Management [1]	790,773	45.8
Spent Fuel Pool Isolation	19,129	1.1
Spent Fuel Management (Direct Costs) [2]	208,866	12.1
Insurance and Regulatory Fees	84,932	4.9
Energy	59,600	3.5
Characterization and Licensing Surveys	25,641	1.5
Property Taxes	24,878	1.4
Miscellaneous Equipment	32,491	1.9
Fixed Overhead	21,107	1.2
INPO,NEI Fees	5,201	0.3
Florida LLRW Inspection Fee	4,930	0.3
Total [3]	1,725,560	100.0

Cost Element	Total	Percentage
License Termination	1,241,342	71.9
Spent Fuel Management [4]	384,059	22.3
Site Restoration	100,159	5.8
Total [3]	1,725,560	100.0

[1] Includes engineering costs
[2] Excludes program management costs (staffing) but includes costs for dry shielded storage canisters and horizontal storage modules, spent fuel loading/transfer/spent fuel pool O&M and EP fees
[3] Columns may not add due to rounding
[4] Includes period-dependent costs such as Program Management costs

7. REFERENCES

1. "Decommissioning Cost Analysis for the St. Lucie Nuclear Plant, Units 1 and 2," Document F02-1512-002, Rev. 0, TLG Services, Inc., October 2005

2. U.S. Code of Federal Regulations, Title 10, Parts 30, 40, 50, 51, 70 and 72, "General Requirements for Decommissioning Nuclear Facilities," Nuclear Regulatory Commission, Federal Register Volume 53, Number 123 (p 24018 et seq.), June 27, 1988

3. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors," October 2003

4. U.S. Code of Federal Regulations, Title 10, Part 20, Subpart E, "Radiological Criteria for License Termination"

5. U.S. Code of Federal Regulations, Title 10, Parts 20 and 50, "Entombment Options for Power Reactors," Advanced Notice of Proposed Rulemaking, Federal Register Volume 66, Number 200, October 16, 2001

6. U.S. Code of Federal Regulations, Title 10, Parts 2, 50 and 51, "Decommissioning of Nuclear Power Reactors," Nuclear Regulatory Commission, Federal Register Volume 61 (p 39278 et seq.), July 29, 1996.

7. "Nuclear Waste Policy Act of 1982 and Amendments," U.S. Department of Energy's Office of Civilian Radioactive Management, 1982

8. U.S. Code of Federal Regulations, Title 10, Part 50, "Domestic Licensing of Production and Utilization Facilities," Subpart 54 (bb), "Conditions of Licenses"

9. "Low Level Radioactive Waste Policy Act," Public Law 96-573, 1980

10. "Low-Level Radioactive Waste Policy Amendments Act of 1985," Public Law 99-240, 1986

11. Waste is classified in accordance with U.S. Code of Federal Regulations, Title 10, Part 61.55

12. U.S. Code of Federal Regulations, Title 10, Part 20, Subpart E, "Radiological Criteria for License Termination," Federal Register, Volume 62, Number 139 (p 39058 et seq.), July 21, 1997

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13. "Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination," EPA Memorandum OSWER No. 9200.4-18, August 22, 1997.

14. U.S. Code of Federal Regulations, Title 40, Part 141.16, "Maximum contaminant levels for beta particle and photon radioactivity from man-made radionuclides in community water systems"

15. "Memorandum of Understanding Between the Environmental Protection Agency and the Nuclear Regulatory Commission: Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites," OSWER 9295.8-06a, October 9, 2002

16. "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)," NUREG/CR-1575, Rev. 1, EPA 402-R-97-016, Rev. 1, August 2000

17. T.S. LaGuardia et al., "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986

18. W.J. Manion and T.S. LaGuardia, "Decommissioning Handbook," U.S. Department of Energy, DOE/EV/10128-1, November 1980

19. "Building Construction Cost Data 2010," Robert Snow Means Company, Inc., Kingston, Massachusetts

20. Project and Cost Engineers' Handbook, Second Edition, p. 239, American Association of Cost Engineers, Marcel Dekker, Inc., New York, New York, 1984

21. U.S. Department of Transportation, Title 49 of the Code of Federal Regulations, "Transportation," Parts 173 through 178

22. Tri-State Motor Transit Company, published tariffs, Interstate Commerce Commission (ICC), Docket No. MC-427719 Rules Tariff, March 2004, Radioactive Materials Tariff, March 2010

23. J.C. Evans et al., "Long-Lived Activation Products in Reactor Materials" NUREG/CR-3474, Pacific Northwest Laboratory for the Nuclear Regulatory Commission, August 1984

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25. H.D. Oak, et al., "Technology, Safety and Costs of Decommissioning a Reference Boiling Water Reactor Power Station," NUREG/CR-0672 and addenda, Pacific Northwest Laboratory for the Nuclear Regulatory Commission, June 1980

26. "Financial Protection Requirements for Permanently Shutdown Nuclear Power Reactors," 10 CFR Parts 50 and 140, Federal Register Notice, Vol. 62, No. 210, October 30, 1997

27. "Microsoft Project Professional 2007," Microsoft Corporation, Redmond, WA.

28. "Atomic Energy Act of 1954," (68 Stat. 919)

APPENDIX A

UNIT COST FACTOR DEVELOPMENT

APPENDIX A
UNIT COST FACTOR DEVELOPMENT

Example: Unit Factor for Removal of Contaminated Heat Exchanger < 3,000 lbs.

1. SCOPE

Heat exchangers weighing < 3,000 lbs. will be removed in one piece using a crane or small hoist. They will be disconnected from the inlet and outlet piping. The heat exchanger will be sent to the waste processing area.

2. CALCULATIONS

Act ID	Activity Description	Activity Duration (minutes)	Critical Duration (minutes)*
a	Remove insulation	60	(b)
b	Mount pipe cutters	60	60
c	Install contamination controls	20	(b)
d	Disconnect inlet and outlet lines	60	60
e	Cap openings	20	(d)
f	Rig for removal	30	30
g	Unbolt from mounts	30	30
h	Remove contamination controls	15	15
i	Remove, wrap, send to waste processing area	60	60
	Totals (Activity/Critical)	355	255

Duration adjustment(s):	
+ Respiratory protection adjustment (50% of critical duration)	128
+ Radiation/ALARA adjustment (37% of critical duration)	95
Adjusted work duration	478
+ Protective clothing adjustment (30% of adjusted duration)	143
Productive work duration	621
+ Work break adjustment (8.33 % of productive duration)	52
Total work duration (minutes)	673

***** Total duration = 11.217 hr *****

* alpha designators indicate activities that can be performed in parallel

APPENDIX A
(continued)

3. LABOR REQUIRED

Crew	Number	Duration (hours)	Rate ($/hr)	Cost
Laborers	3.00	11.217	$31.23	$1,050.92
Craftsmen	2.00	11.217	$49.78	$1,116.76
Foreman	1.00	11.217	$54.02	$605.94
General Foreman	0.25	11.217	$56.81	$159.31
Fire Watch	0.05	11.217	$31.23	$17.52
Health Physics Technician	1.00	11.217	$42.76	$479.64
Total Labor Cost				$3,430.09

4. EQUIPMENT & CONSUMABLES COSTS

Equipment Costs	none
Consumables/Materials Costs	
-Blotting paper 50 @ $0.53 sq ft [1]	$26.50
-Plastic tarp 50 @ $0.39/sq ft [2]	$19.50
-Gas torch consumables 1 @ $9.30/hr x 1 hr [3]	$9.30
Subtotal cost of equipment and materials	$55.30
Overhead & profit on equipment and materials @ 16.50 %	$9.12
Total costs, equipment & material	$64.42

TOTAL COST:

Removal of contaminated **heat exchanger <3000 pounds:**	**$3,494.51**
Total labor cost:	$3,430.09
Total equipment/material costs:	$64.42
Total craft labor man-hours required per unit:	81.88

** denotes business sensitive information

5. NOTES AND REFERENCES

- Work difficulty factors were developed in conjunction with the Atomic Industrial Forum's (now NEI) program to standardize nuclear decommissioning cost estimates and are delineated in Volume 1, Chapter 5 of the "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986.

- References for equipment & consumables costs:

    1. www.mcmaster.com online catalog, McMaster Carr Spill Control (7428T13)
    2. R.S. Means (2010) Division 01 56, Section 13.60-0600, page 20
    3. R.S. Means (2010) Division 01 54 33, Section 40-6360, page 658

- Material and consumable costs were adjusted using the regional indices for West Palm Beach, Florida.

APPENDIX B

UNIT COST FACTOR LISTING
(DECON: Power Block Structures Only)

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Removal of clean instrument and sampling tubing, $/linear foot	0.37
Removal of clean pipe 0.25 to 2 inches diameter, $/linear foot	3.82
Removal of clean pipe >2 to 4 inches diameter, $/linear foot	5.62
Removal of clean pipe >4 to 8 inches diameter, $/linear foot	11.42
Removal of clean pipe >8 to 14 inches diameter, $/linear foot	21.59
Removal of clean pipe >14 to 20 inches diameter, $/linear foot	28.04
Removal of clean pipe >20 to 36 inches diameter, $/linear foot	41.26
Removal of clean pipe >36 inches diameter, $/linear foot	49.03
Removal of clean valve >2 to 4 inches	75.53
Removal of clean valve >4 to 8 inches	114.18
Removal of clean valve >8 to 14 inches	215.87
Removal of clean valve >14 to 20 inches	280.39
Removal of clean valve >20 to 36 inches	412.58
Removal of clean valve >36 inches	490.34
Removal of clean pipe hanger for small bore piping	24.30
Removal of clean pipe hanger for large bore piping	85.12
Removal of clean pump, <300 pound	191.93
Removal of clean pump, 300-1000 pound	544.34
Removal of clean pump, 1000-10,000 pound	2,138.05
Removal of clean pump, >10,000 pound	4,132.47
Removal of clean pump motor, 300-1000 pound	228.89
Removal of clean pump motor, 1000-10,000 pound	890.45
Removal of clean pump motor, >10,000 pound	2,003.52
Removal of clean heat exchanger <3000 pound	1,150.56
Removal of clean heat exchanger >3000 pound	2,892.79
Removal of clean feedwater heater/deaerator	8,137.32
Removal of clean moisture separator/reheater	16,707.12
Removal of clean tank, <300 gallons	246.97
Removal of clean tank, 300-3000 gallon	779.98
Removal of clean tank, >3000 gallons, $/square foot surface area	6.67

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Removal of clean electrical equipment, <300 pound	104.93
Removal of clean electrical equipment, 300-1000 pound	372.64
Removal of clean electrical equipment, 1000-10,000 pound	745.30
Removal of clean electrical equipment, >10,000 pound	1,795.90
Removal of clean electrical transformer < 30 tons	1,247.23
Removal of clean electrical transformer > 30 tons	3,591.79
Removal of clean standby diesel generator, <100 kW	1,273.93
Removal of clean standby diesel generator, 100 kW to 1 MW	2,843.50
Removal of clean standby diesel generator, >1 MW	5,886.61
Removal of clean electrical cable tray, $/linear foot	9.79
Removal of clean electrical conduit, $/linear foot	4.28
Removal of clean mechanical equipment, <300 pound	104.93
Removal of clean mechanical equipment, 300-1000 pound	372.64
Removal of clean mechanical equipment, 1000-10,000 pound	745.30
Removal of clean mechanical equipment, >10,000 pound	1,795.90
Removal of clean HVAC equipment, <300 pound	126.89
Removal of clean HVAC equipment, 300-1000 pound	447.77
Removal of clean HVAC equipment, 1000-10,000 pound	892.40
Removal of clean HVAC equipment, >10,000 pound	1,795.90
Removal of clean HVAC ductwork, $/pound	0.39
Removal of contaminated instrument and sampling tubing, $/linear foot	1.20
Removal of contaminated pipe 0.25 to 2 inches diameter, $/linear foot	17.69
Removal of contaminated pipe >2 to 4 inches diameter, $/linear foot	29.71
Removal of contaminated pipe >4 to 8 inches diameter, $/linear foot	48.19
Removal of contaminated pipe >8 to 14 inches diameter, $/linear foot	92.18
Removal of contaminated pipe >14 to 20 inches diameter, $/linear foot	110.11
Removal of contaminated pipe >20 to 36 inches diameter, $/linear foot	151.25
Removal of contaminated pipe >36 inches diameter, $/linear foot	178.24
Removal of contaminated valve >2 to 4 inches	359.84
Removal of contaminated valve >4 to 8 inches	431.17

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Removal of contaminated valve >8 to 14 inches	868.21
Removal of contaminated valve >14 to 20 inches	1,099.25
Removal of contaminated valve >20 to 36 inches	1,458.95
Removal of contaminated valve >36 inches	1,728.79
Removal of contaminated pipe hanger for small bore piping	114.46
Removal of contaminated pipe hanger for large bore piping	373.59
Removal of contaminated pump, <300 pound	769.89
Removal of contaminated pump, 300-1000 pound	1,801.66
Removal of contaminated pump, 1000-10,000 pound	5,752.59
Removal of contaminated pump, >10,000 pound	14,005.20
Removal of contaminated pump motor, 300-1000 pound	783.96
Removal of contaminated pump motor, 1000-10,000 pound	2,360.85
Removal of contaminated pump motor, >10,000 pound	5,300.54
Removal of contaminated heat exchanger <3000 pound	3,494.51
Removal of contaminated heat exchanger >3000 pound	10,170.77
Removal of contaminated tank, <300 gallons	1,285.23
Removal of contaminated tank, >300 gallons, $/square foot	24.98
Removal of contaminated electrical equipment, <300 pound	591.36
Removal of contaminated electrical equipment, 300-1000 pound	1,462.79
Removal of contaminated electrical equipment, 1000-10,000 pound	2,818.29
Removal of contaminated electrical equipment, >10,000 pound	5,596.32
Removal of contaminated electrical cable tray, $/linear foot	28.47
Removal of contaminated electrical conduit, $/linear foot	14.43
Removal of contaminated mechanical equipment, <300 pound	657.55
Removal of contaminated mechanical equipment, 300-1000 pound	1,614.22
Removal of contaminated mechanical equipment, 1000-10,000 pound	3,104.97
Removal of contaminated mechanical equipment, >10,000 pound	5,596.32
Removal of contaminated HVAC equipment, <300 pound	657.55
Removal of contaminated HVAC equipment, 300-1000 pound	1,614.22
Removal of contaminated HVAC equipment, 1000-10,000 pound	3,104.97

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Removal of contaminated HVAC equipment, >10,000 pound	5,596.32
Removal of contaminated HVAC ductwork, $/pound	1.75
Removal/plasma arc cut of contaminated thin metal components, $/linear in.	3.18
Additional decontamination of surface by washing, $/square foot	6.48
Additional decontamination of surfaces by hydrolasing, $/square foot	30.22
Decontamination rig hook up and flush, $/ 250 foot length	5,518.84
Chemical flush of components/systems, $/gallon	15.51
Removal of clean standard reinforced concrete, $/cubic yard	117.51
Removal of grade slab concrete, $/cubic yard	154.04
Removal of clean concrete floors, $/cubic yard	312.65
Removal of sections of clean concrete floors, $/cubic yard	921.89
Removal of clean heavily rein concrete w/#9 rebar, $/cubic yard	207.50
Removal of contaminated heavily rein concrete w/#9 rebar, $/cubic yard	1,803.81
Removal of clean heavily rein concrete w/#18 rebar, $/cubic yard	262.35
Removal of contaminated heavily rein concrete w/#18 rebar, $/cubic yard	2,384.11
Removal heavily rein concrete w/#18 rebar & steel embedments, $/cubic yard	394.07
Removal of below-grade suspended floors, $/cubic yard	312.65
Removal of clean monolithic concrete structures, $/cubic yard	765.30
Removal of contaminated monolithic concrete structures, $/cubic yard	1,791.77
Removal of clean foundation concrete, $/cubic yard	601.36
Removal of contaminated foundation concrete, $/cubic yard	1,669.31
Explosive demolition of bulk concrete, $/cubic yard	26.96
Removal of clean hollow masonry block wall, $/cubic yard	76.90
Removal of contaminated hollow masonry block wall, $/cubic yard	261.76
Removal of clean solid masonry block wall, $/cubic yard	76.90
Removal of contaminated solid masonry block wall, $/cubic yard	261.76
Backfill of below-grade voids, $/cubic yard	21.73
Removal of subterranean tunnels/voids, $/linear foot	92.30
Placement of concrete for below-grade voids, $/cubic yard	127.29
Excavation of clean material, $/cubic yard	2.73

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Excavation of contaminated material, $/cubic yard	36.07
Removal of clean concrete rubble (tipping fee included), $/cubic yard	21.04
Removal of contaminated concrete rubble, $/cubic yard	22.41
Removal of building by volume, $/cubic foot	0.27
Removal of clean building metal siding, $/square foot	0.87
Removal of contaminated building metal siding, $/square foot	3.16
Removal of standard asphalt roofing, $/square foot	1.74
Removal of transite panels, $/square foot	1.79
Scarifying contaminated concrete surfaces (drill & spall), $/square foot	10.93
Scabbling contaminated concrete floors, $/square foot	6.38
Scabbling contaminated concrete walls, $/square foot	16.62
Scabbling contaminated ceilings, $/square foot	56.81
Scabbling structural steel, $/square foot	5.31
Removal of clean overhead crane/monorail < 10 ton capacity	535.93
Removal of contaminated overhead crane/monorail < 10 ton capacity	1,515.93
Removal of clean overhead crane/monorail >10-50 ton capacity	1,286.23
Removal of contaminated overhead crane/monorail >10-50 ton capacity	3,637.60
Removal of polar crane > 50 ton capacity	5,433.05
Removal of gantry crane > 50 ton capacity	22,448.64
Removal of structural steel, $/pound	0.18
Removal of clean steel floor grating, $/square foot	3.97
Removal of contaminated steel floor grating, $/square foot	11.47
Removal of clean free standing steel liner, $/square foot	10.00
Removal of contaminated free standing steel liner, $/square foot	29.16
Removal of clean concrete-anchored steel liner, $/square foot	5.00
Removal of contaminated concrete-anchored steel liner, $/square foot	33.97
Placement of scaffolding in clean areas, $/square foot	15.59
Placement of scaffolding in contaminated areas, $/square foot	23.53
Landscaping with topsoil, $/acre	18,622.81
Cost of CPC B-88 LSA box & preparation for use	2,029.36

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Cost of CPC B-25 LSA box & preparation for use	1,669.40
Cost of CPC B-12V 12 gauge LSA box & preparation for use	1,502.25
Cost of CPC B-144 LSA box & preparation for use	8,992.66
Cost of LSA drum & preparation for use	160.33
Cost of cask liner for CNSI 8 120A cask (resins)	7,201.52
Cost of cask liner for CNSI 8 120A cask (filters)	7,687.05
Decontamination of surfaces with vacuuming, $/square foot	0.63

APPENDIX C

DETAILED COST ANALYSIS

DECON

Tables

C-1 St. Lucie Nuclear Plant, Unit 1 2

C-2 St. Lucie Nuclear Plant, Unit 2 14

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	338	101	439	439	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	556
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	95	14	110	110	-	-	-	-	-	-	-	-	-	855
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	556
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
1a.1.11	End product description	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	72	11	82	82	-	-	-	-	-	-	-	-	-	641
1a.1.13	Define major work sequence	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
1a.1.14	Perform SER and EA	-	-	-	-	-	-	148	22	170	170	-	-	-	-	-	-	-	-	-	1,326
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	238	36	274	274	-	-	-	-	-	-	-	-	-	2,138
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	235	35	270	270	-	-	-	-	-	-	-	-	-	2,104
1a.1.16.2	Plant systems	-	-	-	-	-	-	199	30	229	229	-	-	-	-	-	-	-	-	-	1,782
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	149	22	171	171	-	-	-	-	-	-	-	-	-	1,334
1a.1.16.4	Waste management	-	-	-	-	-	-	95	14	110	110	-	-	-	-	-	-	-	-	-	855
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	95	14	110	110	-	-	-	-	-	-	-	-	-	855
1a.1.16	Total	-	-	-	-	-	-	773	116	889	889	-	-	-	-	-	-	-	-	-	6,930
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	56	8	65	65	-	-	-	-	-	-	-	-	-	506
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	57	9	66	66	-	-	-	-	-	-	-	-	-	513
1a.1.17	Total	-	-	-	-	-	-	114	17	131	131	-	-	-	-	-	-	-	-	-	1,019
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	5	1	5	5	-	-	-	-	-	-	-	-	-	43
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	2,050	358	2,408	2,408	-	-	-	-	-	-	-	-	-	15,347
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	4,537	681	5,218	-	5,218	-	-	-	-	-	-	-	-	-
1a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
1a.3.3	Fixed Overhead	-	-	-	-	-	-	417	63	480	480	-	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	4,955	743	5,699	481	5,218	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,192	119	1,311	1,311	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	1,734	173	1,907	1,907	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	335	-	-	-	-	-	84	419	419	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	487	-	-	-	-	-	73	560	560	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	9	7	-	22	-	8	46	46	-	-	-	493	-	-	-	9,854	16	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	2,276	341	2,617	2,617	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	738	74	812	812	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	607	61	668	-	668	-	-	-	-	-	-	-	-	-
1a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	764	115	878	-	878	-	-	-	-	-	-	-	-	-
1a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-
1a.4.11	INPO Fees	-	-	-	-	-	-	722	72	794	794	-	-	-	-	-	-	-	-	-	-
1a.4.12	NEI Fees	-	-	-	-	-	-	148	15	163	163	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	1,870	280	2,150	2,150	-	-	-	-	-	-	-	-	-	46,678
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	27,592	4,139	31,731	31,731	-	-	-	-	-	-	-	-	-	423,400
1a.4	Subtotal Period 1a Period-Dependent Costs	-	822	9	7	-	22	37,886	5,500	44,107	42,510	1,597	-	-	493	-	-	-	9,854	16	470,078

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
1a.0	TOTAL PERIOD 1a COST	-	822	9	7	-	22	44,692	6,662	52,214	45,399	6,815	-	-	493	-	-	-	9,854	16	485,425
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	993	-	-	-	-	-	-	496	1,489	1,489	-	-	-	-	-	-	-	-	22,339	-
1b.1.1.2	Reactor Auxiliary	453	-	-	-	-	-	-	227	680	680	-	-	-	-	-	-	-	-	10,511	-
1b.1.1.3	Fuel Handling	383	-	-	-	-	-	-	192	575	575	-	-	-	-	-	-	-	-	7,946	-
1b.1.1	Totals	1,829	-	-	-	-	-	-	915	2,744	2,744	-	-	-	-	-	-	-	-	40,796	-
1b.1	Subtotal Period 1b Activity Costs	1,829	-	-	-	-	-	-	915	2,744	2,744	-	-	-	-	-	-	-	-	40,796	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	823	-	-	-	-	-	-	123	946	946	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	147	-	61	419	-	366	-	234	1,227	1,227	-	-	-	1,009	-	-	-	60,563	197	-
1b.3.4	Small tool allowance	-	29	-	-	-	-	-	4	33	33	-	-	-	-	-	-	-	-	-	-
1b.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	3	0	3	3	-	-	-	-	-	-	-	-	-	-
1b.3.6	Fixed Overhead	-	-	-	-	-	-	105	16	121	121	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	970	29	61	419	-	366	108	378	2,330	2,330	-	-	-	1,009	-	-	-	60,563	197	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	755	-	-	-	-	-	-	189	944	944	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	300	30	330	330	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	437	44	481	481	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	247	-	-	-	-	-	62	309	309	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	123	-	-	-	-	-	18	141	141	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	10	8	-	24	-	8	50	50	-	-	-	532	-	-	-	10,632	17	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	574	86	660	660	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	186	19	205	205	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	153	15	168	-	168	-	-	-	-	-	-	-	-	-
1b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	193	29	221	-	221	-	-	-	-	-	-	-	-	-
1b.4.11	ISFSI Operating Costs	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
1b.4.12	NEI Fees	-	-	-	-	-	-	37	4	41	41	-	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	471	71	542	542	-	-	-	-	-	-	-	-	-	11,765
1b.4.14	Utility Staff Cost	-	-	-	-	-	-	6,955	1,043	7,998	7,998	-	-	-	-	-	-	-	-	-	105,720
1b.4	Subtotal Period 1b Period-Dependent Costs	755	370	10	8	-	24	9,317	1,619	12,103	11,700	403	-	-	532	-	-	-	10,632	17	118,486
1b.0	TOTAL PERIOD 1b COST	3,554	399	70	426	-	391	9,425	2,911	17,177	16,774	403	-	-	1,541	-	-	-	71,195	41,010	118,486
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	402	-	-	-	-	-	60	462	462	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	35	-	-	-	-	-	5	40	40	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	16,133	-
1c.1.4	Secure building accesses									a											
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	28	4	32	32	-	-	-	-	-	-	-	-	-	249
1c.1	Subtotal Period 1c Activity Costs	-	437	-	-	-	-	761	290	1,487	1,487	-	-	-	-	-	-	-	-	19,833	249
Period 1c Additional Costs																					
1c.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	9,980	1,497	11,477	11,477	-	-	-	-	-	-	-	-	-	-
1c.2	Subtotal Period 1c Additional Costs	-	-	-	-	-	-	9,980	1,497	11,477	11,477	-	-	-	-	-	-	-	-	-	-
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	179	-	74	511	-	447	-	285	1,496	1,496	-	-	-	1,232	-	-	-	73,915	240	-
1c.3.3	Small tool allowance	-	3	-	-	-	-	-	0	4	4	-	-	-	-	-	-	-	-	-	-
1c.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	3	0	3	3	-	-	-	-	-	-	-	-	-	-
1c.3.5	Fixed Overhead	-	-	-	-	-	-	105	16	121	121	-	-	-	-	-	-	-	-	-	-

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
1c.3	Subtotal Period 1c Collateral Costs	179	3	74	511	-	447	108	302	1,624	1,624	-	-	-	1,232	-	-	-	73,915	240	-
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	300	30	330	330	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	437	44	481	481	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	164	-	-	-	-	-	41	205	205	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	123	-	-	-	-	-	18	141	141	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	2	2	-	6	-	2	12	12	-	-	-	124	-	-	-	2,484	4	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	574	86	660	660	-	-	-	-	-	-	-	-	-	-
1c.4.7	NRC Fees	-	-	-	-	-	-	186	19	205	205	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	153	15	168	-	168	-	-	-	-	-	-	-	-	-
1c.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	193	29	221	-	221	-	-	-	-	-	-	-	-	-
1c.4.10	ISFSI Operating Costs	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
1c.4.11	NEI Fees	-	-	-	-	-	-	37	4	41	41	-	-	-	-	-	-	-	-	-	-
1c.4.12	Security Staff Cost	-	-	-	-	-	-	471	71	542	542	-	-	-	-	-	-	-	-	-	11,765
1c.4.13	Utility Staff Cost	-	-	-	-	-	-	6,955	1,043	7,998	7,998	-	-	-	-	-	-	-	-	-	106,720
1c.4	Subtotal Period 1c Period-Dependent Costs	-	287	2	2	-	6	9,317	1,403	11,017	10,614	403	-	-	124	-	-	-	2,484	4	118,486
1c.0	TOTAL PERIOD 1c COST	179	727	76	513	-	453	20,166	3,492	25,605	25,203	403	-	-	1,356	-	-	-	76,399	20,077	118,735
PERIOD 1 TOTALS		3,733	1,947	156	946	-	866	74,283	13,065	94,996	87,376	7,620	-	-	3,380	-	-	-	157,449	61,103	722,645
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection									a											
2a.1.2	Semi-annual environmental survey									a											
2a.1.3	Prepare reports									a											
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	4	1	4	4	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	503	126	629	629	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	507	126	633	633	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	53,067	7,960	61,027	-	61,027	-	-	-	-	-	-	-	-	-
2a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
2a.3.3	Fixed Overhead	-	-	-	-	-	-	1,671	251	1,922	1,922	-	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	54,740	8,211	62,951	1,924	61,027	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	2,049	205	2,254	2,254	-	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	6,940	694	7,634	7,634	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	502	-	-	-	-	-	125	627	627	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	13	10	-	31	-	11	65	65	-	-	-	687	-	-	-	13,744	22	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	1,822	273	2,095	2,095	-	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	776	78	853	853	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	1,634	163	1,797	-	1,797	-	-	-	-	-	-	-	-	-
2a.4.8	Spent Fuel Pool O&M	-	-	-	-	-	-	3,057	459	3,516	-	3,516	-	-	-	-	-	-	-	-	-
2a.4.9	ISFSI Operating Costs	-	-	-	-	-	-	178	27	204	-	204	-	-	-	-	-	-	-	-	-
2a.4.10	NEI Fees	-	-	-	-	-	-	592	59	651	651	-	-	-	-	-	-	-	-	-	-
2a.4.11	Security Staff Cost	-	-	-	-	-	-	1,756	263	2,019	2,019	-	-	-	-	-	-	-	-	-	43,830
2a.4.12	Utility Staff Cost	-	-	-	-	-	-	22,786	3,418	26,204	26,204	-	-	-	-	-	-	-	-	-	329,769
2a.4	Subtotal Period 2a Period-Dependent Costs	-	502	13	10	-	31	41,589	5,775	47,920	42,402	5,517	-	-	687	-	-	-	13,744	22	373,599
2a.0	TOTAL PERIOD 2a COST	-	502	13	10	-	31	96,836	14,112	111,504	44,960	66,544	-	-	687	-	-	-	13,744	22	373,599
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection									a											
2b.1.2	Semi-annual environmental survey									a											
2b.1.3	Prepare reports									a											
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours
2b.1.5	Maintenance supplies	-	-	-	-	-	-	331	83	413	413	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	333	83	416	416	-	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	23,580	3,537	27,117	-	27,117	-	-	-	-	-	-	-	-	-
2b.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2b.3.3	Fixed Overhead	-	-	-	-	-	-	1,098	165	1,263	1,263	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	24,679	3,702	28,381	1,264	27,117	-	-	-	-	-	-	-	-	-
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	1,183	118	1,301	1,301	-	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	4,067	407	4,473	4,473	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	137	-	-	-	-	-	34	171	171	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	3	3	-	8	-	3	17	17	-	-	-	176	-	-	-	3,517	6	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	599	90	688	688	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	476	48	524	524	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	1,073	107	1,181	-	1,181	-	-	-	-	-	-	-	-	-
2b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	117	18	134	-	134	-	-	-	-	-	-	-	-	-
2b.4.9	NEI Fees	-	-	-	-	-	-	389	39	428	428	-	-	-	-	-	-	-	-	-	-
2b.4.10	Utility Staff Cost	-	-	-	-	-	-	1,273	191	1,464	1,464	-	-	-	-	-	-	-	-	-	21,943
2b.4	Subtotal Period 2b Period-Dependent Costs	-	137	3	3	-	8	9,176	1,054	10,380	9,065	1,315	-	-	176	-	-	-	3,517	6	21,943
2b.0	TOTAL PERIOD 2b COST	-	137	3	3	-	8	34,188	4,839	39,177	10,745	28,432	-	-	176	-	-	-	3,517	6	21,943
PERIOD 2 TOTALS		-	638	16	12	-	39	131,025	18,951	150,681	55,705	94,976	-	-	863	-	-	-	17,261	28	395,541
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	556
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	219	33	252	252	-	-	-	-	-	-	-	-	-	1,967
3a.1.3	Perform detailed rad survey									a											
3a.1.4	End product description	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	556
3a.1.6	Define major work sequence	-	-	-	-	-	-	358	54	411	411	-	-	-	-	-	-	-	-	-	3,207
3a.1.7	Perform SER and EA	-	-	-	-	-	-	148	22	170	170	-	-	-	-	-	-	-	-	-	1,326
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	238	36	274	274	-	-	-	-	-	-	-	-	-	2,138
3a.1.9	Prepare/submit License Termination Plan	-	-	-	-	-	-	195	29	225	225	-	-	-	-	-	-	-	-	-	1,751
3a.1.10	Receive NRC approval of termination plan									a											
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	352	53	404	364	-	40	-	-	-	-	-	-	-	3,151
3a.1.11.2	Plant systems	-	-	-	-	-	-	199	30	229	206	-	23	-	-	-	-	-	-	-	1,782
3a.1.11.3	Reactor internals	-	-	-	-	-	-	339	51	389	389	-	-	-	-	-	-	-	-	-	3,036
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	310	47	357	357	-	-	-	-	-	-	-	-	-	2,779
3a.1.11.5	Biological shield	-	-	-	-	-	-	24	4	27	27	-	-	-	-	-	-	-	-	-	214
3a.1.11.6	Steam generators	-	-	-	-	-	-	149	22	171	171	-	-	-	-	-	-	-	-	-	1,334
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	76	11	88	44	-	44	-	-	-	-	-	-	-	684
3a.1.11.8	Main Turbine	-	-	-	-	-	-	19	3	22	-	-	22	-	-	-	-	-	-	-	171
3a.1.11.9	Main Condensers	-	-	-	-	-	-	19	3	22	-	-	22	-	-	-	-	-	-	-	171
3a.1.11.10	Plant structures & buildings	-	-	-	-	-	-	149	22	171	86	-	86	-	-	-	-	-	-	-	1,334
3a.1.11.11	Waste management	-	-	-	-	-	-	219	33	252	252	-	-	-	-	-	-	-	-	-	1,967
3a.1.11.12	Facility & site closeout	-	-	-	-	-	-	43	6	49	25	-	25	-	-	-	-	-	-	-	385
3a.1.11	Total	-	-	-	-	-	-	1,897	285	2,182	1,921	-	261	-	-	-	-	-	-	-	17,009
Planning & Site Preparations																					
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	114	17	132	132	-	-	-	-	-	-	-	-	-	1,026
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	2,800	420	3,220	3,220	-	-	-	-	-	-	-	-	-	-
3a.1.14	Design water clean-up system	-	-	-	-	-	-	67	10	77	77	-	-	-	-	-	-	-	-	-	599
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,200	330	2,530	2,530	-	-	-	-	-	-	-	-	-	-
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	59	9	67	67	-	-	-	-	-	-	-	-	-	526

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	8,468	1,270	9,738	9,477	-	261	-	-	-	-	-	-	-	31,088
Period 3a Collateral Costs																					
3a.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
3a.3.2	Fixed Overhead	-	-	-	-	-	-	417	63	480	480	-	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	-	-	-	-	-	418	63	481	481	-	-	-	-	-	-	-	-	-	-
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	512	51	563	563	-	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	72	7	79	79	-	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	262	-	-	-	-	-	66	328	328	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	487	-	-	-	-	-	73	560	560	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	7	5	-	17	-	6	34	34	-	-	-	364	-	-	-	7,277	12	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	2,276	341	2,617	2,617	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC Fees	-	-	-	-	-	-	220	22	241	241	-	-	-	-	-	-	-	-	-	-
3a.4.8	Emergency Planning Fees	-	-	-	-	-	-	408	41	449	-	449	-	-	-	-	-	-	-	-	-
3a.4.9	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-
3a.4.10	NEI Fees	-	-	-	-	-	-	148	15	163	163	-	-	-	-	-	-	-	-	-	-
3a.4.11	Security Staff Cost	-	-	-	-	-	-	251	38	288	288	-	-	-	-	-	-	-	-	-	6,257
3a.4.12	Utility Staff Cost	-	-	-	-	-	-	12,738	1,911	14,648	14,648	-	-	-	-	-	-	-	-	-	200,229
3a.4	Subtotal Period 3a Period-Dependent Costs	-	749	7	5	-	17	16,668	2,576	20,022	19,522	500	-	-	364	-	-	-	7,277	12	206,486
3a.0	TOTAL PERIOD 3a COST	-	749	7	5	-	17	25,554	3,909	30,241	29,479	500	261	-	364	-	-	-	7,277	12	237,573
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	226	34	260	234	-	26	-	-	-	-	-	-	-	2,024
3b.1.1.2	Reactor internals	-	-	-	-	-	-	119	18	137	137	-	-	-	-	-	-	-	-	-	1,069
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	64	10	74	19	-	56	-	-	-	-	-	-	-	577
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
3b.1.1.6	Incore Instrumentation	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	173	26	199	199	-	-	-	-	-	-	-	-	-	1,552
3b.1.1.8	Facility closeout	-	-	-	-	-	-	57	9	66	33	-	33	-	-	-	-	-	-	-	513
3b.1.1.9	Missile shields	-	-	-	-	-	-	21	3	25	25	-	-	-	-	-	-	-	-	-	192
3b.1.1.10	Biological shield	-	-	-	-	-	-	57	9	66	66	-	-	-	-	-	-	-	-	-	513
3b.1.1.11	Steam generators	-	-	-	-	-	-	219	33	252	252	-	-	-	-	-	-	-	-	-	1,967
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	48	7	55	27	-	27	-	-	-	-	-	-	-	428
3b.1.1.13	Main Turbine	-	-	-	-	-	-	74	11	86	-	-	86	-	-	-	-	-	-	-	667
3b.1.1.14	Main Condensers	-	-	-	-	-	-	74	11	86	-	-	86	-	-	-	-	-	-	-	667
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	130	20	150	135	-	15	-	-	-	-	-	-	-	1,167
3b.1.1.16	Reactor building	-	-	-	-	-	-	130	20	150	135	-	15	-	-	-	-	-	-	-	1,167
3b.1.1	Total	-	-	-	-	-	-	1,538	231	1,769	1,426	-	343	-	-	-	-	-	-	-	13,787
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	1,538	231	1,769	1,426	-	343	-	-	-	-	-	-	-	13,787
Period 3b Additional Costs																					
3b.2.1	Site Characterization	-	-	-	-	-	-	2,148	644	2,792	2,792	-	-	-	-	-	-	-	-	13,042	4,640
3b.2.2	Mixed/Hazardous Waste	-	-	582	144	5,001	-	-	830	6,557	6,557	-	-	27,017	-	-	-	-	1,397,259	5,601	-
3b.2.3	Asbestos Removal Program	-	2,326	117	235	-	607	30	765	4,100	4,100	-	-	-	10,163	-	-	-	238,141	28,718	-
3b.2	Subtotal Period 3b Additional Costs	-	2,326	699	378	5,001	607	2,177	2,259	13,449	13,449	-	-	27,017	10,163	-	-	-	1,635,400	47,361	4,640
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	823	-	-	-	-	-	-	123	946	946	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,224	184	1,408	1,408	-	-	-	-	-	-	-	-	-	-
3b.3.3	Small tool allowance	-	26	-	-	-	-	-	4	30	30	-	-	-	-	-	-	-	-	-	-
3b.3.4	Pipe cutting equipment	-	1,100	-	-	-	-	-	165	1,265	1,265	-	-	-	-	-	-	-	-	-	-
3b.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	20	2	22	22	-	-	-	-	-	-	-	-	-	-
3b.3.6	Fixed Overhead	-	-	-	-	-	-	207	31	238	238	-	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	823	1,126	-	-	-	-	1,451	509	3,909	3,909	-	-	-	-	-	-	-	-	-	-

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	25	-	-	-	-	-	-	6	31	31	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	254	25	279	279	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	36	4	39	39	-	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	280	-	-	-	-	-	70	350	350	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	241	-	-	-	-	-	36	278	278	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	4	3	-	9	-	3	19	19	-	-	-	205	-	-	-	4,098	7	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	1,129	169	1,298	1,298	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC Fees	-	-	-	-	-	-	109	11	120	120	-	-	-	-	-	-	-	-	-	-
3b.4.9	Emergency Planning Fees	-	-	-	-	-	-	202	20	223	-	223	-	-	-	-	-	-	-	-	-
3b.4.10	ISFSI Operating Costs	-	-	-	-	-	-	22	3	25	-	25	-	-	-	-	-	-	-	-	-
3b.4.11	NEI Fees	-	-	-	-	-	-	73	7	81	81	-	-	-	-	-	-	-	-	-	-
3b.4.12	Security Staff Cost	-	-	-	-	-	-	124	19	143	143	-	-	-	-	-	-	-	-	-	3,103
3b.4.13	DOC Staff Cost	-	-	-	-	-	-	3,160	474	3,634	3,634	-	-	-	-	-	-	-	-	-	42,406
3b.4.14	Utility Staff Cost	-	-	-	-	-	-	6,317	947	7,264	7,264	-	-	-	-	-	-	-	-	-	99,291
3b.4	Subtotal Period 3b Period-Dependent Costs	25	521	4	3	-	9	11,425	1,796	13,783	13,535	248	-	-	205	-	-	-	4,098	7	144,800
3b.0	TOTAL PERIOD 3b COST	848	3,974	703	381	5,001	617	16,592	4,794	32,910	32,319	248	343	27,017	10,368	-	-	-	1,639,498	47,368	163,227
PERIOD 3 TOTALS		848	4,723	710	387	5,001	633	42,146	8,704	63,151	61,799	748	604	27,017	10,732	-	-	-	1,646,775	47,379	400,801
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	11	42	9	14	-	144	-	55	274	274	-	-	-	495	-	-	-	56,538	1,227	-
4a.1.1.2	Pressurizer Relief Tank	1	5	1	2	-	22	-	8	40	40	-	-	-	78	-	-	-	8,699	142	-
4a.1.1.3	Reactor Coolant Pumps & Motors	32	73	42	121	-	1,793	-	505	2,565	2,565	-	-	-	6,541	-	-	-	564,000	3,039	80
4a.1.1.4	Pressurizer	7	50	340	90	-	920	-	294	1,701	1,701	-	-	-	3,358	-	-	-	248,923	1,508	750
4a.1.1.5	Steam Generators	36	2,962	1,431	5,984	2,171	3,943	-	3,111	19,637	19,637	-	-	30,926	14,387	-	-	-	2,498,110	10,254	2,250
4a.1.1.6	CRDMs/ICIs/Service Structure Removal	30	87	250	75	-	254	-	136	831	831	-	-	-	4,243	-	-	-	99,438	2,492	-
4a.1.1.7	Reactor Vessel Internals	59	2,136	9,147	848	-	5,447	225	6,888	24,749	24,749	-	-	-	1,609	626	402	-	265,184	24,717	1,121
4a.1.1.8	Reactor Vessel	75	4,040	1,411	1,183	-	2,314	225	4,907	14,155	14,155	-	-	-	8,985	-	-	-	990,810	24,717	1,121
4a.1.1	Totals	252	9,393	12,630	8,317	2,171	14,837	450	15,902	63,952	63,952	-	-	30,926	39,696	626	402	-	4,731,701	68,096	5,321
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	264	147	108	494	680	-	341	2,034	2,034	-	-	4,776	2,972	-	-	-	481,625	5,938	-
4a.1.3	Main Condensers	-	886	181	134	610	839	-	561	3,210	3,210	-	-	5,890	3,666	-	-	-	593,979	20,075	-
Cascading Costs from Clean Building Demolition																					
4a.1.4.1	Reactor	-	1,312	-	-	-	-	-	197	1,509	1,509	-	-	-	-	-	-	-	-	20,314	-
4a.1.4.2	Reactor Auxiliary	-	186	-	-	-	-	-	28	214	214	-	-	-	-	-	-	-	-	2,564	-
4a.1.4.3	Fuel Handling	-	107	-	-	-	-	-	16	123	123	-	-	-	-	-	-	-	-	1,519	-
4a.1.4	Totals	-	1,605	-	-	-	-	-	241	1,846	1,846	-	-	-	-	-	-	-	-	24,397	-
Disposal of Plant Systems																					
4a.1.5.1	Air Evacuation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	171	-
4a.1.5.2	Air Evacuation - Insulated	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	701	-
4a.1.5.3	Auxiliary Steam - Insulated	-	22	-	-	-	-	-	3	25	-	-	25	-	-	-	-	-	-	577	-
4a.1.5.4	Chemical & Volume Control	-	88	13	15	59	96	-	58	328	328	-	-	629	528	-	-	-	63,039	1,966	-
4a.1.5.5	Chemical & Volume Control - Insulated	-	372	38	39	6	304	-	180	940	940	-	-	67	1,331	-	-	-	121,946	7,453	-
4a.1.5.6	Chemical Feed	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	66	-
4a.1.5.7	Chemical Feed - Insulated	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	28	-
4a.1.5.8	Circulating & Intake Cooling Water	-	232	-	-	-	-	-	35	267	-	-	267	-	-	-	-	-	-	5,958	-
4a.1.5.9	Component Cooling	-	251	22	52	1,199	-	-	252	1,776	1,776	-	-	12,837	-	-	-	-	521,332	5,619	-
4a.1.5.10	Component Cooling - RCA	-	257	38	63	530	309	-	234	1,431	1,431	-	-	5,677	1,354	-	-	-	351,904	5,557	-
4a.1.5.11	Condensate	-	151	-	-	-	-	-	23	174	-	-	174	-	-	-	-	-	-	3,749	-
4a.1.5.12	Condensate - Insulated	-	85	-	-	-	-	-	13	97	-	-	97	-	-	-	-	-	-	2,214	-
4a.1.5.13	Condensate Polish Filter Demin	-	23	-	-	-	-	-	3	27	-	-	27	-	-	-	-	-	-	569	-
4a.1.5.14	Condensate Polish Filter Demin - Ins	-	68	-	-	-	-	-	10	78	-	-	78	-	-	-	-	-	-	1,778	-
4a.1.5.15	Condensate Recovery	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	86	-

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
4a.1.5.16	Condensate Recovery - Insulated	-	0	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	12	-
4a.1.5.17	Condensate Recovery - Insulated - RCA	-	1	0	0	0	0	-	0	1	1	-	-	1	2	-	-	-	202	11	-
4a.1.5.18	Condensate Recovery - RCA	-	10	1	1	12	4	-	6	34	34	-	-	131	19	-	-	-	6,945	210	-
4a.1.5.19	Condenser Tube Cleaning	-	33	-	-	-	-	-	5	38	-	-	38	-	-	-	-	-	-	838	-
4a.1.5.20	Demineralized Makeup Water	-	15	-	-	-	-	-	2	17	-	-	17	-	-	-	-	-	-	370	-
4a.1.5.21	Demineralized Makeup Water - RCA	-	11	1	1	3	8	-	6	31	31	-	-	32	37	-	-	-	4,608	209	-
4a.1.5.22	Domestic/Makeup/Service Water	-	172	-	-	-	-	-	26	198	-	-	198	-	-	-	-	-	-	4,067	-
4a.1.5.23	Domestic/Makeup/Service Water - RCA	-	84	7	10	54	63	-	47	267	267	-	-	583	276	-	-	-	48,468	1,707	-
4a.1.5.24	Domestic/Makeup/Service Water-Ins	-	4	-	-	-	-	-	1	4	-	-	4	-	-	-	-	-	-	93	-
4a.1.5.25	Domestic/Makeup/Service Water-Ins-RCA	-	10	1	1	6	7	-	5	30	30	-	-	63	31	-	-	-	5,358	205	-
4a.1.5.26	Electrical - Clean	-	1,914	-	-	-	-	-	287	2,201	-	-	2,201	-	-	-	-	-	-	46,406	-
4a.1.5.27	Extraction Steam	-	79	-	-	-	-	-	12	90	-	-	90	-	-	-	-	-	-	1,884	-
4a.1.5.28	Extraction Steam - Insulated	-	78	-	-	-	-	-	12	89	-	-	89	-	-	-	-	-	-	2,032	-
4a.1.5.29	Feedwater - Insulated	-	83	-	-	-	-	-	12	96	-	-	96	-	-	-	-	-	-	2,153	-
4a.1.5.30	Feedwater - Insulated - RCA	-	26	3	5	43	23	-	20	119	119	-	-	455	101	-	-	-	27,554	564	-
4a.1.5.31	Fire Protection	-	67	-	-	-	-	-	10	77	-	-	77	-	-	-	-	-	-	1,710	-
4a.1.5.32	Fire Protection - Insulated	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	163	-
4a.1.5.33	HVAC	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,898	-
4a.1.5.34	Heater Drain & Vent - Insulated	-	175	-	-	-	-	-	26	201	-	-	201	-	-	-	-	-	-	4,490	-
4a.1.5.35	Hydrogen Sampling	-	36	3	4	34	22	-	21	120	120	-	-	367	97	-	-	-	23,587	815	-
4a.1.5.36	Integrated Leak Rate Testing	-	25	2	3	17	15	-	13	74	74	-	-	179	65	-	-	-	13,135	531	-
4a.1.5.37	Main Steam - Insulated	-	182	-	-	-	-	-	27	209	-	-	209	-	-	-	-	-	-	4,624	-
4a.1.5.38	Main Steam - Insulated - RCA	-	38	4	7	64	35	-	29	178	178	-	-	688	151	-	-	-	41,492	809	-
4a.1.5.39	Misc Bulk Gas	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	440	-
4a.1.5.40	Misc Bulk Gas - RCA	-	12	1	1	2	9	-	6	31	31	-	-	23	38	-	-	-	4,296	229	-
4a.1.5.41	Miscellaneous	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	230	-
4a.1.5.42	Miscellaneous - RCA	-	8	2	3	34	15	-	12	74	74	-	-	365	63	-	-	-	20,522	189	-
4a.1.5.43	Neutralization Basin Recirculation	-	17	-	-	-	-	-	3	19	-	-	19	-	-	-	-	-	-	435	-
4a.1.5.44	Post Accident Sampling	-	13	1	1	11	6	-	7	39	39	-	-	117	25	-	-	-	7,040	310	-
4a.1.5.45	Post Accident Sampling - Insulated	-	36	2	2	2	12	-	13	66	66	-	-	22	54	-	-	-	5,685	856	-
4a.1.5.46	RCP Oil Collection	-	1	0	0	1	1	-	1	4	4	-	-	10	5	-	-	-	849	26	-
4a.1.5.47	SGBTF Blowdown - Insulated	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	647	-
4a.1.5.48	SGBTF HVAC	-	56	-	-	-	-	-	8	64	-	-	64	-	-	-	-	-	-	1,549	-
4a.1.5.49	SGBTF Misc - RCA	-	7	0	1	7	3	-	3	16	16	-	-	77	13	-	-	-	4,306	49	-
4a.1.5.50	SGBTF Waste Management	-	4	0	0	1	3	-	2	10	10	-	-	8	12	-	-	-	1,356	78	-
4a.1.5.51	SGBTF Waste Management - Insulated	-	39	4	3	7	25	-	18	95	95	-	-	72	109	-	-	-	12,714	739	-
4a.1.5.52	Safety Injection	-	168	51	71	337	438	-	218	1,283	1,283	-	-	3,611	1,999	-	-	-	318,432	3,823	-
4a.1.5.53	Safety Injection - Insulated	-	439	48	57	159	393	-	245	1,342	1,342	-	-	1,705	1,721	-	-	-	223,521	9,105	-
4a.1.5.54	Sampling	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	198	-
4a.1.5.55	Sampling - Insulated	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	188	-
4a.1.5.56	Sampling - Insulated - RCA	-	17	1	1	2	10	-	7	39	39	-	-	24	43	-	-	-	4,809	336	-
4a.1.5.57	Sampling - RCA	-	17	1	1	7	8	-	8	42	42	-	-	77	35	-	-	-	6,271	350	-
4a.1.5.58	Secondary Side Wet Layup	-	11	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	288	-
4a.1.5.59	Secondary Side Wet Layup - Ins	-	13	-	-	-	-	-	2	14	-	-	14	-	-	-	-	-	-	348	-
4a.1.5.60	Service & Instrument Air	-	24	-	-	-	-	-	4	28	-	-	28	-	-	-	-	-	-	617	-
4a.1.5.61	Service & Instrument Air - Ins	-	13	-	-	-	-	-	2	15	-	-	15	-	-	-	-	-	-	349	-
4a.1.5.62	Service & Instrument Air - Ins - RCA	-	59	5	5	11	36	-	27	143	143	-	-	122	159	-	-	-	19,173	1,181	-
4a.1.5.63	Service & Instrument Air - RCA	-	40	3	4	10	25	-	19	101	101	-	-	112	109	-	-	-	14,270	813	-
4a.1.5.64	Steam Gen Blowdown Cooling	-	15	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	372	-
4a.1.5.65	Steam Gen Blowdown Cooling - Ins - RCA	-	39	4	7	57	35	-	28	170	170	-	-	608	152	-	-	-	38,356	820	-
4a.1.5.66	Steam Gen Blowdown Cooling - Insulated	-	1	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	35	-
4a.1.5.67	Steam Gen Blowdown Cooling - RCA	-	52	6	10	77	48	-	39	231	231	-	-	825	211	-	-	-	52,463	1,073	-
4a.1.5.68	Steam Generator Blowdown	-	28	2	3	20	15	-	14	83	83	-	-	212	67	-	-	-	14,566	650	-
4a.1.5.69	Steam Generator Blowdown - Insulated	-	55	3	4	15	30	-	25	132	132	-	-	157	131	-	-	-	18,162	1,170	-
4a.1.5.70	Turbine	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	29	-
4a.1.5.71	Turbine Cooling Water	-	53	-	-	-	-	-	8	61	-	-	61	-	-	-	-	-	-	1,308	-
4a.1.5.72	Turbine Cooling Water - Insulated	-	32	-	-	-	-	-	5	37	-	-	37	-	-	-	-	-	-	854	-
4a.1.5.73	Turbine Lube Oil & Diesel Oil	-	63	-	-	-	-	-	9	73	-	-	73	-	-	-	-	-	-	1,596	-
4a.1.5.74	Water Treatment	-	65	-	-	-	-	-	10	75	-	-	75	-	-	-	-	-	-	1,622	-
4a.1.5.75	Water Treatment - Insulated	-	37	-	-	-	-	-	6	43	-	-	43	-	-	-	-	-	-	957	-
4a.1.5	Totals	-	6,200	268	376	2,789	1,999	-	2,155	13,787	9,230	-	4,557	29,850	8,940	-	-	-	1,996,363	146,145	-

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed WL, Lbs.	Craft Manhours	Utility and Contractor Manhours
4a.1.6	Scaffolding in support of decommissioning	-	579	12	4	64	9	-	158	827	827	-	-	618	38	-	-	-	31,264	15,869	-
4a.1	Subtotal Period 4a Activity Costs	252	18,928	13,238	8,940	6,127	18,363	450	19,358	85,656	81,099	-	4,557	72,068	55,313	626	402	-	7,834,931	280,520	5,321
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	34	-	16	110	-	96	-	59	314	314	-	-	-	264	-	-	-	15,856	52	-
4a.3.3	Small tool allowance	-	208	-	-	-	-	-	31	239	215	-	24	-	-	-	-	-	-	-	-
4a.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	116	12	127	127	-	-	-	-	-	-	-	-	-	-
4a.3.5	Fixed Overhead	-	-	-	-	-	-	582	87	670	670	-	-	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	34	208	16	110	-	96	698	189	1,350	1,326	-	24	-	264	-	-	-	15,856	52	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	70	-	-	-	-	-	-	18	88	88	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	714	71	785	785	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	100	10	110	99	-	11	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,568	-	-	-	-	-	392	1,960	1,960	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	2,798	-	-	-	-	-	420	3,218	3,218	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	60	47	-	149	-	50	307	307	-	-	-	3,261	-	-	-	65,213	106	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	3,015	452	3,467	3,467	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC Fees	-	-	-	-	-	-	958	96	1,054	1,054	-	-	-	-	-	-	-	-	-	-
4a.4.9	Emergency Planning Fees	-	-	-	-	-	-	569	57	626	-	626	-	-	-	-	-	-	-	-	-
4a.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	541	81	622	622	-	-	-	-	-	-	-	-	-	-
4a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	62	9	71	-	71	-	-	-	-	-	-	-	-	-
4a.4.12	NEI Fees	-	-	-	-	-	-	206	21	227	227	-	-	-	-	-	-	-	-	-	-
4a.4.13	Security Staff Cost	-	-	-	-	-	-	1,253	188	1,440	1,440	-	-	-	-	-	-	-	-	-	31,267
4a.4.14	DOC Staff Cost	-	-	-	-	-	-	15,340	2,301	17,641	17,641	-	-	-	-	-	-	-	-	-	199,732
4a.4.15	Utility Staff Cost	-	-	-	-	-	-	23,561	3,534	27,095	27,095	-	-	-	-	-	-	-	-	-	357,260
4a.4	Subtotal Period 4a Period-Dependent Costs	70	4,367	60	47	-	149	46,318	7,700	58,711	58,003	697	11	-	3,261	-	-	-	65,213	106	588,259
4a.0	TOTAL PERIOD 4a COST	356	23,503	13,314	9,096	6,127	18,608	47,466	27,247	145,718	140,429	697	4,592	72,068	58,838	626	402	-	7,916,000	280,678	593,580
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	422	46	173	93	-	729	-	436	1,899	1,899	-	-	-	3,185	-	-	-	285,812	1,243	-
Disposal of Plant Systems																					
4b.1.2.1	Containmnt Spray & Refueling Water	-	374	107	139	420	944	-	424	2,409	2,409	-	-	4,439	4,639	-	-	-	552,992	8,691	-
4b.1.2.2	Containmnt Spray & Refueling Water - Ins	-	154	27	41	71	298	-	133	724	724	-	-	764	1,304	-	-	-	147,956	3,460	-
4b.1.2.3	Electrical - Contaminated	-	222	9	16	96	93	-	96	533	533	-	-	1,031	407	-	-	-	78,367	4,637	-
4b.1.2.4	Electrical - Decontaminated	-	1,543	82	144	858	834	-	753	4,214	4,214	-	-	9,189	3,646	-	-	-	700,348	30,734	-
4b.1.2.5	Emergency Diesel Generator	-	64	-	-	-	-	-	10	74	-	-	74	-	-	-	-	-	-	1,662	-
4b.1.2.6	Emergency Diesel Generator - Insulated	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	150	-
4b.1.2.7	Fire Protection - Insulated - RCA	-	2	0	0	2	1	-	1	6	6	-	-	17	4	-	-	-	1,112	38	-
4b.1.2.8	Fire Protection - RCA	-	21	2	3	21	13	-	12	71	71	-	-	228	55	-	-	-	14,178	453	-
4b.1.2.9	Fuel Pool	-	74	10	15	23	110	-	53	284	284	-	-	242	486	-	-	-	52,830	1,601	-
4b.1.2.10	Fuel Pool - Insulated	-	40	4	5	2	37	-	21	108	108	-	-	25	161	-	-	-	15,401	829	-
4b.1.2.11	HVAC - Contaminated	-	1,419	57	118	2,059	228	-	744	4,624	4,624	-	-	22,042	996	-	-	-	984,490	28,547	-
4b.1.2.12	Primary Water	-	135	22	28	111	181	-	102	579	579	-	-	1,185	990	-	-	-	119,184	3,095	-
4b.1.2.13	Primary Water - Insulated	-	2	0	0	0	2	-	1	6	6	-	-	1	7	-	-	-	708	51	-
4b.1.2.14	Radiation Monitoring	-	18	1	1	1	7	-	6	34	34	-	-	13	29	-	-	-	3,076	412	-
4b.1.2.15	Reactor Coolant - Insulated	-	64	5	6	9	45	-	30	161	161	-	-	100	197	-	-	-	21,745	1,483	-
4b.1.2.16	Refueling Equipment	-	99	7	13	64	80	-	57	321	321	-	-	689	348	-	-	-	59,222	2,352	-
4b.1.2.17	Secondary Side Wet Layup - Ins - RCA	-	11	1	1	3	8	-	6	30	30	-	-	29	36	-	-	-	4,347	208	-
4b.1.2.18	Secondary Side Wet Layup - RCA	-	11	1	1	12	6	-	6	38	38	-	-	130	28	-	-	-	7,735	224	-
4b.1.2.19	Waste Management	-	535	77	92	341	606	-	358	2,011	2,011	-	-	3,653	3,270	-	-	-	386,133	11,785	-
4b.1.2.20	Waste Management - Insulated	-	715	76	77	12	590	-	350	1,829	1,829	-	-	127	2,624	-	-	-	240,225	14,196	-
4b.1.2	Totals	-	5,508	489	701	4,106	4,002	-	3,163	18,060	17,980	-	80	43,965	19,227	-	-	-	3,390,046	114,609	-
4b.1.3	Scaffolding in support of decommissioning	-	869	18	6	96	13	-	238	1,240	1,240	-	-	927	58	-	-	-	46,897	23,804	-

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Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours
Decontamination of Site Buildings																					
4b.1.4.1	Reactor	929	942	177	322	294	1,220	-	1,115	4,999	4,999	-	-	3,150	9,431	-	-	-	1,027,355	39,530	-
4b.1.4.2	Primary Water Tank Foundation - Contam	0	5	5	9	-	14	-	7	41	41	-	-	-	260	-	-	-	26,046	115	-
4b.1.4.3	Reactor Auxiliary	435	214	48	92	93	141	-	339	1,362	1,362	-	-	995	2,501	-	-	-	288,479	13,896	-
4b.1.4.4	Refueling Water Storage Tank - Contam	1	8	10	20	-	30	-	14	82	82	-	-	-	548	-	-	-	54,810	169	-
4b.1.4.5	Fuel Handling	348	366	10	19	155	28	-	300	1,227	1,227	-	-	1,664	377	-	-	-	104,121	15,536	-
4b.1.4	Totals	1,713	1,534	250	462	543	1,434	-	1,774	7,710	7,710	-	-	5,809	13,118	-	-	-	1,500,811	69,246	-
4b.1	Subtotal Period 4b Activity Costs	2,135	7,958	930	1,262	4,745	6,268	-	5,611	28,909	28,829	-	80	50,701	35,588	-	-	-	5,223,566	208,902	-
Period 4b Additional Costs																					
4b.2.1	License Termination Survey Planning	-	-	-	-	-	-	706	212	918	918	-	-	-	-	-	-	-	-	-	6,240
4b.2.2	Contaminated Soil Remediation	-	1,364	773	5,805	-	15,318	-	5,119	28,379	28,379	-	-	-	1,021,167	-	-	-	102,116,700	17,019	-
4b.2.3	Soil - Clean Closure	-	-	-	-	-	-	1,455	218	1,673	1,673	-	-	-	-	-	-	-	-	-	-
4b.2.4	Storm Drain Remediation	-	274	129	318	-	830	-	336	1,887	1,887	-	-	-	54,930	-	-	-	5,530,085	5,808	-
4b.2	Subtotal Period 4b Additional Costs	-	1,638	902	6,123	-	16,148	2,161	5,885	32,857	32,857	-	-	-	1,076,097	-	-	-	107,646,800	22,827	6,240
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	63	-	31	216	-	189	-	114	614	614	-	-	-	520	-	-	-	31,221	101	-
4b.3.3	Small tool allowance	-	168	-	-	-	-	-	25	193	193	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	118	44	621	85	-	133	1,002	1,002	-	-	6,000	373	-	-	-	303,507	88	-
4b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	489	73	562	-	562	-	-	-	-	-	-	-	-	-
4b.3.6	Florida LLRW Inspection Fee	-	-	-	-	-	-	2,177	218	2,395	2,395	-	-	-	-	-	-	-	-	-	-
4b.3.7	Fixed Overhead	-	-	-	-	-	-	876	131	1,008	1,008	-	-	-	-	-	-	-	-	-	-
4b.3	Subtotal Period 4b Collateral Costs	63	168	150	260	621	274	3,542	695	5,774	5,211	562	-	6,000	894	-	-	-	334,728	190	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	848	-	-	-	-	-	-	212	1,060	1,060	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	1,074	107	1,182	1,182	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	150	15	165	165	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	1,597	-	-	-	-	-	399	1,996	1,996	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	4,180	-	-	-	-	-	627	4,807	4,807	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of OAW generated	-	-	73	57	-	180	-	61	372	372	-	-	-	3,955	-	-	-	79,105	129	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	3,582	537	4,119	4,119	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	1,442	144	1,586	1,586	-	-	-	-	-	-	-	-	-	-
4b.4.9	Emergency Planning Fees	-	-	-	-	-	-	857	86	942	-	942	-	-	-	-	-	-	-	-	-
4b.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	815	122	937	937	-	-	-	-	-	-	-	-	-	-
4b.4.11	ISFSI Operatng Costs	-	-	-	-	-	-	93	14	107	-	107	-	-	-	-	-	-	-	-	-
4b.4.12	NEI Fees	-	-	-	-	-	-	310	31	341	341	-	-	-	-	-	-	-	-	-	-
4b.4.13	Security Staff Cost	-	-	-	-	-	-	1,885	283	2,168	2,168	-	-	-	-	-	-	-	-	-	47,054
4b.4.14	DOC Staff Cost	-	-	-	-	-	-	22,709	3,406	26,115	26,115	-	-	-	-	-	-	-	-	-	293,269
4b.4.15	Utility Staff Cost	-	-	-	-	-	-	34,534	5,180	39,714	39,714	-	-	-	-	-	-	-	-	-	516,503
4b.4	Subtotal Period 4b Period-Dependent Costs	848	5,777	73	57	-	180	67,450	11,225	85,611	84,562	1,049	-	-	3,955	-	-	-	79,105	129	856,826
4b.0	TOTAL PERIOD 4b COST	3,047	15,541	2,055	7,702	5,366	22,870	73,154	23,416	153,151	151,459	1,612	80	56,701	1,116,533	-	-	-	113,284,200	232,047	863,066
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license									0											
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	4,243	1,273	5,516	5,516	-	-	-	-	-	-	-	-	92,176	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	4,243	1,273	5,516	5,516	-	-	-	-	-	-	-	-	92,176	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,224	184	1,408	1,408	-	-	-	-	-	-	-	-	-	-
4f.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,269	190	1,460	-	1,460	-	-	-	-	-	-	-	-	-
4f.3.3	Fixed Overhead	-	-	-	-	-	-	315	47	362	362	-	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	2,808	421	3,229	1,770	1,460	-	-	-	-	-	-	-	-	-

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 4f Period-Dependent Costs																					
4f.4.1	Insurance	-	-	-	-	-	-	339	34	373	373	-	-	-	-	-	-	-	-	-	-
4f.4.2	Property taxes	-	-	-	-	-	-	54	5	59	59	-	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	405	-	-	-	-	-	101	506	506	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	5	4	-	11	-	4	23	23	-	-	-	247	-	-	-	4,938	8	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	343	51	394	394	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC Fees	-	-	-	-	-	-	556	56	612	612	-	-	-	-	-	-	-	-	-	-
4f.4.7	Emergency Planning Fees	-	-	-	-	-	-	307	31	338	-	338	-	-	-	-	-	-	-	-	-
4f.4.8	ISFSI Operating Costs	-	-	-	-	-	-	33	5	38	-	38	-	-	-	-	-	-	-	-	-
4f.4.9	NEI Fees	-	-	-	-	-	-	111	11	123	123	-	-	-	-	-	-	-	-	-	-
4f.4.10	Security Staff Cost	-	-	-	-	-	-	1,195	179	1,375	1,375	-	-	-	-	-	-	-	-	-	27,893
4f.4.11	DOC Staff Cost	-	-	-	-	-	-	3,497	524	4,021	4,021	-	-	-	-	-	-	-	-	-	46,750
4f.4.12	Utility Staff Cost	-	-	-	-	-	-	4,187	628	4,815	4,815	-	-	-	-	-	-	-	-	-	56,964
4f.4	Subtotal Period 4f Period-Dependent Costs	-	405	5	4	-	11	10,623	1,630	12,678	12,301	377	-	-	247	-	-	-	4,938	8	131,607
4f.0	TOTAL PERIOD 4f COST	-	405	5	4	-	11	17,827	3,370	21,621	19,785	1,836	-	-	247	-	-	-	4,938	92,184	134,727
PERIOD 4 TOTALS		3,403	39,448	15,374	16,802	11,493	41,489	138,446	54,034	320,489	311,672	4,145	4,672	128,769	1,175,618	626	402	-	121,205,100	604,909	1,591,373
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Reactor	-	7,544	-	-	-	-	-	1,132	8,675	-	-	8,675	-	-	-	-	-	-	116,571	-
5b.1.1.2	Intake & CWS	-	433	-	-	-	-	-	65	498	-	-	498	-	-	-	-	-	-	6,540	-
5b.1.1.3	Miscellaneous Structures	-	1,199	-	-	-	-	-	180	1,379	-	-	1,379	-	-	-	-	-	-	18,403	-
5b.1.1.4	Primary Water Tank Foundation - Contam	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	48	-
5b.1.1.5	Reactor Auxiliary	-	1,681	-	-	-	-	-	252	1,934	-	-	1,934	-	-	-	-	-	-	23,172	-
5b.1.1.6	Refueling Water Storage Tank - Contam	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	106	-
5b.1.1.7	Security Improvements	-	231	-	-	-	-	-	35	265	-	-	265	-	-	-	-	-	-	2,317	-
5b.1.1.8	Turbine	-	1,090	-	-	-	-	-	164	1,254	-	-	1,254	-	-	-	-	-	-	18,221	-
5b.1.1.9	Turbine Pedestal	-	765	-	-	-	-	-	115	880	-	-	880	-	-	-	-	-	-	8,825	-
5b.1.1.10	Fuel Handling	-	982	-	-	-	-	-	147	1,130	-	-	1,130	-	-	-	-	-	-	14,207	-
5b.1.1	Totals	-	13,934	-	-	-	-	-	2,090	16,024	-	-	16,024	-	-	-	-	-	-	208,409	-
Site Closeout Activities																					
5b.1.2	Remove Rubble	-	929	-	-	-	-	-	139	1,068	-	-	1,068	-	-	-	-	-	-	6,047	-
5b.1.3	Grade & landscape site	-	404	-	-	-	-	-	61	465	-	-	465	-	-	-	-	-	-	1,141	-
5b.1.4	Final report to NRC	-	-	-	-	-	-	74	11	86	86	-	-	-	-	-	-	-	-	-	667
5b.1	Subtotal Period 5b Activity Costs	-	15,266	-	-	-	-	74	2,301	17,642	86	-	17,556	-	-	-	-	-	-	215,597	667
Period 5b Additional Costs																					
5b.2.1	Concrete Processing	-	444	-	-	-	-	3	67	514	-	-	514	-	-	-	-	-	-	2,162	-
5b 2	Subtotal Period 5b Additional Costs	-	444	-	-	-	-	3	67	514	-	-	514	-	-	-	-	-	-	2,162	-
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	163	-	-	-	-	-	24	188	-	-	188	-	-	-	-	-	-	-	-
5b.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	467	70	537	-	537	-	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	163	-	-	-	-	467	95	725	-	537	188	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.1	Insurance	-	-	-	-	-	-	420	42	462	-	462	-	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	134	13	147	-	147	-	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	5,339	-	-	-	-	-	801	6,140	-	-	6,140	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	425	64	489	-	98	391	-	-	-	-	-	-	-	-
5b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	234	23	257	-	257	-	-	-	-	-	-	-	-	-
5b.4.6	Emergency Planning Fees	-	-	-	-	-	-	763	76	839	-	839	-	-	-	-	-	-	-	-	-
5b.4.7	ISFSI Operating Costs	-	-	-	-	-	-	83	12	95	-	95	-	-	-	-	-	-	-	-	-
5b.4.8	NEI Fees	-	-	-	-	-	-	276	28	304	304	-	-	-	-	-	-	-	-	-	-
5b.4.9	Security Staff Cost	-	-	-	-	-	-	2,828	424	3,252	0	2,667	585	-	-	-	-	-	-	-	65,784
5b.4.10	DOC Staff Cost	-	-	-	-	-	-	8,331	1,250	9,580	-	-	9,580	-	-	-	-	-	-	-	103,274

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 5b Period-Dependent Costs (continued)																					
5b.4.11	Utility Staff Cost	-	-	-	-	-	-	3,739	561	4,300	(0)	860	3,440	-	-	-	-	-	-	-	50,663
5b.4	Subtotal Period 5b Period-Dependent Costs	-	5,339	-	-	-	-	17,232	3,294	25,865	304	5,425	20,136	-	-	-	-	-	-	-	219,721
5b.0	TOTAL PERIOD 5b COST	-	21,212	-	-	-	-	17,777	5,757	44,746	390	5,962	38,394	-	-	-	-	-	-	217,760	220,388
PERIOD 5c - Fuel Storage Operations/Shipping																					
Period 5c Collateral Costs																					
5c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	5,875	881	6,756	-	6,756	-	-	-	-	-	-	-	-	-
5c.3	Subtotal Period 5c Collateral Costs	-	-	-	-	-	-	5,875	881	6,756	-	6,756	-	-	-	-	-	-	-	-	-
Period 5c Period-Dependent Costs																					
5c.4.1	Insurance	-	-	-	-	-	-	4,963	496	5,460	-	5,460	-	-	-	-	-	-	-	-	-
5c.4.2	Property taxes	-	-	-	-	-	-	1,581	158	1,739	-	1,739	-	-	-	-	-	-	-	-	-
5c.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	2,827	283	3,110	-	3,110	-	-	-	-	-	-	-	-	-
5c.4.5	Emergency Planning Fees	-	-	-	-	-	-	9,009	901	9,910	-	9,910	-	-	-	-	-	-	-	-	-
5c.4.6	ISFSI Operating Costs	-	-	-	-	-	-	979	147	1,126	-	1,126	-	-	-	-	-	-	-	-	-
5c.4.7	Security Staff Cost	-	-	-	-	-	-	27,182	4,077	31,259	-	31,259	-	-	-	-	-	-	-	-	621,540
5c.4.8	Utility Staff Cost	-	-	-	-	-	-	11,054	1,658	12,712	-	12,712	-	-	-	-	-	-	-	-	155,615
5c.4	Subtotal Period 5c Period-Dependent Costs	-	-	-	-	-	-	57,595	7,720	65,316	-	65,316	-	-	-	-	-	-	-	-	777,155
5c.0	TOTAL PERIOD 5c COST	-	-	-	-	-	-	63,470	8,602	72,071	-	72,071	-	-	-	-	-	-	-	-	777,155
PERIOD 5d - GTCC shipping																					
Period 5d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
5d.1.1.1	Vessel & Internals GTCC Disposal	-	-	400	-	-	15,168	-	2,315	17,883	17,883	-	-	-	-	-	-	751	153,316	-	-
5d.1.1	Totals	-	-	400	-	-	15,168	-	2,315	17,883	17,883	-	-	-	-	-	-	751	153,316	-	-
5d.1	Subtotal Period 5d Activity Costs	-	-	400	-	-	15,168	-	2,315	17,883	17,883	-	-	-	-	-	-	751	153,316	-	-
Period 5d Collateral Costs																					
5d.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	2	-	2	-	-	-	-	-	-	-	-	-
5d.3	Subtotal Period 5d Collateral Costs	-	-	-	-	-	-	1	0	2	-	2	-	-	-	-	-	-	-	-	-
Period 5d Period-Dependent Costs																					
5d.4.1	Insurance	-	-	-	-	-	-	9	1	9	-	9	-	-	-	-	-	-	-	-	-
5d.4.2	Property taxes	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
5d.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5d.4.4	Emergency Planning Fees	-	-	-	-	-	-	16	2	17	-	17	-	-	-	-	-	-	-	-	-
5d.4.5	ISFSI Operating Costs	-	-	-	-	-	-	2	0	2	-	2	-	-	-	-	-	-	-	-	-
5d.4.6	Security Staff Cost	-	-	-	-	-	-	47	7	54	-	54	-	-	-	-	-	-	-	-	1,080
5d.4.7	Utility Staff Cost	-	-	-	-	-	-	19	3	22	-	22	-	-	-	-	-	-	-	-	270
5d.4	Subtotal Period 5d Period-Dependent Costs	-	-	-	-	-	-	95	13	108	-	108	-	-	-	-	-	-	-	-	1,350
5d.0	TOTAL PERIOD 5d COST	-	-	400	-	-	15,168	97	2,328	17,993	17,883	110	-	-	-	-	-	751	153,316	-	1,350
PERIOD 5e - ISFSI Decontamination																					
Period 5e Direct Decommissioning Activities																					
Period 5e Additional Costs																					
5e.2.1	ISFSI License Termination	-	219	4	32	-	34	718	176	1,183	-	1,183	-	-	631	-	-	-	111,760	5,793	1,280
5e.2	Subtotal Period 5e Additional Costs	-	219	4	32	-	34	718	176	1,183	-	1,183	-	-	631	-	-	-	111,760	5,793	1,280
Period 5e Collateral Costs																					
5e.3.1	Small tool allowance	-	2	-	-	-	-	-	0	3	-	3	-	-	-	-	-	-	-	-	-
5e.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-
5e.3	Subtotal Period 5e Collateral Costs	-	2	-	-	-	-	1	0	4	-	4	-	-	-	-	-	-	-	-	-

Table C-1
St. Lucie Nuclear Plant, Unit 1
Integrated DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 5e Period-Dependent Costs																					
5e.4.1	Insurance	-	-	-	-	-	-	75	7	82	-	82	-	-	-	-	-	-	-	-	-
5e.4.2	Property taxes	-	-	-	-	-	-	24	2	26	-	26	-	-	-	-	-	-	-	-	-
5e.4.3	Heavy equipment rental	-	129	-	-	-	-	-	19	148	-	148	-	-	-	-	-	-	-	-	-
5e.4.4	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5e.4.5	Security Staff Cost	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	2,510
5e.4.6	Utility Staff Cost	-	-	-	-	-	-	143	21	165	-	165	-	-	-	-	-	-	-	-	1,901
5e.4	Subtotal Period 5e Period-Dependent Costs	-	129	-	-	-	-	347	66	542	-	542	-	-	-	-	-	-	-	-	4,411
5e.0	TOTAL PERIOD 5e COST	-	350	4	32	-	34	1,066	243	1,729	-	1,729	-	-	631	-	-	-	111,760	5,793	5,691
PERIOD 5f - ISFSI Site Restoration																					
Period 5f Direct Decommissioning Activities																					
Period 5f Additional Costs																					
5f.2.1	ISFSI Site Restoration	-	896	-	-	-	-	24	138	1,057	-	1,057	-	-	-	-	-	-	-	6,454	80
5f.2	Subtotal Period 5f Additional Costs	-	896	-	-	-	-	24	138	1,057	-	1,057	-	-	-	-	-	-	-	6,454	80
Period 5f Collateral Costs																					
5f.3.1	Small tool allowance	-	5	-	-	-	-	-	1	5	-	5	-	-	-	-	-	-	-	-	-
5f.3	Subtotal Period 5f Collateral Costs	-	5	-	-	-	-	-	1	5	-	5	-	-	-	-	-	-	-	-	-
Period 5f Period-Dependent Costs																					
5f.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5f.4.2	Property taxes	-	-	-	-	-	-	12	1	13	-	13	-	-	-	-	-	-	-	-	-
5f.4.3	Heavy equipment rental	-	51	-	-	-	-	-	8	59	-	59	-	-	-	-	-	-	-	-	-
5f.4.4	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5f.4.5	Security Staff Cost	-	-	-	-	-	-	53	8	61	-	61	-	-	-	-	-	-	-	-	1,255
5f.4.6	Utility Staff Cost	-	-	-	-	-	-	62	9	71	-	71	-	-	-	-	-	-	-	-	784
5f.4	Subtotal Period 5f Period-Dependent Costs	-	51	-	-	-	-	127	26	204	-	204	-	-	-	-	-	-	-	-	2,050
5f.0	TOTAL PERIOD 5f COST	-	952	-	-	-	-	151	165	1,267	-	1,267	-	-	-	-	-	-	-	6,454	2,130
PERIOD 5 TOTALS			22,514	404	32		15,202	82,560	17,095	137,807	18,273	81,140	38,394		631			751	265,076	230,007	1,006,714
TOTAL COST TO DECOMMISSION		7,984	69,271	16,660	18,179	16,495	58,229	468,460	111,848	767,124	534,825	188,629	43,670	155,786	1,191,234	626	402	751	123,291,700	943,426	4,117,074

TOTAL COST TO DECOMMISSION WITH 17.07% CONTINGENCY:	$767,124	thousands of 2010 dollars
TOTAL NRC LICENSE TERMINATION COST IS 69.72% OR:	$534,825	thousands of 2010 dollars
SPENT FUEL MANAGEMENT COST IS 24.59% OR:	$188,629	thousands of 2010 dollars
NON-NUCLEAR DEMOLITION COST IS 5.69% OR:	$43,670	thousands of 2010 dollars
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):	1,192,261	cubic feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	751	cubic feet
TOTAL SCRAP METAL REMOVED:	40,451	tons
TOTAL CRAFT LABOR REQUIREMENTS:	943,426	man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense.

Table C-2
St. Lucie Nuclear Plant, Unit 2
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes: Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	145	22	167	167	-	-	-	-	-	-	-	-	-	1,300
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	223	33	257	257	-	-	-	-	-	-	-	-	-	2,000
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	513	77	590	590	-	-	-	-	-	-	-	-	-	4,600
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
1a.1.10	End product description	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	145	22	167	167	-	-	-	-	-	-	-	-	-	1,300
1a.1.12	Define major work sequence	-	-	-	-	-	-	837	125	962	962	-	-	-	-	-	-	-	-	-	7,500
1a.1.13	Perform SER and EA	-	-	-	-	-	-	346	52	398	398	-	-	-	-	-	-	-	-	-	3,100
1a.1.14	Perform Site-Specific Cost Study	-	-	-	-	-	-	558	84	641	641	-	-	-	-	-	-	-	-	-	5,000
1a.1.15	Prepare/submit License Termination Plan	-	-	-	-	-	-	457	69	525	525	-	-	-	-	-	-	-	-	-	4,096
1a.1.16	Receive NRC approval of termination plan									a											
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	549	82	631	568	-	63	-	-	-	-	-	-	-	4,920
1a.1.17.2	Plant systems	-	-	-	-	-	-	465	70	535	481	-	53	-	-	-	-	-	-	-	4,167
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	56	8	64	64	-	-	-	-	-	-	-	-	-	500
1a.1.17.4	Reactor Internals	-	-	-	-	-	-	792	119	911	911	-	-	-	-	-	-	-	-	-	7,100
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	725	109	834	834	-	-	-	-	-	-	-	-	-	6,500
1a.1.17.6	Biological shield	-	-	-	-	-	-	56	8	64	64	-	-	-	-	-	-	-	-	-	500
1a.1.17.7	Steam generators	-	-	-	-	-	-	348	52	400	400	-	-	-	-	-	-	-	-	-	3,120
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	178	27	205	103	-	103	-	-	-	-	-	-	-	1,600
1a.1.17.9	Main Turbine	-	-	-	-	-	-	45	7	51	-	-	51	-	-	-	-	-	-	-	400
1a.1.17.10	Main Condensers	-	-	-	-	-	-	45	7	51	-	-	51	-	-	-	-	-	-	-	400
1a.1.17.11	Plant structures & buildings	-	-	-	-	-	-	348	52	400	200	-	200	-	-	-	-	-	-	-	3,120
1a.1.17.12	Waste management	-	-	-	-	-	-	513	77	590	590	-	-	-	-	-	-	-	-	-	4,600
1a.1.17.13	Facility & site closeout	-	-	-	-	-	-	100	15	115	58	-	58	-	-	-	-	-	-	-	900
1a.1.17	Total	-	-	-	-	-	-	4,220	633	4,853	4,273	-	580	-	-	-	-	-	-	-	37,827
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	268	40	308	308	-	-	-	-	-	-	-	-	-	2,400
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	2,800	420	3,220	3,220	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	156	23	180	180	-	-	-	-	-	-	-	-	-	1,400
1a.1.21	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,200	330	2,530	2,530	-	-	-	-	-	-	-	-	-	-
1a 1.22	Procure casks/liners & containers	-	-	-	-	-	-	137	21	158	158	-	-	-	-	-	-	-	-	-	1,230
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	13,227	1,984	15,211	14,632	-	580	-	-	-	-	-	-	-	73,753
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	4,675	701	5,377	-	5,377	-	-	-	-	-	-	-	-	-
1a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
1a.3.3	Fixed Overhead	-	-	-	-	-	-	417	63	480	480	-	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	5,094	764	5,858	481	5,377	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,192	119	1,311	1,311	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	1,298	130	1,427	1,427	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	335	-	-	-	-	-	84	419	419	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	487	-	-	-	-	-	73	560	560	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	9	7	-	22	-	8	46	46	-	-	-	493	-	-	-	9,854	16	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	2,276	341	2,617	2,617	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	562	56	618	618	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	607	61	668	-	668	-	-	-	-	-	-	-	-	-
1a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	764	115	878	-	878	-	-	-	-	-	-	-	-	-
1a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-

Table C-2
St. Lucie Nuclear Plant, Unit 2
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1a Period-Dependent Costs (continued)																					
1a.4.11	tNPO Fees	-	-	-	-	-	-	722	72	794	794	-	-	-	-	-	-	-	-	-	-
1a.4.12	NEI Fees	-	-	-	-	-	-	148	15	163	163	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	6,515	977	7,493	7,493	-	-	-	-	-	-	-	-	-	157,471
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	27,592	4,139	31,731	31,731	-	-	-	-	-	-	-	-	-	423,400
1a.4	Subtotal Period 1a Period-Dependent Costs	-	822	9	7	-	22	41,719	6,196	48,776	47,179	1,597	-	-	493	-	-	-	9,854	16	580,871
1a.0	TOTAL PERIOD 1a COST	-	822	9	7	-	22	60,040	8,944	69,845	62,291	6,974	580	-	493	-	-	-	9,854	16	654,624
PERIOD 1b - Decommissioning Preparations																					
Period 1b Direct Decommissioning Activities																					
Detailed Work Procedures																					
1b.1.1.1	Plant systems	-	-	-	-	-	-	528	79	607	546	-	61	-	-	-	-	-	-	-	4,733
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.3	Reactor internals	-	-	-	-	-	-	279	42	321	321	-	-	-	-	-	-	-	-	-	2,500
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	151	23	173	43	-	130	-	-	-	-	-	-	-	1,350
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.7	Incore Instrumentation	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	405	61	466	466	-	-	-	-	-	-	-	-	-	3,630
1b.1.1.9	Facility closeout	-	-	-	-	-	-	134	20	154	77	-	77	-	-	-	-	-	-	-	1,200
1b.1.1.10	Missile shields	-	-	-	-	-	-	50	8	58	58	-	-	-	-	-	-	-	-	-	450
1b.1.1.11	Biological shield	-	-	-	-	-	-	134	20	154	154	-	-	-	-	-	-	-	-	-	1,200
1b.1.1.12	Steam generators	-	-	-	-	-	-	513	77	590	590	-	-	-	-	-	-	-	-	-	4,600
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	112	17	128	64	-	64	-	-	-	-	-	-	-	1,000
1b.1.1.14	Main Turbine	-	-	-	-	-	-	174	26	200	-	-	200	-	-	-	-	-	-	-	1,560
1b.1.1.15	Main Condensers	-	-	-	-	-	-	174	26	200	-	-	200	-	-	-	-	-	-	-	1,560
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	305	46	350	315	-	35	-	-	-	-	-	-	-	2,730
1b.1.1.17	Reactor building	-	-	-	-	-	-	305	46	350	315	-	35	-	-	-	-	-	-	-	2,730
1b.1.1	Total	-	-	-	-	-	-	3,708	556	4,264	3,462	-	802	-	-	-	-	-	-	-	33,243
1b.1.2	Decon primary loop	507	-	-	-	-	-	-	253	760	760	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	507	-	-	-	-	-	3,708	810	5,025	4,223	-	802	-	-	-	-	-	-	1,067	33,243
Period 1b Additional Costs																					
1b.2.1	Site Characterization	-	-	-	-	-	-	5,022	1,507	6,529	6,529	-	-	-	-	-	-	-	-	30,500	10,852
1b.2.2	Spent Fuel Pool Isolation	-	-	-	-	-	-	6,654	998	7,652	7,652	-	-	-	-	-	-	-	-	-	-
1b.2.3	Mixed/Hazardous Waste	-	-	582	144	5,001	-	-	830	6,557	6,557	-	-	27,017	-	-	-	-	1,397,259	5,601	-
1b.2	Subtotal Period 1b Additional Costs	-	-	582	144	5,001	-	11,676	3,335	20,737	20,737	-	-	27,017	-	-	-	-	1,397,259	36,101	10,852
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	823	-	-	-	-	-	-	123	946	946	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,224	184	1,408	1,408	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process decommissioning water waste	42	-	17	119	-	104	-	67	350	350	-	-	-	288	-	-	-	17,272	56	-
1b.3.4	Process decommissioning chemical flush waste	1	-	42	305	-	2,579	-	695	3,622	3,622	-	-	-	-	726	-	-	77,374	136	-
1b.3.5	Small tool allowance	-	2	-	-	-	-	-	0	2	2	-	-	-	-	-	-	-	-	-	-
1b.3.6	Pipe cutting equipment	-	1,100	-	-	-	-	-	165	1,265	1,265	-	-	-	-	-	-	-	-	-	-
1b.3.7	Decon rig	1,400	-	-	-	-	-	-	210	1,610	1,610	-	-	-	-	-	-	-	-	-	-
1b.3.8	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,251	188	1,439	-	1,439	-	-	-	-	-	-	-	-	-
1b.3.9	Florida LLRW Inspection Fee	-	-	-	-	-	-	22	2	25	25	-	-	-	-	-	-	-	-	-	-
1b.3.10	Fixed Overhead	-	-	-	-	-	-	212	32	243	243	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	2,266	1,102	59	424	-	2,683	2,709	1,666	10,910	9,471	1,439	-	-	288	726	-	-	94,645	192	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	25	-	-	-	-	-	-	6	32	32	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	604	60	665	665	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	36	4	40	40	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	218	-	-	-	-	-	55	273	273	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	247	-	-	-	-	-	37	284	284	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	6	4	-	14	-	5	28	28	-	-	-	303	-	-	-	6,050	10	-

Table C-2
St. Lucie Nuclear Plant, Unit 2
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1b Period-Dependent Costs (continued)																					
1b.4.7	Plant energy budget	-	-	-	-	-	-	2,307	346	2,653	2,653	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	285	28	313	313	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	308	31	338	-	338	-	-	-	-	-	-	-	-	-
1b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	387	58	445	-	445	-	-	-	-	-	-	-	-	-
1b.4.11	ISFSI Operating Costs	-	-	-	-	-	-	22	3	26	-	26	-	-	-	-	-	-	-	-	-
1b.4.12	NEI Fees	-	-	-	-	-	-	75	7	82	82	-	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	3,302	495	3,798	3,798	-	-	-	-	-	-	-	-	-	79,814
1b.4.14	DOC Staff Cost	-	-	-	-	-	-	5,037	756	5,793	5,793	-	-	-	-	-	-	-	-	-	64,486
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	14,065	2,110	16,175	16,175	-	-	-	-	-	-	-	-	-	215,657
1b.4	Subtotal Period 1b Period-Dependent Costs	25	465	6	4	-	14	26,429	4,002	30,945	30,135	810	-	-	303	-	-	-	6,050	10	359,957
1b.0	TOTAL PERIOD 1b COST	2,799	1,567	647	572	5,001	2,697	44,522	9,812	67,617	64,566	2,248	802	27,017	590	726	-	-	1,497,955	37,370	404,052
PERIOD 1 TOTALS		2,799	2,389	656	579	5,001	2,720	104,562	18,756	137,462	126,858	9,222	1,382	27,017	1,083	726	-	-	1,507,809	37,386	1,058,676
PERIOD 2a - Large Component Removal																					
Period 2a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
2a.1.1.1	Reactor Coolant Piping	58	46	9	18	-	144	-	80	355	355	-	-	-	495	-	-	-	56,538	2,256	-
2a.1.1.2	Pressurizer Relief Tank	6	5	1	3	-	22	-	11	49	49	-	-	-	78	-	-	-	8,699	255	-
2a.1.1.3	Reactor Coolant Pumps & Motors	149	82	70	133	-	1,793	-	570	2,798	2,798	-	-	-	6,541	-	-	-	564,000	5,552	100
2a.1.1.4	Pressurizer	36	50	340	94	-	920	-	309	1,749	1,749	-	-	-	3,358	-	-	-	257,844	2,077	938
2a.1.1.5	Steam Generators	187	2,962	1,886	6,005	2,171	4,039	-	3,258	20,506	20,506	-	-	30,926	14,737	-	-	-	2,605,940	11,617	2,875
2a.1.1.6	CROMs/ICIs/Service Structure Removal	153	89	250	97	-	254	-	201	1,043	1,043	-	-	-	4,243	-	-	-	99,438	4,916	-
2a.1.1.7	Reactor Vessel Internals	97	2,299	9,416	1,348	-	8,323	251	8,663	30,396	30,396	-	-	-	1,377	631	402	-	267,524	27,933	1,249
2a.1.1.8	Reactor Vessel	84	4,203	1,593	1,183	-	2,314	251	5,082	14,709	14,709	-	-	-	8,985	-	-	-	990,810	27,933	1,249
2a.1.1	Totals	770	9,736	13,554	8,880	2,171	17,808	501	18,175	71,605	71,605	-	-	30,926	39,814	631	402	-	4,850,793	82,539	6,412
Removal of Major Equipment																					
2a.1.2	Main Turbine/Generator	-	300	147	109	497	683	-	351	2,088	2,088	-	-	4,800	2,987	-	-	-	484,019	6,766	-
2a.1.3	Main Condensers	-	988	181	134	610	839	-	586	3,337	3,337	-	-	5,690	3,666	-	-	-	593,979	22,471	-
Cascading Costs from Clean Building Demolition																					
2a.1.4.1	Reactor	-	1,312	-	-	-	-	-	197	1,509	1,509	-	-	-	-	-	-	-	-	20,314	-
2a.1.4.2	Reactor Auxiliary	-	186	-	-	-	-	-	28	214	214	-	-	-	-	-	-	-	-	2,564	-
2a.1.4.3	Steam Generator Blowdown Treatment	-	26	-	-	-	-	-	4	30	30	-	-	-	-	-	-	-	-	392	-
2a.1.4.4	Fuel Handling	-	107	-	-	-	-	-	16	123	123	-	-	-	-	-	-	-	-	1,519	-
2a.1.4	Totals	-	1,631	-	-	-	-	-	245	1,876	1,876	-	-	-	-	-	-	-	-	24,789	-
Disposal of Plant Systems																					
2a.1.5.1	Air Evacuation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	177	-
2a.1.5.2	Air Evacuation - Insulated	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	777	-
2a.1.5.3	Auxiliary Steam - Insulated	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	410	-
2a.1.5.4	Chemical & Volume Control	109	106	13	16	59	103	-	119	526	526	-	-	633	561	-	-	-	66,093	4,620	-
2a.1.5.5	Chemical & Volume Control - Insulated	651	578	56	57	7	445	-	597	2,391	2,391	-	-	73	1,947	-	-	-	177,404	26,382	-
2a.1.5.6	Chemical Feed	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	71	-
2a.1.5.7	Chemical Feed - Insulated	-	1	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	42	-
2a.1.5.8	Circulating & Intake Cooling Water	-	257	-	-	-	-	-	39	296	-	-	296	-	-	-	-	-	-	6,590	-
2a.1.5.9	Component Cooling	-	86	-	-	-	-	-	13	99	-	-	99	-	-	-	-	-	-	2,187	-
2a.1.5.10	Component Cooling - RCA	-	321	44	75	633	370	-	283	1,727	1,727	-	-	6,782	1,620	-	-	-	420,608	6,899	-
2a.1.5.11	Condensate	-	188	-	-	-	-	-	28	216	-	-	216	-	-	-	-	-	-	4,668	-
2a.1.5.12	Condensate - Insulated	-	110	-	-	-	-	-	17	127	-	-	127	-	-	-	-	-	-	2,879	-
2a.1.5.13	Condensate Recovery	-	4	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	113	-
2a.1.5.14	Condensate Recovery - Insulated	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	15	-
2a.1.5.15	Condensate Recovery - Insulated - RCA	-	1	0	0	0	1	-	0	2	2	-	-	2	2	-	-	-	283	14	-
2a.1.5.16	Condensate Recovery - RCA	-	11	1	1	13	5	-	6	38	38	-	-	134	25	-	-	-	7,565	236	-
2a.1.5.17	Condenser Tube Cleaning	-	36	-	-	-	-	-	5	41	-	-	41	-	-	-	-	-	-	920	-
2a.1.5.18	Demineralized Makeup Water	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	137	-
2a.1.5.19	Demineralized Makeup Water - RCA	-	6	1	1	1	4	-	3	15	15	-	-	12	19	-	-	-	2,221	100	-

Table C-2
St. Lucie Nuclear Plant, Unit 2
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
2a.1.5.20	Domestic/Makeup/Service Water	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	215	-
2a.1.5.21	Domestic/Makeup/Service Water - RCA	-	21	2	2	8	16	-	11	60	60	-	-	88	69	-	-	-	9,781	407	-
2a.1.5.22	Domestic/Makeup/Service Water-Ins	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	19	-
2a.1.5.23	Domestic/Makeup/Service Water-Ins - RCA	-	2	0	0	1	1	-	1	6	6	-	-	6	6	-	-	-	796	44	-
2a.1.5.24	Electrical - Clean	-	3,363	-	-	-	-	-	504	3,867	-	-	3,867	-	-	-	-	-	-	81,595	-
2a.1.5.25	Extraction Steam	-	79	-	-	-	-	-	12	90	-	-	90	-	-	-	-	-	-	1,887	-
2a.1.5.26	Extraction Steam - Insulated	-	87	-	-	-	-	-	13	101	-	-	101	-	-	-	-	-	-	2,280	-
2a.1.5.27	Feedwater - Insulated	-	118	-	-	-	-	-	18	136	-	-	136	-	-	-	-	-	-	3,077	-
2a.1.5.28	Feedwater - Insulated - RCA	-	39	4	7	62	34	-	29	175	175	-	-	662	150	-	-	-	40,342	825	-
2a.1.5.29	Fire Protection	-	51	-	-	-	-	-	8	59	-	-	59	-	-	-	-	-	-	1,310	-
2a.1.5.30	Fire Protection - Insulated	-	6	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	145	-
2a.1.5.31	HVAC	-	248	-	-	-	-	-	37	285	-	-	285	-	-	-	-	-	-	6,876	-
2a.1.5.32	Heater Drain & Vents - Insulated	-	209	-	-	-	-	-	31	240	-	-	240	-	-	-	-	-	-	5,363	-
2a.1.5.33	Hydrogen Sampling	-	46	4	5	35	26	-	25	141	141	-	-	378	115	-	-	-	25,618	1,035	-
2a.1.5.34	Integrated Leak Rate Testing	-	33	2	3	21	17	-	16	92	92	-	-	224	74	-	-	-	15,782	713	-
2a.1.5.35	Main Steam - Insulated	-	190	-	-	-	-	-	29	219	-	-	219	-	-	-	-	-	-	4,827	-
2a.1.5.36	Main Steam - Insulated - RCA	-	40	5	8	68	36	-	31	187	187	-	-	733	156	-	-	-	43,766	871	-
2a.1.5.37	Misc Bulk Gas Supply	-	12	-	-	-	-	-	2	14	-	-	14	-	-	-	-	-	-	346	-
2a.1.5.38	Misc Bulk Gas Supply - RCA	-	10	1	1	2	7	-	5	26	26	-	-	18	30	-	-	-	3,465	192	-
2a.1.5.39	Miscellaneous	-	1	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	33	-
2a.1.5.40	Miscellaneous - RCA	-	4	1	1	14	6	-	5	32	32	-	-	155	26	-	-	-	8,613	98	-
2a.1.5.41	Post Accident Sampling	-	3	0	0	-	0	-	1	5	5	-	-	-	2	-	-	-	195	78	-
2a.1.5.42	Post Accident Sampling - Insulated	-	27	1	1	-	4	-	8	41	41	-	-	-	20	-	-	-	1,753	699	-
2a.1.5.43	RCP Oil Collection	-	7	1	1	1	6	-	4	19	19	-	-	10	25	-	-	-	2,666	141	-
2a.1.5.44	SGBTF Blowdown - Insulated	-	683	34	58	737	202	-	344	2,058	2,058	-	-	7,896	951	-	-	-	399,867	15,343	-
2a.1.5.45	SGBTF Demin - Ins - RCA	-	46	3	4	12	29	-	21	115	115	-	-	128	126	-	-	-	16,542	955	-
2a.1.5.46	SGBTF Demin - RCA	-	67	5	8	79	33	-	39	231	231	-	-	850	152	-	-	-	47,553	1,424	-
2a.1.5.47	SGBTF Miscellaneous - RCA	-	23	1	3	38	8	-	14	87	87	-	-	408	37	-	-	-	19,610	512	-
2a.1.5.48	SGBTF Waste Management	-	63	3	5	83	10	-	32	195	195	-	-	888	50	-	-	-	39,870	1,442	-
2a.1.5.49	SGBTF Waste Management - Insulated	-	60	3	4	15	28	-	25	136	136	-	-	165	125	-	-	-	17,885	1,326	-
2a.1.5.50	Safety Injection	-	215	54	74	342	463	-	237	1,386	1,386	-	-	3,662	2,108	-	-	-	330,233	4,864	-
2a.1.5.51	Safety Injection - Insulated	-	789	77	91	216	635	-	410	2,217	2,217	-	-	2,318	2,778	-	-	-	343,043	16,568	-
2a.1.5.52	Sampling	-	8	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	236	-
2a.1.5.53	Sampling - Insulated	-	12	-	-	-	-	-	2	13	-	-	13	-	-	-	-	-	-	328	-
2a.1.5.54	Sampling - Insulated - RCA	-	31	3	3	5	21	-	15	78	78	-	-	56	92	-	-	-	10,513	594	-
2a.1.5.55	Sampling - RCA	-	27	2	2	9	16	-	13	69	69	-	-	101	68	-	-	-	10,203	533	-
2a.1.5.56	Secondary Side Wet Layup	-	11	-	-	-	-	-	2	13	-	-	13	-	-	-	-	-	-	308	-
2a.1.5.57	Secondary Side Wet Layup - Ins	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	369	-
2a.1.5.58	Service & Instrument Air	-	19	-	-	-	-	-	3	22	-	-	22	-	-	-	-	-	-	485	-
2a.1.5.59	Service & Instrument Air - Ins	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	258	-
2a.1.5.60	Sodium Hypochlorite	-	44	-	-	-	-	-	7	51	-	-	51	-	-	-	-	-	-	1,137	-
2a.1.5.61	Steam Gen Blowdown Cooling	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	387	-
2a.1.5.62	Steam Gen Blowdown Cooling - Ins - RCA	-	53	6	10	79	48	-	39	234	234	-	-	849	209	-	-	-	53,229	1,113	-
2a.1.5.63	Steam Gen Blowdown Cooling - Insulated	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	47	-
2a.1.5.64	Steam Gen Blowdown Cooling - RCA	-	71	8	13	108	67	-	53	319	319	-	-	1,153	291	-	-	-	72,896	1,467	-
2a.1.5.65	Steam Generator Blowdown	-	25	2	2	8	11	-	11	59	59	-	-	87	49	-	-	-	7,933	582	-
2a.1.5.66	Steam Generator Blowdown - Insulated	-	58	3	4	15	27	-	24	131	131	-	-	162	120	-	-	-	17,322	1,283	-
2a.1.5.67	Turbine	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	29	-
2a.1.5.68	Turbine Cooling Water	-	58	-	-	-	-	-	9	66	-	-	66	-	-	-	-	-	-	1,431	-
2a.1.5.69	Turbine Cooling Water - Insulated	-	40	-	-	-	-	-	6	46	-	-	46	-	-	-	-	-	-	1,050	-
2a.1.5.70	Turbine Lube Oil & Diesel Oil	-	60	-	-	-	-	-	9	69	-	-	69	-	-	-	-	-	-	1,468	-
2a.1.5	Totals	760	8,870	338	459	2,674	2,680	-	3,232	19,022	12,797	-	6,225	28,630	12,005	-	-	-	2,213,646	225,882	-
2a.1.6	Scaffolding in support of decommissioning	-	736	15	5	77	11	-	200	1,042	1,042	-	-	739	46	-	-	-	37,405	20,151	-
2a.1	Subtotal Period 2a Activity Costs	1,531	22,269	14,245	9,586	6,028	22,021	501	22,790	98,970	92,746	-	6,225	70,985	58,518	631	402	-	8,179,842	382,599	6,412
Period 2a Collateral Costs																					
2a.3.1	Process decommissioning water waste	100	-	42	289	-	253	-	161	845	845	-	-	-	697	-	-	-	41,847	136	-
2a 3.2	Process decommissioning chemical flush waste	0	-	12	89	-	137	-	49	288	288	-	-	-	213	-	-	-	22,656	40	-
2a.3.3	Small tool allowance	-	283	-	-	-	-	-	42	326	293	-	33	-	-	-	-	-	-	-	-

Table C-2
St. Lucie Nuclear Plant, Unit 2
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 2a Collateral Costs (continued)																					
2a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	4,330	649	4,979	-	4,979	-	-	-	-	-	-	-	-	-
2a.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	125	13	138	138	-	-	-	-	-	-	-	-	-	-
2a.3.6	Fixed Overhead	-	-	-	-	-	-	634	95	729	729	-	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	100	283	54	379	-	390	5,089	1,009	7,305	2,293	4,979	33	-	910	-	-	-	64,503	176	-
Period 2a Period-Dependent Costs																					
2a.4.1	Decon supplies	76	-	-	-	-	-	-	19	95	95	-	-	-	-	-	-	-	-	-	-
2a.4.2	Insurance	-	-	-	-	-	-	777	78	855	855	-	-	-	-	-	-	-	-	-	-
2a.4.3	Property taxes	-	-	-	-	-	-	109	11	120	108	-	12	-	-	-	-	-	-	-	-
2a.4.4	Health physics supplies	-	2,040	-	-	-	-	-	510	2,550	2,550	-	-	-	-	-	-	-	-	-	-
2a.4.5	Heavy equipment rental	-	3,046	-	-	-	-	-	457	3,503	3,503	-	-	-	-	-	-	-	-	-	-
2a.4.6	Disposal of DAW generated	-	-	81	63	-	199	-	67	410	410	-	-	-	4,360	-	-	-	87,207	142	-
2a.4.7	Plant energy budget	-	-	-	-	-	-	3,282	492	3,774	3,774	-	-	-	-	-	-	-	-	-	-
2a.4.8	NRC Fees	-	-	-	-	-	-	819	82	901	901	-	-	-	-	-	-	-	-	-	-
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	619	62	681	-	681	-	-	-	-	-	-	-	-	-
2a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	1,159	174	1,333	-	1,333	-	-	-	-	-	-	-	-	-
2a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	67	10	77	-	77	-	-	-	-	-	-	-	-	-
2a.4.12	NEI Fees	-	-	-	-	-	-	224	22	247	247	-	-	-	-	-	-	-	-	-	-
2a.4.13	DDC Staff Cost	-	-	-	-	-	-	18,819	2,823	21,642	21,642	-	-	-	-	-	-	-	-	-	240,594
2a.4.14	Utility Staff Cost	-	-	-	-	-	-	29,743	4,461	34,205	34,205	-	-	-	-	-	-	-	-	-	445,226
2a.4	Subtotal Period 2a Period-Dependent Costs	76	5,086	81	63	-	199	55,619	9,269	70,393	68,289	2,092	12	-	4,360	-	-	-	87,207	142	685,820
2a.0	TOTAL PERIOD 2a COST	1,707	27,638	14,380	10,028	6,028	22,610	61,210	33,068	176,668	163,327	7,072	6,269	70,985	63,789	631	402	-	8,331,553	382,917	692,232
PERIOD 2b - Site Decontamination																					
Period 2b Direct Decommissioning Activities																					
Disposal of Plant Systems																					
2b.1.1.1	Containmnt Spray & Refueling Water	-	418	108	140	423	955	-	439	2,483	2,483	-	-	4,526	4,686	-	-	-	558,440	9,765	-
2b.1.1.2	Containmnt Spray & Refueling Water - Ins	-	177	28	44	76	316	-	144	785	785	-	-	816	1,382	-	-	-	157,145	4,055	-
2b.1.1.3	Electrical - Contaminated	-	471	16	29	165	173	-	192	1,046	1,046	-	-	1,762	757	-	-	-	139,519	9,902	-
2b.1.1.4	Electrical - Decontaminated	-	3,011	152	266	1,507	1,570	-	1,426	7,932	7,932	-	-	16,129	6,860	-	-	-	1,270,558	59,144	-
2b.1.1.5	Emergency Diesel Generator	-	81	-	-	-	-	-	12	93	-	-	93	-	-	-	-	-	-	2,134	-
2b.1.1.6	Emergency Diesel Generator - Insulated	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	221	-
2b.1.1.7	Fire Protection - Insulated - RCA	-	4	0	1	5	3	-	3	16	16	-	-	49	13	-	-	-	3,173	92	-
2b.1.1.8	Fire Protection - RCA	-	50	4	7	54	34	-	30	179	179	-	-	576	149	-	-	-	36,731	1,065	-
2b.1.1.9	HVAC - Contaminated	-	1,610	63	131	2,194	279	-	827	5,104	5,104	-	-	23,493	1,218	-	-	-	1,063,290	33,983	-
2b.1.1.10	Primary Water	-	149	20	25	104	161	-	99	558	558	-	-	1,114	902	-	-	-	108,361	3,411	-
2b.1.1.11	Primary Water - Insulated	-	3	0	0	0	2	-	1	6	6	-	-	1	8	-	-	-	716	58	-
2b.1.1.12	Radiation Monitoring	-	21	1	1	2	7	-	8	40	40	-	-	18	31	-	-	-	3,507	499	-
2b.1.1.13	Reactor Coolant - Insulated	-	70	6	6	9	44	-	31	167	167	-	-	98	194	-	-	-	21,346	1,625	-
2b.1.1.14	Refueling Equipment	-	139	9	17	83	103	-	77	428	428	-	-	890	450	-	-	-	76,479	3,295	-
2b.1.1.15	Secondary Side Wet Layup - Ins - RCA	-	13	1	1	3	9	-	6	34	34	-	-	33	41	-	-	-	5,058	239	-
2b.1.1.16	Secondary Side Wet Layup - RCA	-	12	1	1	12	7	-	7	41	41	-	-	133	31	-	-	-	8,126	240	-
2b.1.1.17	Service & Instrument Air - Ins - RCA	-	42	3	3	8	24	-	18	98	98	-	-	81	103	-	-	-	12,565	886	-
2b.1.1.18	Service & Instrument Air - RCA	-	26	2	2	4	15	-	11	60	60	-	-	40	65	-	-	-	7,419	548	-
2b.1.1.19	Waste Management	749	686	87	100	305	682	-	786	3,396	3,396	-	-	3,264	3,528	-	-	-	400,175	30,876	-
2b.1.1.20	Waste Management - Insulated	1,572	1,304	136	134	12	1,043	-	1,408	5,610	5,610	-	-	133	4,567	-	-	-	414,467	61,722	-
2b.1.1	Totals	2,321	8,297	639	909	4,965	5,427	-	5,528	28,086	27,984	-	102	53,157	24,985	-	-	-	4,287,075	223,760	-
2b.1.2	Scaffolding in support of decommissioning	-	920	18	6	96	13	-	250	1,303	1,303	-	-	924	58	-	-	-	46,757	25,189	-
Decontamination of Site Buildings																					
2b.1.3.1	Reactor	1,026	1,050	177	323	294	1,222	-	1,191	5,283	5,283	-	-	9,150	9,459	-	-	-	1,030,182	44,174	-
2b.1.3.2	Primary Water Tank & Pump - Contaminated	0	6	5	9	-	14	-	7	42	42	-	-	-	260	-	-	-	26,046	129	-
2b.1.3.3	Reactor Auxiliary	479	240	48	92	93	141	-	367	1,460	1,460	-	-	995	2,501	-	-	-	288,479	15,595	-
2b.1.3.4	Steam Generator Blowdown Treatment	155	58	15	30	3	45	-	110	416	416	-	-	28	825	-	-	-	83,591	4,622	-
2b.1.3	Totals	1,660	1,354	245	454	390	1,423	-	1,675	7,201	7,201	-	-	4,173	13,045	-	-	-	1,428,298	64,520	-
2b.1	Subtotal Period 2b Activity Costs	3,982	10,570	903	1,369	5,451	6,863	-	7,453	36,590	36,488	-	102	58,255	38,088	-	-	-	5,762,130	313,470	-

Table C-2
St. Lucie Nuclear Plant, Unit 2
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Additional Costs																					
2b.2.1	Contaminated Soil Remediation	-	1,267	718	5,393	-	14,231	-	4,755	26,365	26,365	-	-	-	948,730	-	-	-	94,873,010	15,812	-
2b.2.2	Soil - Clean Closure	-	-	-	-	-	-	134	20	155	155	-	-	-	-	-	-	-	-	-	-
2b.2.3	Storm Drain Remediation	-	144	65	159	-	415	-	170	954	954	-	-	-	27,763	-	-	-	2,768,792	3,071	-
2b.2	Subtotal Period 2b Additional Costs	-	1,412	783	5,552	-	14,646	134	4,946	27,474	27,474	-	-	-	976,493	-	-	-	97,641,800	18,883	-
Period 2b Collateral Costs																					
2b.3.1	Process decommissioning water waste	127	-	55	379	-	332	-	209	1,101	1,101	-	-	-	914	-	-	-	54,824	178	-
2b.3.2	Process decommissioning chemical flush waste	1	-	32	232	-	357	-	128	750	750	-	-	-	553	-	-	-	58,939	104	-
2b.3.3	Small tool allowance	-	229	-	-	-	-	-	34	264	264	-	-	-	-	-	-	-	-	-	-
2b.3.4	Decommissioning Equipment Disposition	-	-	118	44	621	85	-	133	1,002	1,002	-	-	6,000	373	-	-	-	303,507	88	-
2b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	26,959	4,044	31,002	-	31,002	-	-	-	-	-	-	-	-	-
2b.3.6	Florida LLRW Inspection Fee	-	-	-	-	-	-	1,992	199	2,191	2,191	-	-	-	-	-	-	-	-	-	-
2b.3.7	Fixed Overhead	-	-	-	-	-	-	1,036	155	1,192	1,192	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	128	229	205	655	621	774	29,987	4,902	37,501	6,499	31,002	-	6,000	1,840	-	-	-	417,270	370	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	883	-	-	-	-	-	-	221	1,103	1,103	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	1,271	127	1,398	1,398	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	178	18	196	196	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	2,068	-	-	-	-	-	517	2,586	2,586	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	4,944	-	-	-	-	-	742	5,686	5,686	-	-	-	-	-	-	-	-	-	-
2b.4.6	Disposal of DAW generated	-	-	93	72	-	228	-	77	470	470	-	-	-	5,003	-	-	-	100,064	163	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	4,237	636	4,872	4,872	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	1,149	115	1,264	1,264	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	1,013	101	1,114	-	1,114	-	-	-	-	-	-	-	-	-
2b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	1,896	284	2,180	-	2,180	-	-	-	-	-	-	-	-	-
2b.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	482	72	554	554	-	-	-	-	-	-	-	-	-	-
2b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	110	17	127	-	127	-	-	-	-	-	-	-	-	-
2b.4.13	NEI Fees	-	-	-	-	-	-	367	37	404	404	-	-	-	-	-	-	-	-	-	-
2b.4.14	Security Staff Cost	-	-	-	-	-	-	13,631	2,045	15,676	15,676	-	-	-	-	-	-	-	-	-	327,454
2b.4.15	DOC Staff Cost	-	-	-	-	-	-	21,205	3,181	24,386	24,386	-	-	-	-	-	-	-	-	-	279,566
2b.4.16	Utility Staff Cost	-	-	-	-	-	-	33,753	5,063	38,816	38,816	-	-	-	-	-	-	-	-	-	520,303
2b.4	Subtotal Period 2b Period-Dependent Costs	883	7,012	93	72	-	228	79,292	13,251	100,831	97,410	3,421	-	-	5,003	-	-	-	100,064	163	1,127,323
2b.0	TOTAL PERIOD 2b COST	4,992	19,224	1,983	7,648	6,072	22,511	109,413	30,553	202,396	167,871	34,424	102	64,255	1,021,424	-	-	-	103,921,300	332,886	1,127,323
PERIOD 2d - Decontamination Following Wet Fuel Storage																					
Period 2d Direct Decommissioning Activities																					
2d.1.1	Remove spent fuel racks	464	46	173	93	-	729	-	457	1,963	1,963	-	-	-	3,185	-	-	-	285,812	1,243	-
Disposal of Plant Systems																					
2d.1.2.1	Fuel Pool	134	118	17	24	36	173	-	151	652	652	-	-	384	761	-	-	-	83,292	4,148	-
2d.1.2.2	Fuel Pool - Insulated	69	70	7	9	8	67	-	72	303	303	-	-	81	295	-	-	-	29,703	2,717	-
2d.1.2.3	Spent Fuel	0	11	1	2	4	15	-	8	41	41	-	-	39	66	-	-	-	7,516	252	-
2d.1.2.4	Spent Fuel - Ins	0	2	0	0	-	1	-	1	4	4	-	-	-	5	-	-	-	491	30	-
2d.1.2	Totals	204	202	25	35	47	256	-	231	1,000	1,000	-	-	504	1,127	-	-	-	121,002	7,148	-
Decontamination of Site Buildings																					
2d.1.3.1	Fuel Handling	387	410	10	19	155	28	-	330	1,341	1,341	-	-	1,664	377	-	-	-	104,121	17,401	-
2d.1.3	Totals	387	410	10	19	155	28	-	330	1,341	1,341	-	-	1,664	377	-	-	-	104,121	17,401	-
2d.1.4	Scaffolding in support of decommissioning	-	184	4	1	19	3	-	50	261	261	-	-	185	12	-	-	-	9,351	5,038	-
2d.1	Subtotal Period 2d Activity Costs	1,055	842	212	148	222	1,016	-	1,069	4,564	4,564	-	-	2,353	4,701	-	-	-	520,286	30,830	-
Period 2d Additional Costs																					
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	706	212	918	918	-	-	-	-	-	-	-	-	-	6,240
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	706	212	918	918	-	-	-	-	-	-	-	-	-	6,240

Table C-2
St. Lucie Nuclear Plant, Unit 2
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 2d Collateral Costs																					
2d.3.1	Process decommissioning water waste	69	-	30	208	-	182	-	114	603	603	-	-	-	501	-	-	-	30,050	98	-
2d.3.2	Process decommissioning chemical flush waste	1	-	18	134	-	206	-	74	433	433	-	-	-	319	-	-	-	34,039	60	-
2d.3.3	Small tool allowance	-	29	-	-	-	-	-	4	34	34	-	-	-	-	-	-	-	-	-	-
2d.3.4	Decommissioning Equipment Disposition	-	-	118	44	621	85	-	133	1,002	1,002	-	-	6,000	373	-	-	-	303,507	88	-
2d.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	7,211	1,082	8,293	-	8,293	-	-	-	-	-	-	-	-	-
2d.3.6	Florida LLRW Inspection Fee	-	-	-	-	-	-	14	1	15	15	-	-	-	-	-	-	-	-	-	-
2d.3.7	Fixed Overhead	-	-	-	-	-	-	216	32	249	249	-	-	-	-	-	-	-	-	-	-
2d.3	Subtotal Period 2d Collateral Costs	70	29	167	386	621	473	7,441	1,441	10,627	2,335	8,293	-	6,000	1,194	-	-	-	367,595	246	-
Period 2d Period-Dependent Costs																					
2d.4.1	Decon supplies	91	-	-	-	-	-	-	23	114	114	-	-	-	-	-	-	-	-	-	-
2d.4.2	Insurance	-	-	-	-	-	-	233	23	256	256	-	-	-	-	-	-	-	-	-	-
2d.4.3	Property taxes	-	-	-	-	-	-	37	4	41	41	-	-	-	-	-	-	-	-	-	-
2d.4.4	Health physics supplies	-	259	-	-	-	-	-	65	324	324	-	-	-	-	-	-	-	-	-	-
2d.4.5	Heavy equipment rental	-	1,031	-	-	-	-	-	155	1,186	1,186	-	-	-	-	-	-	-	-	-	-
2d.4.6	Disposal of DAW generated	-	-	20	16	-	49	-	17	101	101	-	-	-	1,078	-	-	-	21,569	35	-
2d.4.7	Plant energy budget	-	-	-	-	-	-	471	71	542	542	-	-	-	-	-	-	-	-	-	-
2d.4.8	NRC Fees	-	-	-	-	-	-	240	24	264	264	-	-	-	-	-	-	-	-	-	-
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	211	21	232	-	232	-	-	-	-	-	-	-	-	-
2d.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	201	30	231	231	-	-	-	-	-	-	-	-	-	-
2d.4.11	ISFSI Operating Costs	-	-	-	-	-	-	23	3	26	-	26	-	-	-	-	-	-	-	-	-
2d.4.12	NEI Fees	-	-	-	-	-	-	77	8	84	84	-	-	-	-	-	-	-	-	-	-
2d.4.13	Security Staff Cost	-	-	-	-	-	-	1,546	232	1,778	1,778	-	-	-	-	-	-	-	-	-	35,910
2d.4.14	DOC Staff Cost	-	-	-	-	-	-	2,927	439	3,366	3,366	-	-	-	-	-	-	-	-	-	39,420
2d.4.15	Utility Staff Cost	-	-	-	-	-	-	4,121	618	4,740	4,740	-	-	-	-	-	-	-	-	-	65,340
2d.4	Subtotal Period 2d Period-Dependent Costs	91	1,291	20	16	-	49	10,087	1,732	13,285	13,026	259	-	-	1,078	-	-	-	21,569	35	140,670
2d.0	TOTAL PERIOD 2d COST	1,217	2,162	399	549	843	1,538	18,233	4,453	29,394	20,843	8,552	-	8,353	6,974	-	-	-	909,451	31,110	146,910
PERIOD 2f - License Termination																					
Period 2f Direct Decommissioning Activities																					
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
2f.1.2	Terminate license									a											
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
Period 2f Additional Costs																					
2f.2.1	License Termination Survey	-	-	-	-	-	-	4,452	1,336	5,788	5,788	-	-	-	-	-	-	-	-	97,204	3,120
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	4,452	1,336	5,788	5,788	-	-	-	-	-	-	-	-	97,204	3,120
Period 2f Collateral Costs																					
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,224	184	1,408	1,408	-	-	-	-	-	-	-	-	-	-
2f.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,269	190	1,460	-	1,460	-	-	-	-	-	-	-	-	-
2f.3.3	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	1	1	-	-	-	-	-	-	-	-	-	-
2f.3.4	Fixed Overhead	-	-	-	-	-	-	315	47	362	362	-	-	-	-	-	-	-	-	-	-
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	2,808	421	3,230	1,770	1,460	-	-	-	-	-	-	-	-	-
Period 2f Period-Dependent Costs																					
2f.4.1	Insurance	-	-	-	-	-	-	339	34	373	373	-	-	-	-	-	-	-	-	-	-
2f.4.2	Property taxes	-	-	-	-	-	-	54	5	59	59	-	-	-	-	-	-	-	-	-	-
2f.4.3	Health physics supplies	-	418	-	-	-	-	-	10	523	523	-	-	-	-	-	-	-	-	-	-
2f.4.4	Disposal of DAW generated	-	-	5	4	-	11	-	4	23	23	-	-	-	249	-	-	-	4,974	8	-
2f.4.5	Plant energy budget	-	-	-	-	-	-	343	51	394	394	-	-	-	-	-	-	-	-	-	-
2f.4.6	NRC Fees	-	-	-	-	-	-	365	37	402	402	-	-	-	-	-	-	-	-	-	-
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	307	31	338	-	338	-	-	-	-	-	-	-	-	-
2f.4.8	ISFSI Operating Costs	-	-	-	-	-	-	33	5	38	-	38	-	-	-	-	-	-	-	-	-
2f.4.9	NEI Fees	-	-	-	-	-	-	111	11	123	123	-	-	-	-	-	-	-	-	-	-
2f.4.10	Security Staff Cost	-	-	-	-	-	-	1,195	179	1,375	1,375	-	-	-	-	-	-	-	-	-	27,893
2f.4.11	DOC Staff Cost	-	-	-	-	-	-	3,497	524	4,021	4,021	-	-	-	-	-	-	-	-	-	46,750
2f.4.12	Utility Staff Cost	-	-	-	-	-	-	4,414	662	5,076	5,076	-	-	-	-	-	-	-	-	-	60,107
2f.4	Subtotal Period 2f Period-Dependent Costs	-	418	5	4	-	11	10,659	1,648	12,745	12,369	377	-	-	249	-	-	-	4,974	8	134,750

Table C-2
St. Lucie Nuclear Plant, Unit 2
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
2f.0	TOTAL PERIOD 2f COST	-	418	5	4	-	11	18,072	3,451	21,961	20,125	1,836	-	-	249	-	-	-	4,974	97,212	137,870
PERIOD 2 TOTALS		7,916	49,442	16,768	18,229	12,942	46,671	206,928	71,525	430,419	372,165	51,883	6,372	143,593	1,092,435	631	402	-	113,167,200	844,126	2,104,335
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Reactor	-	7,549	-	-	-	-	-	1,132	8,681	-	-	8,681	-	-	-	-	-	-	116,660	-
3b.1.1.2	Intake Structure & CWS	-	659	-	-	-	-	-	99	758	-	-	758	-	-	-	-	-	-	9,766	-
3b.1.1.3	Miscellaneous Structures	-	5,091	-	-	-	-	-	764	5,854	-	-	5,854	-	-	-	-	-	-	78,966	-
3b.1.1.4	Primary Water Tank & Pump - Contaminated	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	48	-
3b.1.1.5	Reactor Auxiliary	-	1,681	-	-	-	-	-	252	1,934	-	-	1,934	-	-	-	-	-	-	23,172	-
3b.1.1.6	Security Improvements	-	231	-	-	-	-	-	35	265	-	-	265	-	-	-	-	-	-	2,317	-
3b.1.1.7	Steam Generator Blowdown Treatment	-	504	-	-	-	-	-	76	579	-	-	579	-	-	-	-	-	-	7,829	-
3b.1.1.8	Turbine	-	1,078	-	-	-	-	-	162	1,239	-	-	1,239	-	-	-	-	-	-	18,034	-
3b.1.1.9	Turbine Pedestal	-	765	-	-	-	-	-	115	880	-	-	880	-	-	-	-	-	-	8,825	-
3b.1.1.10	Fuel Handling	-	982	-	-	-	-	-	147	1,130	-	-	1,130	-	-	-	-	-	-	14,207	-
3b.1.1	Totals	-	18,541	-	-	-	-	-	2,781	21,323	-	-	21,323	-	-	-	-	-	-	279,825	-
Site Closeout Activities																					
3b.1.2	Grade & landscape site	-	404	-	-	-	-	-	61	465	-	-	465	-	-	-	-	-	-	1,141	-
3b.1.3	Final report to NRC	-	-	-	-	-	-	174	26	200	200	-	-	-	-	-	-	-	-	-	1,560
3b.1	Subtotal Period 3b Activity Costs	-	18,946	-	-	-	-	174	2,868	21,987	200	-	21,787	-	-	-	-	-	-	280,966	1,560
Period 3b Additional Costs																					
3b.2.1	Concrete Crushing	-	626	-	-	-	-	5	95	726	-	-	726	-	-	-	-	-	-	3,052	-
3b.2.2	Circulating Water Diffuser Isolation	-	146	-	-	-	-	-	22	168	-	-	168	-	-	-	-	-	-	1,952	-
3b.2	Subtotal Period 3b Additional Costs	-	772	-	-	-	-	5	117	894	-	-	894	-	-	-	-	-	-	5,004	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	213	-	-	-	-	-	32	245	-	-	245	-	-	-	-	-	-	-	-
3b.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	467	70	537	-	537	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	213	-	-	-	-	467	102	782	-	537	245	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	420	42	462	-	462	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	134	13	147	-	147	-	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	5,339	-	-	-	-	-	801	6,140	-	-	6,140	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	425	64	489	-	98	391	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	234	23	257	-	257	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	763	76	839	-	839	-	-	-	-	-	-	-	-	-
3b.4.7	ISFSI Operating Costs	-	-	-	-	-	-	83	12	95	-	95	-	-	-	-	-	-	-	-	-
3b.4.8	NEI Fees	-	-	-	-	-	-	276	28	304	304	-	-	-	-	-	-	-	-	-	-
3b.4.9	Security Staff Cost	-	-	-	-	-	-	2,828	424	3,252	0	2,667	585	-	-	-	-	-	-	-	65,784
3b.4.10	DOC Staff Cost	-	-	-	-	-	-	8,331	1,250	9,580	-	-	9,580	-	-	-	-	-	-	-	103,274
3b.4.11	Utility Staff Cost	-	-	-	-	-	-	4,747	712	5,460	(0)	1,092	4,368	-	-	-	-	-	-	-	65,784
3b.4	Subtotal Period 3b Period-Dependent Costs	-	5,339	-	-	-	-	18,241	3,446	27,025	304	5,657	21,064	-	-	-	-	-	-	-	234,842
3b.0	TOTAL PERIOD 3b COST	-	25,270	-	-	-	-	18,887	6,532	50,689	504	6,194	43,991	-	-	-	-	-	-	285,970	236,402
PERIOD 3c - Fuel Storage Operations/Shipping																					
Period 3c Collateral Costs																					
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	5,875	881	6,756	-	6,756	-	-	-	-	-	-	-	-	-
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	5,875	881	6,756	-	6,756	-	-	-	-	-	-	-	-	-
Period 3c Period-Dependent Costs																					
3c.4.1	Insurance	-	-	-	-	-	-	4,963	496	5,460	-	5,460	-	-	-	-	-	-	-	-	-
3c.4.2	Property taxes	-	-	-	-	-	-	1,581	158	1,739	-	1,739	-	-	-	-	-	-	-	-	-

Table C-2
St. Lucie Nuclear Plant, Unit 2
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 3c Period-Dependent Costs (continued)																					
3c.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	2,827	283	3,110	-	3,110	-	-	-	-	-	-	-	-	-
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	9,009	901	9,910	-	9,910	-	-	-	-	-	-	-	-	-
3c.4.6	ISFSI Operating Costs	-	-	-	-	-	-	979	147	1,126	-	1,126	-	-	-	-	-	-	-	-	-
3c.4.7	Security Staff Cost	-	-	-	-	-	-	27,182	4,077	31,259	-	31,259	-	-	-	-	-	-	-	-	621,540
3c.4.8	Utility Staff Cost	-	-	-	-	-	-	11,054	1,658	12,712	-	12,712	-	-	-	-	-	-	-	-	155,615
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	57,595	7,720	65,316	-	65,316	-	-	-	-	-	-	-	-	777,155
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	63,470	8,602	72,071	-	72,071	-	-	-	-	-	-	-	-	777,155
PERIOD 3d - GTCC shipping																					
Period 3d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	400	-	-	15,168	-	2,315	17,883	17,883	-	-	-	-	-	-	751	153,316	-	-
3d.1.1	Totals	-	-	400	-	-	15,168	-	2,315	17,883	17,883	-	-	-	-	-	-	751	153,316	-	-
3d.1	Subtotal Period 3d Activity Costs	-	-	400	-	-	15,168	-	2,315	17,883	17,883	-	-	-	-	-	-	751	153,316	-	-
Period 3d Collateral Costs																					
3d.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	2	-	2	-	-	-	-	-	-	-	-	-
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	1	0	2	-	2	-	-	-	-	-	-	-	-	-
Period 3d Period-Dependent Costs																					
3d.4.1	Insurance	-	-	-	-	-	-	9	1	9	-	9	-	-	-	-	-	-	-	-	-
3d.4.2	Property taxes	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
3d.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3d.4.4	Emergency Planning Fees	-	-	-	-	-	-	16	2	17	-	17	-	-	-	-	-	-	-	-	-
3d.4.5	ISFSI Operating Costs	-	-	-	-	-	-	2	0	2	-	2	-	-	-	-	-	-	-	-	-
3d.4.6	Security Staff Cost	-	-	-	-	-	-	47	7	54	-	54	-	-	-	-	-	-	-	-	1,080
3d.4.7	Utility Staff Cost	-	-	-	-	-	-	19	3	22	-	22	-	-	-	-	-	-	-	-	270
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	95	13	108	-	108	-	-	-	-	-	-	-	-	1,350
3d.0	TOTAL PERIOD 3d COST	-	-	400	-	-	15,168	97	2,328	17,993	17,883	110	-	-	-	-	-	751	153,316	-	1,350
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	ISFSI License Termination	-	219	5	32	-	34	718	175	1,182	-	1,182	-	-	631	-	-	-	111,760	5,793	1,280
3e.2	Subtotal Period 3e Additional Costs	-	219	5	32	-	34	718	175	1,182	-	1,182	-	-	631	-	-	-	111,760	5,793	1,280
Period 3e Collateral Costs																					
3e.3.1	Small tool allowance	-	2	-	-	-	-	-	0	3	-	3	-	-	-	-	-	-	-	-	-
3e.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-
3e.3	Subtotal Period 3e Collateral Costs	-	2	-	-	-	-	1	0	4	-	4	-	-	-	-	-	-	-	-	-
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	75	7	82	-	82	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	24	2	26	-	26	-	-	-	-	-	-	-	-	-
3e.4.3	Heavy equipment rental	-	129	-	-	-	-	-	19	148	-	148	-	-	-	-	-	-	-	-	-
3e.4.4	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3e.4.5	Security Staff Cost	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	2,510
3e.4.6	Utility Staff Cost	-	-	-	-	-	-	143	21	165	-	165	-	-	-	-	-	-	-	-	1,901
3e.4	Subtotal Period 3e Period-Dependent Costs	-	129	-	-	-	-	347	66	542	-	542	-	-	-	-	-	-	-	-	4,411
3e.0	TOTAL PERIOD 3e COST	-	350	5	32	-	34	1,066	242	1,729	-	1,729	-	-	631	-	-	-	111,760	5,793	5,691

Table C-2
St. Lucie Nuclear Plant, Unit 2
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	ISFSI Demolition and Site Restoration	-	896	-	-	-	-	24	138	1,057	-	1,057	-	-	-	-	-	-	-	6,454	80
3f.2	Subtotal Period 3f Additional Costs	-	896	-	-	-	-	24	138	1,057	-	1,057	-	-	-	-	-	-	-	6,454	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	5	-	-	-	-	-	1	5	-	5	-	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	5	-	-	-	-	-	1	5	-	5	-	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3f.4.2	Property taxes	-	-	-	-	-	-	12	1	13	-	13	-	-	-	-	-	-	-	-	-
3f.4.3	Heavy equipment rental	-	51	-	-	-	-	-	8	59	-	59	-	-	-	-	-	-	-	-	-
3f.4.4	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3f.4.5	Security Staff Cost	-	-	-	-	-	-	53	8	61	-	61	-	-	-	-	-	-	-	-	1,265
3f.4.6	Utility Staff Cost	-	-	-	-	-	-	62	9	71	-	71	-	-	-	-	-	-	-	-	784
3f.4	Subtotal Period 3f Period-Dependent Costs	-	51	-	-	-	-	127	26	204	-	204	-	-	-	-	-	-	-	-	2,050
3f.0	TOTAL PERIOD 3f COST	-	952	-	-	-	-	151	165	1,267	-	1,267	-	-	-	-	-	-	-	6,454	2,130
PERIOD 3 TOTALS			26,572	405	32		15,202	83,670	17,868	143,749	18,387	81,371	43,991		631			751	265,076	298,217	1,022,728
TOTAL COST TO DECOMMISSION		10,715	78,403	17,828	18,840	17,943	64,592	395,160	108,149	711,630	517,410	142,476	51,744	170,610	1,094,150	1,358	402	751	114,940,100	1,179,728	4,185,739

TOTAL COST TO DECOMMISSION WITH 17.92% CONTINGENCY:	$711,630	thousands of 2010 dollars
TOTAL NRC LICENSE TERMINATION COST IS 72.71% OR:	$517,410	thousands of 2010 dollars
SPENT FUEL MANAGEMENT COST IS 20.02% OR:	$142,476	thousands of 2010 dollars
NON-NUCLEAR DEMOLITION COST IS 7.27% OR:	$51,744	thousands of 2010 dollars
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):	1,095,909	cubic feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	751	cubic feet
TOTAL SCRAP METAL REMOVED:	44,850	tons
TOTAL CRAFT LABOR REQUIREMENTS:	1,179,728	man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense.

APPENDIX D

DETAILED COST ANALYSIS

SAFSTOR

Tables

D-1 St. Lucie Nuclear Plant, Unit 1 2

D-2 St. Lucie Nuclear Plant, Unit 2 14

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	338	101	439	439	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	145	22	167	167	-	-	-	-	-	-	-	-	-	1,300
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	223	33	257	257	-	-	-	-	-	-	-	-	-	2,000
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	145	22	167	167	-	-	-	-	-	-	-	-	-	1,300
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	End product description	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,500
1a.1.13	Define major work sequence	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
1a.1.14	Perform SER and EA	-	-	-	-	-	-	346	52	398	398	-	-	-	-	-	-	-	-	-	3,100
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	558	84	641	641	-	-	-	-	-	-	-	-	-	5,000
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	549	82	631	631	-	-	-	-	-	-	-	-	-	4,920
1a.1.16.2	Plant systems	-	-	-	-	-	-	465	70	535	535	-	-	-	-	-	-	-	-	-	4,167
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	348	52	400	400	-	-	-	-	-	-	-	-	-	3,120
1a.1.16.4	Waste management	-	-	-	-	-	-	223	33	257	257	-	-	-	-	-	-	-	-	-	2,000
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	223	33	257	257	-	-	-	-	-	-	-	-	-	2,000
1a.1.16	Total	-	-	-	-	-	-	1,808	271	2,079	2,079	-	-	-	-	-	-	-	-	-	16,207
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	132	20	152	152	-	-	-	-	-	-	-	-	-	1,183
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	134	20	154	154	-	-	-	-	-	-	-	-	-	1,200
1a.1.17	Total	-	-	-	-	-	-	266	40	306	306	-	-	-	-	-	-	-	-	-	2,383
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	11	2	13	13	-	-	-	-	-	-	-	-	-	100
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	4,342	702	5,043	5,043	-	-	-	-	-	-	-	-	-	35,890
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	4,537	681	5,218	-	5,218	-	-	-	-	-	-	-	-	-
1a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
1a.3.3	Fixed Overhead	-	-	-	-	-	-	417	63	480	480	-	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	4,955	743	5,699	481	5,218	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,192	119	1,311	1,311	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	1,734	173	1,907	1,907	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	335	-	-	-	-	-	84	419	419	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	487	-	-	-	-	-	73	560	560	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	9	7	-	22	-	8	46	46	-	-	-	493	-	-	-	9,854	16	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	2,276	341	2,617	2,617	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	738	74	812	812	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	607	61	668	-	668	-	-	-	-	-	-	-	-	-
1a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	764	115	878	-	878	-	-	-	-	-	-	-	-	-
1a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-
1a.4.11	INPO Fees	-	-	-	-	-	-	722	72	794	794	-	-	-	-	-	-	-	-	-	-
1a.4.12	NEI Fees	-	-	-	-	-	-	148	15	163	163	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	1,870	280	2,150	2,150	-	-	-	-	-	-	-	-	-	46,678
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	27,592	4,139	31,731	31,731	-	-	-	-	-	-	-	-	-	423,400
1a.4	Subtotal Period 1a Period-Dependent Costs	-	822	9	7	-	22	37,686	5,560	44,107	42,510	1,597	-	-	493	-	-	-	9,854	16	470,078

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
1a.0	TOTAL PERIOD 1a COST	-	822	9	7	-	22	46,983	7,005	54,850	48,035	6,815	-	-	493	-	-	-	9,854	16	505,968
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	993	-	-	-	-	-	-	496	1,489	1,489	-	-	-	-	-	-	-	-	22,339	-
1b.1.1.2	Reactor Auxiliary	453	-	-	-	-	-	-	227	680	680	-	-	-	-	-	-	-	-	10,511	-
1b.1.1.3	Fuel Handling	383	-	-	-	-	-	-	192	575	575	-	-	-	-	-	-	-	-	7,946	-
1b.1.1	Totals	1,829	-	-	-	-	-	-	915	2,744	2,744	-	-	-	-	-	-	-	-	40,796	-
1b.1	Subtotal Period 1b Activity Costs	1,829	-	-	-	-	-	-	915	2,744	2,744	-	-	-	-	-	-	-	-	40,796	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	823	-	-	-	-	-	-	123	946	946	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	147	-	61	419	-	366	-	234	1,227	1,227	-	-	-	1,009	-	-	-	60,563	197	-
1b.3.4	Small tool allowance	-	29	-	-	-	-	-	4	33	33	-	-	-	-	-	-	-	-	-	-
1b.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	3	0	3	3	-	-	-	-	-	-	-	-	-	-
1b.3.6	Fixed Overhead	-	-	-	-	-	-	105	16	121	121	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	970	29	61	419	-	366	108	378	2,330	2,330	-	-	-	1,009	-	-	-	60,563	197	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	688	-	-	-	-	-	-	172	860	860	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	300	30	330	330	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	437	44	481	481	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	247	-	-	-	-	-	62	309	309	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	123	-	-	-	-	-	18	141	141	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	10	8	-	24	-	8	50	50	-	-	-	532	-	-	-	10,632	17	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	574	86	660	660	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	186	19	205	205	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	153	15	168	-	168	-	-	-	-	-	-	-	-	-
1b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	193	29	221	-	221	-	-	-	-	-	-	-	-	-
1b.4.11	ISFSI Operating Costs	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
1b.4.12	NEI Fees	-	-	-	-	-	-	37	4	41	41	-	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	471	71	542	542	-	-	-	-	-	-	-	-	-	11,765
1b.4.14	Utility Staff Cost	-	-	-	-	-	-	6,955	1,043	7,998	7,998	-	-	-	-	-	-	-	-	-	106,720
1b.4	Subtotal Period 1b Period-Dependent Costs	688	370	10	8	-	24	9,317	1,602	12,019	11,616	403	-	-	532	-	-	-	10,632	17	118,486
1b.0	TOTAL PERIOD 1b COST	3,487	399	70	426	-	391	9,425	2,895	17,093	16,690	403	-	-	1,541	-	-	-	71,195	41,010	118,486
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	402	-	-	-	-	-	60	462	462	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	35	-	-	-	-	-	5	40	40	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	16,133	-
1c.1.4	Secure building accesses									a											
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	65	10	75	75	-	-	-	-	-	-	-	-	-	583
1c.1	Subtotal Period 1c Activity Costs	-	437	-	-	-	-	798	295	1,530	1,530	-	-	-	-	-	-	-	-	19,833	583
Period 1c Additional Costs																					
1c.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	9,980	1,497	11,477	11,477	-	-	-	-	-	-	-	-	-	-
1c.2.2	Mixed/Hazardous Waste	-	-	582	144	5,001	-	-	830	6,557	6,557	-	-	27,017	-	-	-	-	1,397,259	5,601	-
1c.2.3	Asbestos Removal Program	-	2,326	117	235	-	607	30	785	4,100	4,100	-	-	-	10,163	-	-	-	238,141	28,718	-
1c.2	Subtotal Period 1c Additional Costs	-	2,326	699	378	5,001	607	10,010	3,112	22,134	22,134	-	-	27,017	10,163	-	-	-	1,635,400	34,319	-
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	179	-	74	511	-	447	-	285	1,496	1,496	-	-	-	1,232	-	-	-	73,893	240	-
1c.3.3	Small tool allowance	-	29	-	-	-	-	-	4	34	34	-	-	-	-	-	-	-	-	-	-

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1c Collateral Costs (continued)																					
1c.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	22	2	25	25	-	-	-	-	-	-	-	-	-	-
1c.3.5	Fixed Overhead	-	-	-	-	-	-	106	16	122	122	-	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	179	29	74	511	-	447	129	308	1,677	1,677	-	-	-	1,232	-	-	-	73,893	240	-
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	304	30	334	334	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	442	44	486	486	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	301	-	-	-	-	-	75	376	376	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	124	-	-	-	-	-	19	143	143	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	2	2	-	6	-	2	12	12	-	-	-	126	-	-	-	2,511	4	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	580	87	667	667	-	-	-	-	-	-	-	-	-	-
1c.4.7	NRC Fees	-	-	-	-	-	-	188	19	207	207	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	155	15	170	-	170	-	-	-	-	-	-	-	-	-
1c.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	195	29	224	-	224	-	-	-	-	-	-	-	-	-
1c.4.10	ISFSI Operating Costs	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
1c.4.11	NEI Fees	-	-	-	-	-	-	38	4	41	41	-	-	-	-	-	-	-	-	-	-
1c.4.12	Security Staff Cost	-	-	-	-	-	-	476	71	548	548	-	-	-	-	-	-	-	-	-	11,893
1c.4.13	Utility Staff Cost	-	-	-	-	-	-	2,030	1,055	8,085	8,085	-	-	-	-	-	-	-	-	-	107,880
1c.4	Subtotal Period 1c Period-Dependent Costs	-	425	2	2	-	6	9,418	1,452	11,305	10,898	407	-	-	126	-	-	-	2,511	4	119,773
1c.0	TOTAL PERIOD 1c COST	179	3,218	775	891	5,001	1,060	20,355	5,167	36,646	36,239	407	-	27,017	11,520	-	-	-	1,711,804	54,396	120,357
PERIOD 1 TOTALS		3,666	4,438	855	1,324	5,001	1,473	76,764	15,067	108,589	100,965	7,624	-	27,017	13,554	-	-	-	1,792,854	95,422	744,810
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection									a											
2a.1.2	Semi-annual environmental survey									a											
2a.1.3	Prepare reports									a											
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	4	1	4	4	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	503	126	629	629	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	506	126	633	633	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	76,647	11,497	88,144	-	88,144	-	-	-	-	-	-	-	-	-
2a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
2a.3.3	Fixed Overhead	-	-	-	-	-	-	1,670	250	1,920	1,920	-	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	78,319	11,748	90,067	1,923	88,144	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	2,048	205	2,253	1,896	356	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	6,935	694	7,629	315	7,314	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	501	-	-	-	-	-	125	626	626	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	13	10	-	31	-	11	65	65	-	-	-	687	-	-	-	13,734	22	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	1,821	273	2,094	1,047	1,047	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	775	78	853	853	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	1,632	163	1,796	-	1,796	-	-	-	-	-	-	-	-	-
2a.4.8	Spent Fuel Pool O&M	-	-	-	-	-	-	3,055	458	3,514	-	3,514	-	-	-	-	-	-	-	-	-
2a.4.9	ISFSI Operating Costs	-	-	-	-	-	-	177	27	204	-	204	-	-	-	-	-	-	-	-	-
2a.4.10	NEI Fees	-	-	-	-	-	-	592	59	651	-	651	-	-	-	-	-	-	-	-	-
2a.4.11	Security Staff Cost	-	-	-	-	-	-	1,755	263	2,018	-	2,018	-	-	-	-	-	-	-	-	43,800
2a.4.12	Utility Staff Cost	-	-	-	-	-	-	22,770	3,416	26,186	3,736	22,450	-	-	-	-	-	-	-	-	329,543
2a.4	Subtotal Period 2a Period-Dependent Costs	-	501	13	10	-	31	41,561	5,771	47,887	8,538	39,349	-	-	687	-	-	-	13,734	22	373,343
2a.0	TOTAL PERIOD 2a COST	-	501	13	10	-	31	120,386	17,645	138,587	11,094	127,493	-	-	687	-	-	-	13,734	22	373,343
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection									a											

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes: Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
2b.1.2	Semi-annual environmental survey									a											
2b.1.3	Prepare reports									a											
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	29	4	34	34	-	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	4,067	1,017	5,084	5,084	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	4,096	1,021	5,117	5,117	-	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	8,100	1,215	9,315	-	9,315	-	-	-	-	-	-	-	-	-
2b.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
2b.3.3	Fixed Overhead	-	-	-	-	-	-	2,701	405	3,107	3,107	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	10,818	1,622	12,440	3,125	9,315	-	-	-	-	-	-	-	-	-
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	14,549	1,455	16,004	15,339	665	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	6,196	620	6,816	2,548	4,268	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	1,818	-	-	-	-	-	455	2,273	2,273	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	45	35	-	110	-	37	227	227	-	-	-	2,409	-	-	-	48,178	79	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	7,363	1,104	8,467	8,467	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	6,271	627	6,898	6,898	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	13,204	1,320	14,525	-	14,525	-	-	-	-	-	-	-	-	-
2b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	1,436	215	1,651	-	1,651	-	-	-	-	-	-	-	-	-
2b.4.9	Security Staff Cost	-	-	-	-	-	-	41,803	6,271	48,074	27,163	20,911	-	-	-	-	-	-	-	-	956,192
2b.4.10	Utility Staff Cost	-	-	-	-	-	-	45,571	6,836	52,407	30,216	22,190	-	-	-	-	-	-	-	-	695,044
2b.4	Subtotal Period 2b Period-Dependent Costs	-	1,818	45	35	-	110	136,394	18,940	157,341	93,132	64,209	-	-	2,409	-	-	-	48,178	79	1,651,236
2b.0	TOTAL PERIOD 2b COST	-	1,818	45	35	-	110	151,308	21,583	174,898	101,374	73,524	-	-	2,409	-	-	-	48,178	79	1,651,236
PERIOD 2c - SAFSTOR Dormancy without Spent Fuel Storage																					
Period 2c Direct Decommissioning Activities																					
2c.1.1	Quarterly inspection									a											
2c.1.2	Semi-annual environmental survey									a											
2c.1.3	Prepare reports									a											
2c.1.4	Bituminous roof replacement	-	-	-	-	-	-	14	2	17	17	-	-	-	-	-	-	-	-	-	-
2c.1.5	Maintenance supplies	-	-	-	-	-	-	2,001	500	2,502	2,502	-	-	-	-	-	-	-	-	-	-
2c.1	Subtotal Period 2c Activity Costs	-	-	-	-	-	-	2,016	502	2,518	2,518	-	-	-	-	-	-	-	-	-	-
Period 2c Collateral Costs																					
2c.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	8	1	9	9	-	-	-	-	-	-	-	-	-	-
2c.3.2	Fixed Overhead	-	-	-	-	-	-	1,329	199	1,529	1,529	-	-	-	-	-	-	-	-	-	-
2c.3	Subtotal Period 2c Collateral Costs	-	-	-	-	-	-	1,337	200	1,538	1,538	-	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	6,862	686	7,548	7,548	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	1,140	114	1,254	1,254	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	852	-	-	-	-	-	213	1,065	1,065	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	21	16	-	51	-	17	104	104	-	-	-	1,110	-	-	-	22,204	36	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	3,623	543	4,167	4,167	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	2,759	276	3,035	3,035	-	-	-	-	-	-	-	-	-	-
2c.4.7	Security Staff Cost	-	-	-	-	-	-	11,623	1,743	13,366	13,366	-	-	-	-	-	-	-	-	-	249,043
2c.4.8	Utility Staff Cost	-	-	-	-	-	-	12,929	1,939	14,869	14,869	-	-	-	-	-	-	-	-	-	211,853
2c.4	Subtotal Period 2c Period-Dependent Costs	-	852	21	16	-	51	38,936	5,533	45,409	45,409	-	-	-	1,110	-	-	-	22,204	36	460,895
2c.0	TOTAL PERIOD 2c COST	-	852	21	16	-	51	42,289	6,235	49,464	49,464	-	-	-	1,110	-	-	-	22,204	36	460,895
PERIOD 2 TOTALS		-	3,172	78	61	-	192	313,983	45,463	362,949	161,932	201,017	-	-	4,206	-	-	-	84,117	137	2,485,474
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	145	22	167	167	-	-	-	-	-	-	-	-	-	1,300
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	513	77	590	590	-	-	-	-	-	-	-	-	-	4,600

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
3a.1.3	Perform detailed rad survey									a											
3a.1.4	End product description	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,090
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	145	22	167	167	-	-	-	-	-	-	-	-	-	1,390
3a.1.6	Define major work sequence	-	-	-	-	-	-	837	125	962	962	-	-	-	-	-	-	-	-	-	7,500
3a.1.7	Perform SER and EA	-	-	-	-	-	-	346	52	398	398	-	-	-	-	-	-	-	-	-	3,100
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	558	84	641	641	-	-	-	-	-	-	-	-	-	5,000
3a.1.9	Prepare/submit License Termination Plan	-	-	-	-	-	-	457	69	525	525	-	-	-	-	-	-	-	-	-	4,096
3a.1.10	Receive NRC approval of termination plan									a											
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	822	123	945	851	-	95	-	-	-	-	-	-	-	7,370
3a.1.11.2	Plant systems	-	-	-	-	-	-	465	70	535	481	-	53	-	-	-	-	-	-	-	4,167
3a.1.11.3	Reactor internals	-	-	-	-	-	-	792	119	911	911	-	-	-	-	-	-	-	-	-	7,100
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	725	109	834	834	-	-	-	-	-	-	-	-	-	6,500
3a.1.11.5	Biological shield	-	-	-	-	-	-	56	8	64	64	-	-	-	-	-	-	-	-	-	500
3a.1.11.6	Steam generators	-	-	-	-	-	-	348	52	400	400	-	-	-	-	-	-	-	-	-	3,120
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	178	27	205	103	-	103	-	-	-	-	-	-	-	1,600
3a.1.11.8	Main Turbine	-	-	-	-	-	-	45	7	51	-	-	51	-	-	-	-	-	-	-	400
3a.1.11.9	Main Condensers	-	-	-	-	-	-	45	7	51	-	-	51	-	-	-	-	-	-	-	400
3a.1.11.10	Plant structures & buildings	-	-	-	-	-	-	348	52	400	200	-	200	-	-	-	-	-	-	-	3,120
3a.1.11.11	Waste management	-	-	-	-	-	-	513	77	590	590	-	-	-	-	-	-	-	-	-	4,600
3a.1.11.12	Facility & site closeout	-	-	-	-	-	-	100	15	115	58	-	58	-	-	-	-	-	-	-	900
3a.1.11	Total	-	-	-	-	-	-	4,437	666	5,103	4,492	-	611	-	-	-	-	-	-	-	39,777
Planning & Site Preparations																					
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	268	40	308	308	-	-	-	-	-	-	-	-	-	2,400
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	2,800	420	3,220	3,220	-	-	-	-	-	-	-	-	-	-
3a.1.14	Design water clean-up system	-	-	-	-	-	-	156	23	180	180	-	-	-	-	-	-	-	-	-	1,400
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,200	330	2,530	2,530	-	-	-	-	-	-	-	-	-	-
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	137	21	158	158	-	-	-	-	-	-	-	-	-	1,230
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	13,110	1,966	15,076	14,465	-	611	-	-	-	-	-	-	-	72,703
Period 3a Collateral Costs																					
3a.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
3a.3.2	Fixed Overhead	-	-	-	-	-	-	418	63	480	480	-	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	-	-	-	-	-	419	63	481	481	-	-	-	-	-	-	-	-	-	-
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	431	43	474	474	-	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	72	7	79	79	-	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	281	-	-	-	-	-	70	352	352	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	487	-	-	-	-	-	73	560	560	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	7	6	-	18	-	6	37	37	-	-	-	398	-	-	-	7,951	13	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	2,276	341	2,617	2,617	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC Fees	-	-	-	-	-	-	245	25	270	270	-	-	-	-	-	-	-	-	-	-
3a.4.8	NEI Fees	-	-	-	-	-	-	148	15	163	163	-	-	-	-	-	-	-	-	-	-
3a.4.9	Security Staff Cost	-	-	-	-	-	-	2,818	423	3,241	3,241	-	-	-	-	-	-	-	-	-	65,179
3a.4.10	Utility Staff Cost	-	-	-	-	-	-	17,228	2,584	19,813	19,813	-	-	-	-	-	-	-	-	-	258,629
3a.4	Subtotal Period 3a Period-Dependent Costs	-	768	7	6	-	18	23,218	3,587	27,605	27,605	-	-	-	398	-	-	-	7,951	13	323,807
3a.0	TOTAL PERIOD 3a COST	-	768	7	6	-	18	36,746	5,617	43,162	42,551	-	611	-	398	-	-	-	7,951	13	396,510
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	528	79	607	546	-	61	-	-	-	-	-	-	-	4,733
3b.1.1.2	Reactor internals	-	-	-	-	-	-	279	42	321	321	-	-	-	-	-	-	-	-	-	2,500
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	151	23	173	43	-	130	-	-	-	-	-	-	-	1,350
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Detailed Work Procedures (continued)																					
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	112	17	128	128	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	405	61	466	466	-	-	-	-	-	-	-	-	-	3,630
3b.1.1.8	Facility closeout	-	-	-	-	-	-	134	20	154	77	-	77	-	-	-	-	-	-	-	1,200
3b.1.1.9	Missile shields	-	-	-	-	-	-	50	8	58	58	-	-	-	-	-	-	-	-	-	450
3b.1.1.10	Biological shield	-	-	-	-	-	-	134	20	154	154	-	-	-	-	-	-	-	-	-	1,200
3b.1.1.11	Steam generators	-	-	-	-	-	-	513	77	590	590	-	-	-	-	-	-	-	-	-	4,600
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	112	17	128	64	-	64	-	-	-	-	-	-	-	1,000
3b.1.1.13	Main Turbine	-	-	-	-	-	-	174	26	200	-	-	200	-	-	-	-	-	-	-	1,560
3b.1.1.14	Main Condensers	-	-	-	-	-	-	174	26	200	-	-	200	-	-	-	-	-	-	-	1,560
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	305	46	350	315	-	35	-	-	-	-	-	-	-	2,730
3b.1.1.16	Reactor building	-	-	-	-	-	-	305	46	350	315	-	35	-	-	-	-	-	-	-	2,730
3b.1.1	Total	-	-	-	-	-	-	3,597	540	4,136	3,334	-	802	-	-	-	-	-	-	-	32,243
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	3,597	540	4,136	3,334	-	802	-	-	-	-	-	-	-	32,243
Period 3b Additional Costs																					
3b.2.1	Site Characterization	-	-	-	-	-	-	5,022	1,507	6,529	6,529	-	-	-	-	-	-	-	-	30,500	10,852
3b.2	Subtotal Period 3b Additional Costs	-	-	-	-	-	-	5,022	1,507	6,529	6,529	-	-	-	-	-	-	-	-	30,500	10,852
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	823	-	-	-	-	-	-	123	946	946	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,224	184	1,408	1,408	-	-	-	-	-	-	-	-	-	-
3b.3.3	Pipe cutting equipment	-	1,100	-	-	-	-	-	165	1,265	1,265	-	-	-	-	-	-	-	-	-	-
3b.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	1	1	-	-	-	-	-	-	-	-	-	-
3b.3.5	Fixed Overhead	-	-	-	-	-	-	212	32	243	243	-	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	823	1,100	-	-	-	-	1,436	504	3,863	3,863	-	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	25	-	-	-	-	-	-	6	32	32	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	259	26	285	285	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	36	4	40	40	-	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	162	-	-	-	-	-	40	202	202	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	247	-	-	-	-	-	37	284	284	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	4	3	-	11	-	4	22	22	-	-	-	236	-	-	-	4,714	8	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	1,153	173	1,327	1,327	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC Fees	-	-	-	-	-	-	124	12	137	137	-	-	-	-	-	-	-	-	-	-
3b.4.9	NEI Fees	-	-	-	-	-	-	75	7	82	82	-	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	1,428	214	1,642	1,642	-	-	-	-	-	-	-	-	-	33,036
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	4,621	693	5,314	5,314	-	-	-	-	-	-	-	-	-	59,200
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	8,732	1,310	10,042	10,042	-	-	-	-	-	-	-	-	-	131,086
3b.4	Subtotal Period 3b Period-Dependent Costs	25	409	4	3	-	11	16,430	2,527	19,410	19,410	-	-	-	236	-	-	-	4,714	8	223,321
3b.0	TOTAL PERIOD 3b COST	848	1,509	4	3	-	11	26,486	5,077	33,939	33,137	-	802	-	236	-	-	-	4,714	30,508	266,416
PERIOD 3 TOTALS		848	2,277	12	9	-	29	63,232	10,694	77,101	75,688	-	1,413	-	633	-	-	-	12,665	30,521	662,926
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	11	42	9	9	60	72	-	45	248	248	-	-	234	247	-	-	-	54,216	1,227	-
4a.1.1.2	Pressurizer Relief Tank	1	5	1	1	10	11	-	6	37	37	-	-	39	39	-	-	-	8,699	142	-
4a.1.1.3	Reactor Coolant Pumps & Motors	32	73	42	121	-	1,793	-	505	2,565	2,565	-	-	-	6,541	-	-	-	564,000	3,039	80
4a.1.1.4	Pressurizer	7	50	340	90	-	920	-	294	1,701	1,701	-	-	-	3,358	-	-	-	248,923	1,508	750
4a.1.1.5	Steam Generators	36	2,962	1,431	5,984	2,171	3,943	-	3,111	19,637	19,637	-	-	30,926	14,387	-	-	-	2,498,110	10,254	2,250
4a.1.1.6	CRDMs/ICIs/Service Structure Removal	30	87	246	71	64	171	-	134	793	793	-	-	753	3,309	-	-	-	95,078	2,491	-
4a.1.1.7	Reactor Vessel Internals	43	1,796	6,966	585	-	3,064	171	4,813	17,437	17,437	-	-	-	1,710	626	365	-	263,734	18,000	852
4a.1.1.8	Vessel & Internals GTCC Disposal	-	-	-	-	-	15,168	-	2,275	17,443	17,443	-	-	-	-	-	-	751	153,316	-	-
4a.1.1.9	Reactor Vessel	-	3,699	948	464	-	2,161	171	4,234	11,677	11,677	-	-	-	9,722	-	-	-	997,240	18,000	852
4a.1.1	Totals	160	8,713	9,982	7,325	2,304	27,304	342	15,407	71,537	71,537	-	-	31,952	39,313	626	365	751	4,883,315	54,661	4,784

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	264	98	24	549	-	-	162	1,097	1,097	-	-	5,307	-	-	-	-	238,796	5,938	-
4a.1.3	Main Condensers	-	886	121	29	677	-	-	340	2,054	2,054	-	-	6,545	-	-	-	-	294,503	20,075	-
Cascading Costs from Clean Building Demolition																					
4a.1.4.1	Reactor	-	1,312	-	-	-	-	-	197	1,509	1,509	-	-	-	-	-	-	-	-	20,314	-
4a.1.4.2	Reactor Auxiliary	-	186	-	-	-	-	-	28	214	214	-	-	-	-	-	-	-	-	2,564	-
4a.1.4.3	Fuel Handling	-	107	-	-	-	-	-	16	123	123	-	-	-	-	-	-	-	-	1,519	-
4a.1.4	Totals	-	1,605	-	-	-	-	-	241	1,846	1,846	-	-	-	-	-	-	-	-	24,397	-
Disposal of Plant Systems																					
4a.1.5.1	Air Evacuation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	171	-
4a.1.5.2	Air Evacuation - Insulated	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	701	-
4a.1.5.3	Auxiliary Steam - Insulated	-	22	-	-	-	-	-	3	25	-	-	25	-	-	-	-	-	-	577	-
4a.1.5.4	Chemical & Volume Control	-	88	13	15	59	96	-	58	328	328	-	-	629	528	-	-	-	63,039	1,966	-
4a.1.5.5	Chemical & Volume Control - Insulated	-	372	38	39	6	304	-	180	940	940	-	-	67	1,331	-	-	-	121,946	7,453	-
4a.1.5.6	Chemical Feed	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	66	-
4a.1.5.7	Chemical Feed - Insulated	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	28	-
4a.1.5.8	Circulating & Intake Cooling Water	-	232	-	-	-	-	-	35	267	-	-	267	-	-	-	-	-	-	5,958	-
4a.1.5.9	Component Cooling	-	72	-	-	-	-	-	11	83	-	-	83	-	-	-	-	-	-	1,825	-
4a.1.5.10	Component Cooling - RCA	-	257	38	63	530	309	-	234	1,431	1,431	-	-	5,677	1,354	-	-	-	351,904	5,557	-
4a.1.5.11	Condensate	-	151	-	-	-	-	-	23	174	-	-	174	-	-	-	-	-	-	3,749	-
4a.1.5.12	Condensate - Insulated	-	85	-	-	-	-	-	13	97	-	-	97	-	-	-	-	-	-	2,214	-
4a.1.5.13	Condensate Polish Filter Demin	-	23	-	-	-	-	-	3	27	-	-	27	-	-	-	-	-	-	569	-
4a.1.5.14	Condensate Polish Filter Demin - Ins	-	68	-	-	-	-	-	10	78	-	-	78	-	-	-	-	-	-	1,778	-
4a.1.5.15	Condensate Recovery	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	86	-
4a.1.5.16	Condensate Recovery - Insulated	-	0	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	12	-
4a.1.5.17	Condensate Recovery - Insulated - RCA	-	1	0	0	0	0	-	0	1	1	-	-	1	2	-	-	-	202	11	-
4a.1.5.18	Condensate Recovery - RCA	-	10	1	1	12	4	-	6	34	34	-	-	131	19	-	-	-	6,945	210	-
4a.1.5.19	Condenser Tube Cleaning	-	33	-	-	-	-	-	5	38	-	-	38	-	-	-	-	-	-	838	-
4a.1.5.20	Demineralized Makeup Water	-	15	-	-	-	-	-	2	17	-	-	17	-	-	-	-	-	-	370	-
4a.1.5.21	Demineralized Makeup Water - RCA	-	11	1	1	3	8	-	6	31	31	-	-	32	37	-	-	-	4,608	209	-
4a.1.5.22	Domestic/Makeup/Service Water	-	172	-	-	-	-	-	26	198	-	-	198	-	-	-	-	-	-	4,067	-
4a.1.5.23	Domestic/Makeup/Service Water - RCA	-	84	7	10	54	63	-	47	267	267	-	-	583	276	-	-	-	48,468	1,707	-
4a.1.5.24	Domestic/Makeup/Service Water-ins	-	4	-	-	-	-	-	1	4	-	-	4	-	-	-	-	-	-	93	-
4a.1.5.25	Domestic/Makeup/Service Water-ins-RCA	-	10	1	1	6	7	-	5	30	30	-	-	63	31	-	-	-	5,358	205	-
4a.1.5.26	Electrical - Clean	-	1,914	-	-	-	-	-	287	2,201	-	-	2,201	-	-	-	-	-	-	46,406	-
4a.1.5.27	Extraction Steam	-	79	-	-	-	-	-	12	90	-	-	90	-	-	-	-	-	-	1,884	-
4a.1.5.28	Extraction Steam - Insulated	-	78	-	-	-	-	-	12	89	-	-	89	-	-	-	-	-	-	2,032	-
4a.1.5.29	Feedwater - Insulated	-	83	-	-	-	-	-	12	96	-	-	96	-	-	-	-	-	-	2,153	-
4a.1.5.30	Feedwater - Insulated - RCA	-	26	3	5	43	23	-	20	119	119	-	-	455	101	-	-	-	27,554	564	-
4a.1.5.31	Fire Protection	-	67	-	-	-	-	-	10	77	-	-	77	-	-	-	-	-	-	1,710	-
4a.1.5.32	Fire Protection - Insulated	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	163	-
4a.1.5.33	HVAC	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,898	-
4a.1.5.34	Heater Drain & Vent - Insulated	-	175	-	-	-	-	-	26	201	-	-	201	-	-	-	-	-	-	4,490	-
4a.1.5.35	Hydrogen Sampling	-	36	3	4	34	22	-	21	120	120	-	-	367	97	-	-	-	23,587	815	-
4a.1.5.36	Integrated Leak Rate Testing	-	25	2	3	17	15	-	13	74	74	-	-	179	65	-	-	-	13,135	531	-
4a.1.5.37	Main Steam - Insulated	-	182	-	-	-	-	-	27	209	-	-	209	-	-	-	-	-	-	4,624	-
4a.1.5.38	Main Steam - Insulated - RCA	-	38	4	7	64	35	-	29	178	178	-	-	688	151	-	-	-	41,492	809	-
4a.1.5.39	Misc Bulk Gas	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	440	-
4a.1.5.40	Misc Bulk Gas - RCA	-	12	1	1	2	9	-	6	31	31	-	-	23	38	-	-	-	4,296	229	-
4a.1.5.41	Miscellaneous	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	230	-
4a.1.5.42	Miscellaneous - RCA	-	8	2	3	34	15	-	12	74	74	-	-	365	63	-	-	-	20,522	189	-
4a.1.5.43	Neutralization Basin Recirculation	-	17	-	-	-	-	-	3	19	-	-	19	-	-	-	-	-	-	435	-
4a.1.5.44	Post Accident Sampling	-	13	1	1	11	6	-	7	39	39	-	-	117	25	-	-	-	7,040	310	-
4a.1.5.45	Post Accident Sampling - Insulated	-	36	2	2	2	12	-	13	66	66	-	-	22	54	-	-	-	5,685	856	-
4a.1.5.46	RCP Oil Collection	-	1	0	0	1	1	-	1	4	4	-	-	10	5	-	-	-	849	26	-
4a.1.5.47	SGBTF Blowdown - Insulated	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	642	-
4a.1.5.48	SGBTF HVAC	-	56	-	-	-	-	-	8	64	-	-	64	-	-	-	-	-	-	1,549	-
4a.1.5.49	SGBTF Misc - RCA	-	2	0	1	7	3	-	3	16	16	-	-	77	13	-	-	-	4,306	49	-
4a.1.5.50	SGBTF Waste Management	-	4	0	0	1	3	-	2	10	10	-	-	8	12	-	-	-	1,356	78	-
4a.1.5.51	SGBTF Waste Management - Insulated	-	39	4	3	7	25	-	18	95	95	-	-	72	109	-	-	-	12,714	739	-

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
4a.1.5.52	Safety Injection	-	168	51	71	337	438	-	218	1,283	1,283	-	-	3,611	1,999	-	-	-	318,432	3,823	-
4a.1.5.53	Safety Injection - Insulated	-	439	48	57	159	393	-	245	1,342	1,342	-	-	1,705	1,721	-	-	-	223,521	9,105	-
4a.1.5.54	Sampling	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	198	-
4a.1.5.55	Sampling - Insulated	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	188	-
4a.1.5.56	Sampling - Insulated - RCA	-	17	1	1	2	10	-	7	39	39	-	-	24	43	-	-	-	4,809	336	-
4a.1.5.57	Sampling - RCA	-	17	1	1	7	8	-	8	42	42	-	-	77	35	-	-	-	6,271	350	-
4a.1.5.58	Secondary Side Wet Layup	-	11	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	288	-
4a.1.5.59	Secondary Side Wet Layup - Ins	-	13	-	-	-	-	-	2	14	-	-	14	-	-	-	-	-	-	348	-
4a.1.5.60	Service & Instrument Air	-	24	-	-	-	-	-	4	28	-	-	28	-	-	-	-	-	-	617	-
4a.1.5.61	Service & Instrument Air - ins	-	13	-	-	-	-	-	2	15	-	-	15	-	-	-	-	-	-	349	-
4a.1.5.62	Service & Instrument Air - Ins - RCA	-	59	5	5	11	36	-	27	143	143	-	-	122	159	-	-	-	19,173	1,181	-
4a.1.5.63	Service & Instrument Air - RCA	-	40	3	4	10	25	-	19	101	101	-	-	112	109	-	-	-	14,270	813	-
4a.1.5.64	Steam Gen Blowdown Cooling	-	15	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	372	-
4a.1.5.65	Steam Gen Blowdown Cooling - Ins - RCA	-	39	4	7	57	35	-	28	170	170	-	-	608	152	-	-	-	38,356	820	-
4a.1.5.66	Steam Gen Blowdown Cooling - Insulated	-	1	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	35	-
4a.1.5.67	Steam Gen Blowdown Cooling - RCA	-	52	6	10	77	48	-	39	231	231	-	-	825	211	-	-	-	52,463	1,073	-
4a.1.5.68	Steam Generator Blowdown	-	28	2	3	20	15	-	14	83	83	-	-	212	67	-	-	-	14,566	650	-
4a.1.5.69	Steam Generator Blowdown - Insulated	-	55	3	4	15	30	-	25	132	132	-	-	157	131	-	-	-	18,162	1,170	-
4a.1.5.70	Turbine	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	29	-
4a.1.5.71	Turbine Cooling Water	-	53	-	-	-	-	-	8	61	-	-	61	-	-	-	-	-	-	1,308	-
4a.1.5.72	Turbine Cooling Water - Insulated	-	32	-	-	-	-	-	5	37	-	-	37	-	-	-	-	-	-	854	-
4a.1.5.73	Turbine Lube Oil & Diesel Oil	-	63	-	-	-	-	-	9	73	-	-	73	-	-	-	-	-	-	1,596	-
4a.1.5.74	Water Treatment	-	65	-	-	-	-	-	10	75	-	-	75	-	-	-	-	-	-	1,622	-
4a.1.5.75	Water Treatment - Insulated	-	37	-	-	-	-	-	6	43	-	-	43	-	-	-	-	-	-	957	-
4a.1.5	Totals	-	6,022	246	324	1,590	1,999	-	1,913	12,094	7,454	-	4,639	17,022	8,940	-	-	-	1,475,030	142,351	-
4a.1.6	Scaffolding in support of decommissioning	-	579	12	4	64	9	-	158	827	827	-	-	618	38	-	-	-	31,264	15,869	-
4a.1	Subtotal Period 4a Activity Costs	160	18,068	10,460	7,706	5,185	29,311	342	18,221	89,454	84,815	-	4,639	61,442	48,291	626	365	751	6,922,908	263,291	4,784
Period 4a Additional Costs																					
4a.2.1	License Termination Survey Planning	-	-	-	-	-	-	706	212	918	918	-	-	-	-	-	-	-	-	-	6,240
4a.2	Subtotal Period 4a Additional Costs	-	-	-	-	-	-	706	212	918	918	-	-	-	-	-	-	-	-	-	6,240
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	4	-	4	31	-	27	-	14	81	81	-	-	-	75	-	-	-	4,494	15	-
4a.3.3	Small tool allowance	-	192	-	-	-	-	-	29	221	199	-	22	-	-	-	-	-	-	-	-
4a.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	102	10	112	112	-	-	-	-	-	-	-	-	-	-
4a.3.5	Fixed Overhead	-	-	-	-	-	-	471	71	542	542	-	-	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	4	192	4	31	-	27	573	124	956	934	-	22	-	75	-	-	-	4,494	15	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	57	-	-	-	-	-	-	14	71	71	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	578	58	636	636	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	81	8	89	80	-	9	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,413	-	-	-	-	-	353	1,766	1,766	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	2,265	-	-	-	-	-	340	2,605	2,605	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	53	42	-	131	-	44	270	270	-	-	-	2,867	-	-	-	57,348	94	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,440	366	2,806	2,806	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC Fees	-	-	-	-	-	-	775	78	853	853	-	-	-	-	-	-	-	-	-	-
4a.4.9	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	438	66	504	504	-	-	-	-	-	-	-	-	-	-
4a.4.10	NEI Fees	-	-	-	-	-	-	167	17	184	184	-	-	-	-	-	-	-	-	-	-
4a.4.11	Security Staff Cost	-	-	-	-	-	-	2,843	426	3,269	3,269	-	-	-	-	-	-	-	-	-	66,038
4a.4.12	DOC Staff Cost	-	-	-	-	-	-	12,422	1,863	14,286	14,286	-	-	-	-	-	-	-	-	-	161,716
4a.4.13	Utility Staff Cost	-	-	-	-	-	-	19,102	2,865	21,968	21,968	-	-	-	-	-	-	-	-	-	289,507
4a.4	Subtotal Period 4a Period-Dependent Costs	57	3,678	53	42	-	131	38,847	6,498	49,306	49,297	-	9	-	2,867	-	-	-	57,348	94	517,260
4a.0	TOTAL PERIOD 4a COST	221	21,939	10,517	7,779	5,185	29,469	40,468	25,055	140,634	135,963	-	4,670	61,442	51,234	626	365	751	6,984,751	263,400	528,284

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	422	46	173	93	-	729	-	436	1,899	1,899	-	-	-	3,185	-	-	-	285,812	1,243	-
Disposal of Plant Systems																					
4b.1.2.1	Contnmnt Spray & Refueling Water	-	374	107	139	420	944	-	424	2,409	2,409	-	-	4,499	4,639	-	-	-	552,992	8,691	-
4b.1.2.2	Contnmnt Spray & Refueling Water - Ins	-	154	27	41	71	298	-	133	724	724	-	-	764	1,304	-	-	-	147,956	3,460	-
4b.1.2.3	Electrical - Contaminated	-	222	9	16	96	93	-	96	533	533	-	-	1,031	407	-	-	-	78,367	4,637	-
4b.1.2.4	Electrical - Decontaminated	-	1,543	82	144	858	834	-	753	4,214	4,214	-	-	9,189	3,646	-	-	-	700,348	30,734	-
4b.1.2.5	Emergency Diesel Generator	-	64	-	-	-	-	-	10	74	-	-	74	-	-	-	-	-	-	1,662	-
4b.1.2.6	Emergency Diesel Generator - Insulated	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	150	-
4b.1.2.7	Fire Protection - Insulated - RCA	-	2	0	0	2	1	-	1	6	6	-	-	17	4	-	-	-	1,112	38	-
4b.1.2.8	Fire Protection - RCA	-	21	2	3	21	13	-	12	71	71	-	-	228	55	-	-	-	14,178	453	-
4b.1.2.9	Fuel Pool	-	74	10	15	23	110	-	53	284	284	-	-	242	486	-	-	-	52,830	1,601	-
4b.1.2.10	Fuel Pool - Insulated	-	40	4	5	2	37	-	21	108	108	-	-	25	161	-	-	-	15,401	829	-
4b.1.2.11	HVAC - Contaminated	-	1,419	57	118	2,059	228	-	744	4,624	4,624	-	-	22,042	996	-	-	-	984,490	28,547	-
4b.1.2.12	Primary Water	-	135	22	28	111	181	-	102	579	579	-	-	1,185	990	-	-	-	119,184	3,095	-
4b.1.2.13	Primary Water - Insulated	-	2	0	0	0	2	-	1	6	6	-	-	1	7	-	-	-	708	51	-
4b.1.2.14	Radiation Monitoring	-	18	1	1	1	7	-	6	34	34	-	-	13	29	-	-	-	3,076	412	-
4b.1.2.15	Reactor Coolant - Insulated	-	64	6	6	9	45	-	30	161	161	-	-	100	197	-	-	-	21,745	1,483	-
4b.1.2.16	Refueling Equipment	-	99	7	13	64	80	-	57	321	321	-	-	689	348	-	-	-	59,222	2,352	-
4b.1.2.17	Secondary Side Wet Layup - Ins - RCA	-	11	1	1	3	8	-	6	30	30	-	-	29	36	-	-	-	4,347	208	-
4b.1.2.18	Secondary Side Wet Layup - RCA	-	11	1	1	12	6	-	6	38	38	-	-	130	28	-	-	-	7,735	224	-
4b.1.2.19	Waste Management	-	535	77	92	341	606	-	358	2,011	2,011	-	-	3,653	3,270	-	-	-	386,133	11,785	-
4b.1.2.20	Waste Management - Insulated	-	715	76	77	12	599	-	350	1,829	1,829	-	-	127	2,624	-	-	-	240,225	14,196	-
4b.1.2	Totals	-	5,508	489	701	4,106	4,092	-	3,163	18,060	17,980	-	80	43,965	19,227	-	-	-	3,390,046	114,609	-
4b.1.3	Scaffolding in support of decommissioning	-	869	18	6	96	13	-	238	1,240	1,240	-	-	927	58	-	-	-	46,897	23,804	-
Decontamination of Site Buildings																					
4b.1.4.1	Reactor	914	807	150	288	294	440	-	871	3,764	3,764	-	-	3,150	7,760	-	-	-	900,925	36,493	-
4b.1.4.2	Primary Water Tank Foundation - Contam	0	3	5	9	-	14	-	6	37	37	-	-	-	252	-	-	-	25,176	75	-
4b.1.4.3	Reactor Auxiliary	423	138	25	48	93	74	-	288	1,090	1,090	-	-	995	1,273	-	-	-	165,647	12,308	-
4b.1.4.4	Refueling Water Storage Tank - Contam	0	6	10	19	-	30	-	13	78	78	-	-	-	537	-	-	-	53,730	122	-
4b.1.4.5	Fuel Handling	346	351	7	13	155	19	-	292	1,184	1,184	-	-	1,664	215	-	-	-	87,873	15,216	-
4b.1.4	Totals	1,684	1,305	197	377	543	577	-	1,470	6,153	6,153	-	-	5,809	10,036	-	-	-	1,233,351	64,214	-
4b.1	Subtotal Period 4b Activity Costs	2,106	7,729	877	1,177	4,745	5,410	-	5,307	27,352	27,272	-	80	50,701	32,507	-	-	-	4,956,106	203,870	-
Period 4b Additional Costs																					
4b.2.1	ISFSI License Termination	-	219	4	32	-	34	718	176	1,183	-	1,183	-	-	631	-	-	-	111,760	5,793	1,280
4b.2.2	Contaminated Soil Remediation	-	1,364	773	5,805	-	15,318	-	5,119	28,379	28,379	-	-	-	1,021,167	-	-	-	102,116,700	17,019	-
4b.2.3	Soil - Clean Closure	-	-	-	-	-	-	1,455	218	1,673	1,673	-	-	-	-	-	-	-	-	-	-
4b.2.4	Storm Drain Remediation	-	274	129	318	-	830	-	336	1,887	1,887	-	-	-	54,930	-	-	-	5,530,085	5,808	-
4b.2	Subtotal Period 4b Additional Costs	-	1,857	906	6,155	-	16,181	2,173	5,849	33,122	31,939	1,183	-	-	1,076,728	-	-	-	107,758,600	28,620	1,280
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	9	-	11	73	-	64	-	33	189	189	-	-	-	176	-	-	-	10,539	34	-
4b.3.3	Small tool allowance	-	167	-	-	-	-	-	25	192	192	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	118	44	621	85	-	133	1,002	1,002	-	-	6,000	373	-	-	-	303,507	88	-
4b.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	2,171	217	2,389	2,389	-	-	-	-	-	-	-	-	-	-
4b.3.6	Fixed Overhead	-	-	-	-	-	-	920	138	1,058	1,058	-	-	-	-	-	-	-	-	-	-
4b.3	Subtotal Period 4b Collateral Costs	9	167	129	117	621	149	3,091	546	4,829	4,829	-	-	6,000	549	-	-	-	314,046	122	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	786	-	-	-	-	-	-	197	983	983	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	1,128	113	1,241	1,241	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	158	16	174	174	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	1,552	-	-	-	-	-	388	1,940	1,940	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	4,387	-	-	-	-	-	658	5,045	5,045	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	70	55	-	173	-	58	357	357	-	-	-	3,792	-	-	-	75,838	124	-

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St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 4b Period-Dependent Costs (continued)																					
4b.4.7	Plant energy budget	-	-	-	-	-	-	3,760	564	4,324	4,324	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	1,513	151	1,664	1,664	-	-	-	-	-	-	-	-	-	-
4b.4.9	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	855	128	983	983	-	-	-	-	-	-	-	-	-	-
4b.4.10	NEI Fees	-	-	-	-	-	-	326	33	358	358	-	-	-	-	-	-	-	-	-	-
4b.4.11	Security Staff Cost	-	-	-	-	-	-	1,979	297	2,275	2,275	-	-	-	-	-	-	-	-	-	49,389
4b.4.12	DOC Staff Cost	-	-	-	-	-	-	15,906	2,386	18,291	18,291	-	-	-	-	-	-	-	-	-	215,931
4b.4.13	Utility Staff Cost	-	-	-	-	-	-	24,714	3,707	28,421	28,421	-	-	-	-	-	-	-	-	-	385,920
4b.4	Subtotal Period 4b Period-Dependent Costs	786	5,939	70	55	-	173	50,337	8,695	66,056	66,056	-	-	-	3,792	-	-	-	75,838	124	651,240
4b.0	TOTAL PERIOD 4b COST	2,902	16,693	1,982	7,504	5,366	21,914	55,601	20,398	131,360	130,097	1,183	80	56,701	1,113,576	-	-	-	113,104,500	232,736	652,520
PERIOD 4e - Delay before License Termination																					
Period 4e Collateral Costs																					
4e.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-	-	-	-	-	-
4e.3	Subtotal Period 4e Collateral Costs	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-	-	-	-	-	-
Period 4e Period-Dependent Costs																					
4e.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4e.4.2	Property taxes	-	-	-	-	-	-	48	5	53	53	-	-	-	-	-	-	-	-	-	-
4e.4.3	Health physics supplies	-	36	-	-	-	-	-	9	45	45	-	-	-	-	-	-	-	-	-	-
4e.4.4	Disposal of DAW generated	-	-	1	1	-	2	-	1	4	4	-	-	-	47	-	-	-	942	2	-
4e.4.5	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4e.4.6	NRC Fees	-	-	-	-	-	-	116	12	127	127	-	-	-	-	-	-	-	-	-	-
4e.4.7	Utility Staff Cost	-	-	-	-	-	-	610	92	702	702	-	-	-	-	-	-	-	-	-	9,760
4e.4	Subtotal Period 4e Period-Dependent Costs	-	36	1	1	-	2	774	118	932	932	-	-	-	47	-	-	-	942	2	9,760
4e.0	TOTAL PERIOD 4e COST	-	36	1	1	-	2	774	118	932	932	-	-	-	47	-	-	-	942	2	9,760
PERIOD 4f - Licensa Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	DRISE confirmatory survey	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license									a											
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	4,243	1,273	5,516	5,516	-	-	-	-	-	-	-	-	92,176	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	4,243	1,273	5,516	5,516	-	-	-	-	-	-	-	-	92,176	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,224	184	1,408	1,408	-	-	-	-	-	-	-	-	-	-
4f.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	1	1	-	-	-	-	-	-	-	-	-	-
4f.3.3	Fixed Overhead	-	-	-	-	-	-	315	47	362	362	-	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	1,539	231	1,770	1,770	-	-	-	-	-	-	-	-	-	-
Period 4f Period-Dependent Costs																					
4f.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4f.4.2	Property taxes	-	-	-	-	-	-	54	5	59	59	-	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	405	-	-	-	-	-	101	506	506	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	5	4	-	11	-	4	23	23	-	-	-	247	-	-	-	4,938	8	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	343	51	394	394	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC Fees	-	-	-	-	-	-	556	56	612	612	-	-	-	-	-	-	-	-	-	-
4f.4.7	NEI Fees	-	-	-	-	-	-	111	11	123	123	-	-	-	-	-	-	-	-	-	-
4f.4.8	Security Staff Cost	-	-	-	-	-	-	533	80	613	613	-	-	-	-	-	-	-	-	-	11,786
4f.4.9	DOC Staff Cost	-	-	-	-	-	-	3,497	524	4,021	4,021	-	-	-	-	-	-	-	-	-	46,750
4f.4.10	Utility Staff Cost	-	-	-	-	-	-	4,187	628	4,815	4,815	-	-	-	-	-	-	-	-	-	56,964
4f.4	Subtotal Period 4f Period-Dependent Costs	-	405	5	4	-	11	9,281	1,461	11,167	11,167	-	-	-	247	-	-	-	4,938	8	115,500
4f.0	TOTAL PERIOD 4f COST	-	405	5	4	-	11	15,216	3,011	18,651	18,651	-	-	-	247	-	-	-	4,938	92,184	118,620

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIDD 4 TDTALS		3,123	38,073	12,505	15,287	10,551	51,396	112,060	48,581	291,576	785,643	1,183	4,751	118,143	1,165,103	626	365	751	120,095,200	588,321	1,309,184
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Reactor	-	7,544	-	-	-	-	-	1,132	8,675	-	-	8,675	-	-	-	-	-	-	116,571	-
5b.1.1.2	Intake & CWS	-	433	-	-	-	-	-	65	498	-	-	498	-	-	-	-	-	-	6,540	-
5b.1.1.3	Miscellaneous Structures	-	1,199	-	-	-	-	-	180	1,379	-	-	1,379	-	-	-	-	-	-	18,403	-
5b.1.1.4	Primary Water Tank Foundation - Contam	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	48	-
5b.1.1.5	Reactor Auxiliary	-	1,681	-	-	-	-	-	252	1,934	-	-	1,934	-	-	-	-	-	-	23,172	-
5b.1.1.6	Refueling Water Storage Tank - Contam	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	106	-
5b.1.1.7	Security Improvements	-	231	-	-	-	-	-	35	265	-	-	265	-	-	-	-	-	-	2,317	-
5b.1.1.8	Turbine	-	1,090	-	-	-	-	-	164	1,254	-	-	1,254	-	-	-	-	-	-	18,221	-
5b.1.1.9	Turbine Pedestal	-	765	-	-	-	-	-	115	880	-	-	880	-	-	-	-	-	-	8,825	-
5b.1.1.10	Fuel Handling	-	982	-	-	-	-	-	147	1,130	-	-	1,130	-	-	-	-	-	-	14,207	-
5b.1.1	Totals	-	13,934	-	-	-	-	-	2,090	16,024	-	-	16,024	-	-	-	-	-	-	208,409	-
Site Closeout Activities																					
5b.1.2	Grade & landscape site	-	404	-	-	-	-	-	61	465	-	-	465	-	-	-	-	-	-	1,141	-
5b.1.3	Final report to NRC	-	-	-	-	-	-	174	26	200	200	-	-	-	-	-	-	-	-	-	1,560
5b.1	Subtotal Period 5b Activity Costs	-	14,338	-	-	-	-	174	2,177	16,688	200	-	16,488	-	-	-	-	-	-	209,551	1,560
Period 5b Additional Costs																					
5b.2.1	Concrete Processing	-	444	-	-	-	-	3	67	514	-	-	514	-	-	-	-	-	-	2,162	-
5b.2.2	ISFSI Demolition and Site Restoration	-	896	-	-	-	-	24	138	1,057	-	1,057	-	-	-	-	-	-	-	6,454	80
5b.2	Subtotal Period 5b Additional Costs	-	1,339	-	-	-	-	27	205	1,571	-	1,057	514	-	-	-	-	-	-	8,616	80
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	163	-	-	-	-	-	25	188	-	-	188	-	-	-	-	-	-	-	-
5b.3.2	Fixed Overhead	-	-	-	-	-	-	780	117	897	-	-	897	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	163	-	-	-	-	780	142	1,085	-	-	1,085	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	134	13	147	-	-	147	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	5,339	-	-	-	-	-	801	6,140	-	-	6,140	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	425	64	489	-	-	489	-	-	-	-	-	-	-	-
5b.4.5	Security Staff Cost	-	-	-	-	-	-	1,185	178	1,363	-	-	1,363	-	-	-	-	-	-	-	25,838
5b.4.6	DOC Staff Cost	-	-	-	-	-	-	8,331	1,250	9,580	-	-	9,580	-	-	-	-	-	-	-	103,274
5b.4.7	Utility Staff Cost	-	-	-	-	-	-	3,739	561	4,300	-	-	4,300	-	-	-	-	-	-	-	50,663
5b.4	Subtotal Period 5b Period-Dependent Costs	-	5,339	-	-	-	-	13,814	2,866	22,019	-	-	22,019	-	-	-	-	-	-	-	179,775
5b.0	TOTAL PERIOD 5b COST	-	21,179	-	-	-	-	14,795	5,389	41,363	200	1,057	40,106	-	-	-	-	-	-	218,167	181,415
PERIOD 5 TOTALS			21,179					14,795	5,389	41,363	200	1,057	40,106							218,167	181,415
TOTAL COST TO DECOMMISSION		7,637	69,139	13,450	16,682	15,552	53,090	580,833	125,195	881,577	624,426	210,881	46,270	145,160	1,183,496	626	365	751	121,984,800	932,568	5,383,810

Table D-1
St. Lucie Nuclear Plant, Unit 1
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours

TOTAL COST TO DECOMMISSION WITH 16.55% CONTINGENCY:	$881,577	thousands of	2010 dollars
TOTAL NRC LICENSE TERMINATION COST IS 70.83% OR:	$624,426	thousands of	2010 dollars
SPENT FUEL MANAGEMENT COST IS 23.92% OR:	$210,881	thousands of	2010 dollars
NON-NUCLEAR DEMOLITION COST IS 5.25% OR:	$46,270	thousands of	2010 dollars
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):	1,184,487	cubic feet	
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	751	cubic feet	
TOTAL SCRAP METAL REMOVED:	40,832	tons	
TOTAL CRAFT LABOR REQUIREMENTS:	932,568	man-hours	

End Notes:
n/a - Indicates that this activity not charged as decommissioning expense.

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	338	101	439	439	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	556
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	95	14	110	110	-	-	-	-	-	-	-	-	-	856
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	556
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
1a.1.11	End product description	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	72	11	82	82	-	-	-	-	-	-	-	-	-	642
1a.1.13	Define major work sequence	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
1a.1.14	Perform SER and EA	-	-	-	-	-	-	148	22	170	170	-	-	-	-	-	-	-	-	-	1,327
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	239	36	275	275	-	-	-	-	-	-	-	-	-	2,140
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	235	35	270	270	-	-	-	-	-	-	-	-	-	2,106
1a.1.16.2	Plant systems	-	-	-	-	-	-	199	30	229	229	-	-	-	-	-	-	-	-	-	1,783
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	149	22	171	171	-	-	-	-	-	-	-	-	-	1,335
1a.1.16.4	Waste management	-	-	-	-	-	-	95	14	110	110	-	-	-	-	-	-	-	-	-	856
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	95	14	110	110	-	-	-	-	-	-	-	-	-	856
1a.1.16	Total	-	-	-	-	-	-	774	116	890	890	-	-	-	-	-	-	-	-	-	6,936
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	56	8	65	65	-	-	-	-	-	-	-	-	-	506
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	57	9	66	66	-	-	-	-	-	-	-	-	-	514
1a.1.17	Total	-	-	-	-	-	-	114	17	131	131	-	-	-	-	-	-	-	-	-	1,020
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	5	1	5	5	-	-	-	-	-	-	-	-	-	43
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	2,052	358	2,410	2,410	-	-	-	-	-	-	-	-	-	15,361
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	4,675	701	5,377	-	5,377	-	-	-	-	-	-	-	-	-
1a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
1a.3.3	Fixed Overhead	-	-	-	-	-	-	417	63	480	480	-	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	5,094	764	5,858	481	5,377	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,192	119	1,311	1,311	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	1,298	130	1,427	1,427	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	335	-	-	-	-	-	84	419	419	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	487	-	-	-	-	-	73	560	560	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	9	7	-	22	-	8	46	46	-	-	-	493	-	-	-	9,854	16	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	2,276	341	2,617	2,617	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	485	48	533	533	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	607	61	668	-	668	-	-	-	-	-	-	-	-	-
1a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	764	115	878	-	878	-	-	-	-	-	-	-	-	-
1a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-
1a.4.11	INPO Fees	-	-	-	-	-	-	722	72	794	794	-	-	-	-	-	-	-	-	-	-
1a.4.12	NEI Fees	-	-	-	-	-	-	148	15	163	163	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	6,515	977	7,493	7,493	-	-	-	-	-	-	-	-	-	157,471
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	27,592	4,139	31,731	31,731	-	-	-	-	-	-	-	-	-	423,400
1a.4	Subtotal Period 1a Period-Dependent Costs	-	822	9	7	-	22	41,642	6,188	48,691	47,094	1,597	-	-	493	-	-	-	9,854	16	580,871

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
1a.0	TOTAL PERIOD 1a COST	-	822	9	7	-	22	48,788	7,311	56,959	49,985	6,974	-	-	493	-	-	-	9,854	16	596,232
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	993	-	-	-	-	-	-	496	1,489	1,489	-	-	-	-	-	-	-	-	22,339	-
1b.1.1.2	Reactor Auxiliary	453	-	-	-	-	-	-	227	680	680	-	-	-	-	-	-	-	-	10,511	-
1b.1.1.3	Steam Generator Blowdown Treatment	133	-	-	-	-	-	-	67	200	200	-	-	-	-	-	-	-	-	3,024	-
1b.1.1.4	Fuel Handling	345	-	-	-	-	-	-	172	517	517	-	-	-	-	-	-	-	-	7,120	-
1b.1.1	Totals	1,923	-	-	-	-	-	-	962	2,885	2,885	-	-	-	-	-	-	-	-	42,994	-
1b.1	Subtotal Period 1b Activity Costs	1,923	-	-	-	-	-	-	962	2,885	2,885	-	-	-	-	-	-	-	-	42,994	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	823	-	-	-	-	-	-	123	946	946	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	149	-	61	424	-	371	-	237	1,243	1,243	-	-	-	1,023	-	-	-	61,355	199	-
1b.3.4	Small tool allowance	-	30	-	-	-	-	-	5	35	35	-	-	-	-	-	-	-	-	-	-
1b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	622	93	715	-	715	-	-	-	-	-	-	-	-	-
1b.3.6	Florida LLRW Inspection Fee	-	-	-	-	-	-	3	0	3	3	-	-	-	-	-	-	-	-	-	-
1b.3.7	Fixed Overhead	-	-	-	-	-	-	105	16	121	121	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	972	30	61	424	-	371	730	474	3,064	2,348	715	-	-	1,023	-	-	-	61,355	199	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	759	-	-	-	-	-	-	190	949	949	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	300	30	330	330	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	18	2	20	20	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	256	-	-	-	-	-	64	320	320	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	123	-	-	-	-	-	18	141	141	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	11	8	-	26	-	9	54	54	-	-	-	572	-	-	-	11,431	19	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	574	86	660	660	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	122	12	134	134	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	153	15	168	-	168	-	-	-	-	-	-	-	-	-
1b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	193	29	221	-	221	-	-	-	-	-	-	-	-	-
1b.4.11	ISFSI Operating Costs	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
1b.4.12	NEI Fees	-	-	-	-	-	-	37	4	41	41	-	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	1,642	246	1,889	1,889	-	-	-	-	-	-	-	-	-	39,691
1b.4.14	Utility Staff Cost	-	-	-	-	-	-	6,955	1,043	7,998	7,998	-	-	-	-	-	-	-	-	-	106,720
1b.4	Subtotal Period 1b Period-Dependent Costs	759	378	11	8	-	26	10,005	1,750	12,937	12,535	403	-	-	572	-	-	-	11,431	19	146,411
1b.0	TOTAL PERIOD 1b COST	3,654	409	72	432	-	397	10,736	3,186	18,886	17,768	1,118	-	-	1,594	-	-	-	72,786	43,212	146,411
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	402	-	-	-	-	-	60	462	462	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	35	-	-	-	-	-	5	40	40	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	16,133	-
1c.1.4	Secure building accesses									a											
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	28	4	32	32	-	-	-	-	-	-	-	-	-	250
1c.1	Subtotal Period 1c Activity Costs	-	437	-	-	-	-	761	290	1,487	1,487	-	-	-	-	-	-	-	-	19,833	250
Period 1c Additional Costs																					
1c.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	6,654	998	7,652	7,652	-	-	-	-	-	-	-	-	-	-
1c.2.2	Mixed/Hazardous Waste	-	-	582	144	5,001	-	-	830	6,557	6,557	-	-	27,017	-	-	-	-	1,397,259	5,601	-
1c.2	Subtotal Period 1c Additional Costs	-	-	582	144	5,001	-	6,654	1,828	14,208	14,208	-	-	27,017	-	-	-	-	1,397,259	5,601	-

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	179	-	74	511	-	447	-	285	1,496	1,496	-	-	-	1,232	-	-	-	73,893	240	-
1c.3.3	Small tool allowance	-	3	-	-	-	-	-	0	4	4	-	-	-	-	-	-	-	-	-	-
1c.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	629	94	723	-	723	-	-	-	-	-	-	-	-	-
1c.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	22	2	25	25	-	-	-	-	-	-	-	-	-	-
1c.3.6	Fixed Overhead	-	-	-	-	-	-	106	16	122	122	-	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	179	3	74	511	-	447	758	398	2,370	1,647	723	-	-	1,232	-	-	-	73,893	240	-
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	304	30	334	334	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	18	2	20	20	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	187	-	-	-	-	-	47	234	234	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	124	-	-	-	-	-	19	143	143	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	2	2	-	6	-	2	12	12	-	-	-	126	-	-	-	2,511	4	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	580	87	667	667	-	-	-	-	-	-	-	-	-	-
1c.4.7	NRC Fees	-	-	-	-	-	-	124	12	136	136	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	155	15	170	-	170	-	-	-	-	-	-	-	-	-
1c.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	195	29	224	-	224	-	-	-	-	-	-	-	-	-
1c.4.10	ISFSI Operating Costs	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
1c.4.11	NEI Fees	-	-	-	-	-	-	38	4	41	41	-	-	-	-	-	-	-	-	-	-
1c.4.12	Security Staff Cost	-	-	-	-	-	-	1,660	249	1,909	1,909	-	-	-	-	-	-	-	-	-	40,123
1c.4.13	Utility Staff Cost	-	-	-	-	-	-	7,030	1,055	8,085	8,085	-	-	-	-	-	-	-	-	-	107,880
1c.4	Subtotal Period 1c Period-Dependent Costs	-	311	2	2	-	6	10,114	1,553	11,987	11,581	407	-	-	126	-	-	-	2,511	4	148,003
1c.0	TOTAL PERIOD 1c COST	179	751	658	656	5,001	453	18,286	4,068	30,053	28,923	1,130	-	27,017	1,357	-	-	-	1,473,663	25,678	148,253
PERIOD 1 TOTALS		3,833	1,982	739	1,096	5,001	873	77,809	14,565	105,898	96,676	9,222	-	27,017	3,444	-	-	-	1,556,304	68,906	890,896
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection									a											
2a.1.2	Semi-annual environmental survey									a											
2a.1.3	Prepare reports									a											
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	193	29	222	222	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	503	126	629	629	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	696	155	850	850	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	38,011	5,702	43,712	-	43,712	-	-	-	-	-	-	-	-	-
2a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
2a.3.3	Fixed Overhead	-	-	-	-	-	-	1,670	250	1,920	1,920	-	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	39,683	5,952	45,635	1,923	43,712	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	2,048	205	2,253	1,896	356	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	286	29	315	315	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	501	-	-	-	-	-	125	626	626	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	13	10	-	31	-	11	65	65	-	-	-	687	-	-	-	13,734	22	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	1,821	273	2,094	1,047	1,047	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	677	68	745	745	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	1,632	163	1,796	-	1,796	-	-	-	-	-	-	-	-	-
2a.4.8	Spent Fuel Pool O&M	-	-	-	-	-	-	3,055	458	3,514	-	3,514	-	-	-	-	-	-	-	-	-
2a.4.9	ISFSI Operating Costs	-	-	-	-	-	-	177	27	204	-	204	-	-	-	-	-	-	-	-	-
2a.4.10	NEI Fees	-	-	-	-	-	-	592	59	651	-	651	-	-	-	-	-	-	-	-	-
2a.4.11	Security Staff Cost	-	-	-	-	-	-	18,625	2,794	21,418	8,151	13,267	-	-	-	-	-	-	-	-	444,257
2a.4.12	Utility Staff Cost	-	-	-	-	-	-	22,770	3,416	26,186	3,675	22,510	-	-	-	-	-	-	-	-	329,543
2a.4	Subtotal Period 2a Period-Dependent Costs	-	501	13	10	-	31	51,683	7,627	59,865	16,520	43,345	-	-	687	-	-	-	13,734	22	773,800
2a.0	TOTAL PERIOD 2a COST	-	501	13	10	-	31	92,062	13,734	106,351	19,294	87,057	-	-	687	-	-	-	13,734	22	773,800

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection									a											
2b.1.2	Semi-annual environmental survey									a											
2b.1.3	Prepare reports									a											
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	1,219	183	1,401	1,401	-	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	3,174	794	3,968	3,968	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	4,393	976	5,369	5,369	-	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	8,100	1,215	9,315	-	9,315	-	-	-	-	-	-	-	-	-
2b.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	13	1	14	14	-	-	-	-	-	-	-	-	-	-
2b.3.3	Fixed Overhead	-	-	-	-	-	-	2,108	316	2,425	2,425	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	10,221	1,533	11,754	2,439	9,315	-	-	-	-	-	-	-	-	-
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	11,356	1,136	12,491	11,972	519	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	1,808	181	1,989	1,989	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	1,414	-	-	-	-	-	354	1,768	1,768	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	35	27	-	85	-	29	176	176	-	-	-	1,871	-	-	-	37,421	61	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	5,747	862	6,609	6,609	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	4,273	427	4,701	4,701	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	10,306	1,031	11,337	-	11,337	-	-	-	-	-	-	-	-	-
2b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	1,120	168	1,288	-	1,288	-	-	-	-	-	-	-	-	-
2b.4.9	Security Staff Cost	-	-	-	-	-	-	31,095	4,664	35,760	-	35,760	-	-	-	-	-	-	-	-	711,026
2b.4.10	Utility Staff Cost	-	-	-	-	-	-	34,472	5,171	39,642	23,202	16,440	-	-	-	-	-	-	-	-	526,686
2b.4	Subtotal Period 2b Period-Dependent Costs	-	1,414	35	27	-	85	100,177	14,022	115,761	50,417	65,344	-	-	1,871	-	-	-	37,421	61	1,237,711
2b.0	TOTAL PERIOD 2b COST	-	1,414	35	27	-	85	114,791	16,531	132,883	58,225	74,659	-	-	1,871	-	-	-	37,421	61	1,237,711
PERIOD 2c - SAFSTOR Dormancy without Spent Fuel Storage																					
Period 2c Direct Decommissioning Activities																					
2c.1.1	Quarterly Inspection									a											
2c.1.2	Semi-annual environmental survey									a											
2c.1.3	Prepare reports									a											
2c.1.4	Bituminous roof replacement	-	-	-	-	-	-	800	120	920	920	-	-	-	-	-	-	-	-	-	-
2c.1.5	Maintenance supplies	-	-	-	-	-	-	2,084	521	2,605	2,605	-	-	-	-	-	-	-	-	-	-
2c.1	Subtotal Period 2c Activity Costs	-	-	-	-	-	-	2,884	641	3,525	3,525	-	-	-	-	-	-	-	-	-	-
Period 2c Collateral Costs																					
2c.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	8	1	9	9	-	-	-	-	-	-	-	-	-	-
2c.3.2	Fixed Overhead	-	-	-	-	-	-	1,384	208	1,592	1,592	-	-	-	-	-	-	-	-	-	-
2c.3	Subtotal Period 2c Collateral Costs	-	-	-	-	-	-	1,393	208	1,601	1,601	-	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	7,147	715	7,861	7,861	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	1,187	119	1,306	1,306	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	886	-	-	-	-	-	222	1,108	1,108	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	21	17	-	53	-	18	109	109	-	-	-	1,154	-	-	-	23,085	38	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	3,773	566	4,339	4,339	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	2,660	266	2,926	2,926	-	-	-	-	-	-	-	-	-	-
2c.4.7	Security Staff Cost	-	-	-	-	-	-	29,380	4,407	33,787	33,787	-	-	-	-	-	-	-	-	-	248,997
2c.4.8	Utility Staff Cost	-	-	-	-	-	-	13,248	1,987	15,235	15,235	-	-	-	-	-	-	-	-	-	217,180
2c.4	Subtotal Period 2c Period-Dependent Costs	-	886	21	17	-	53	57,395	8,299	66,671	66,671	-	-	-	1,154	-	-	-	23,085	38	466,177
2c.0	TOTAL PERIOD 2c COST	-	886	21	17	-	53	61,672	9,149	71,798	71,798	-	-	-	1,154	-	-	-	23,085	38	466,177
PERIOD 2 TOTALS		-	2,802	69	54	-	169	268,526	39,413	311,032	149,316	161,716	-	-	3,712	-	-	-	74,240	121	2,477,688

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	556
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	220	33	253	253	-	-	-	-	-	-	-	-	-	1,969
3a.1.3	Perform detailed rad survey									a											
3a.1.4	End product description	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	556
3a.1.6	Define major work sequence	-	-	-	-	-	-	358	54	412	412	-	-	-	-	-	-	-	-	-	3,210
3a.1.7	Perform SER and EA	-	-	-	-	-	-	148	22	170	170	-	-	-	-	-	-	-	-	-	1,327
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	239	36	275	275	-	-	-	-	-	-	-	-	-	2,140
3a.1.9	Prepare/submit License Termination Plan	-	-	-	-	-	-	196	29	225	225	-	-	-	-	-	-	-	-	-	1,753
3a.1.10	Receive NRC approval of termination plan									a											
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	352	53	405	364	-	40	-	-	-	-	-	-	-	3,154
3a.1.11.2	Plant systems	-	-	-	-	-	-	199	30	229	206	-	23	-	-	-	-	-	-	-	1,783
3a.1.11.3	Reactor Internals	-	-	-	-	-	-	339	51	390	390	-	-	-	-	-	-	-	-	-	3,039
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	310	47	357	357	-	-	-	-	-	-	-	-	-	2,782
3a.1.11.5	Biological shield	-	-	-	-	-	-	24	4	27	27	-	-	-	-	-	-	-	-	-	214
3a.1.11.6	Steam generators	-	-	-	-	-	-	149	22	171	171	-	-	-	-	-	-	-	-	-	1,335
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	76	11	88	44	-	44	-	-	-	-	-	-	-	685
3a.1.11.8	Main Turbine	-	-	-	-	-	-	19	3	22	-	-	22	-	-	-	-	-	-	-	171
3a.1.11.9	Main Condensers	-	-	-	-	-	-	19	3	22	-	-	22	-	-	-	-	-	-	-	171
3a.1.11.10	Plant structures & buildings	-	-	-	-	-	-	149	22	171	86	-	86	-	-	-	-	-	-	-	1,335
3a.1.11.11	Waste management	-	-	-	-	-	-	220	33	253	253	-	-	-	-	-	-	-	-	-	1,969
3a.1.11.12	Facility & site closeout	-	-	-	-	-	-	43	6	49	25	-	25	-	-	-	-	-	-	-	385
3a.1.11	Total	-	-	-	-	-	-	1,899	285	2,184	1,922	-	262	-	-	-	-	-	-	-	17,024
Planning & Site Preparations																					
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	115	17	132	132	-	-	-	-	-	-	-	-	-	1,027
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	2,800	420	3,220	3,220	-	-	-	-	-	-	-	-	-	-
3a.1.14	Design water clean-up system	-	-	-	-	-	-	67	10	77	77	-	-	-	-	-	-	-	-	-	599
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,200	330	2,530	2,530	-	-	-	-	-	-	-	-	-	-
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	59	9	68	68	-	-	-	-	-	-	-	-	-	526
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	8,471	1,271	9,742	9,480	-	262	-	-	-	-	-	-	-	31,117
Period 3a Collateral Costs																					
3a.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
3a.3.2	Fixed Overhead	-	-	-	-	-	-	417	63	480	480	-	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	-	-	-	-	-	418	63	481	481	-	-	-	-	-	-	-	-	-	-
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	431	43	474	474	-	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	72	7	79	79	-	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	262	-	-	-	-	-	66	328	328	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	487	-	-	-	-	-	73	560	560	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	7	5	-	17	-	6	34	34	-	-	-	364	-	-	-	7,277	12	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	2,276	341	2,617	2,617	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC Fees	-	-	-	-	-	-	208	21	229	229	-	-	-	-	-	-	-	-	-	-
3a.4.8	NEI Fees	-	-	-	-	-	-	148	15	163	163	-	-	-	-	-	-	-	-	-	-
3a.4.9	Security Staff Cost	-	-	-	-	-	-	251	38	288	288	-	-	-	-	-	-	-	-	-	6,257
3a.4.10	Utility Staff Cost	-	-	-	-	-	-	12,738	1,911	14,648	14,648	-	-	-	-	-	-	-	-	-	200,229
3a.4	Subtotal Period 3a Period-Dependent Costs	-	749	7	5	-	17	16,123	2,520	19,420	19,420	-	-	-	364	-	-	-	7,277	12	206,486
3a.0	TOTAL PERIOD 3a COST	-	749	7	5	-	17	25,012	3,853	29,642	29,381	-	262	-	364	-	-	-	7,277	12	237,603

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	226	34	260	234	-	26	-	-	-	-	-	-	-	2,026
3b.1.1.2	Reactor internals	-	-	-	-	-	-	119	18	137	137	-	-	-	-	-	-	-	-	-	1,070
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	64	10	74	19	-	56	-	-	-	-	-	-	-	578
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	48	7	55	55	-	-	-	-	-	-	-	-	-	428
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	173	26	199	199	-	-	-	-	-	-	-	-	-	1,554
3b.1.1.8	Facility closeout	-	-	-	-	-	-	57	9	66	33	-	33	-	-	-	-	-	-	-	514
3b.1.1.9	Missile shields	-	-	-	-	-	-	21	3	25	25	-	-	-	-	-	-	-	-	-	193
3b.1.1.10	Biological shield	-	-	-	-	-	-	57	9	66	66	-	-	-	-	-	-	-	-	-	514
3b.1.1.11	Steam generators	-	-	-	-	-	-	220	33	253	253	-	-	-	-	-	-	-	-	-	1,969
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	48	7	55	27	-	27	-	-	-	-	-	-	-	428
3b.1.1.13	Main Turbine	-	-	-	-	-	-	74	11	86	-	-	86	-	-	-	-	-	-	-	668
3b.1.1.14	Main Condensers	-	-	-	-	-	-	74	11	86	-	-	86	-	-	-	-	-	-	-	668
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	130	20	150	135	-	15	-	-	-	-	-	-	-	1,168
3b.1.1.16	Reactor building	-	-	-	-	-	-	130	20	150	135	-	15	-	-	-	-	-	-	-	1,168
3b.1.1	Total	-	-	-	-	-	-	1,539	231	1,770	1,427	-	343	-	-	-	-	-	-	-	13,800
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	1,539	231	1,770	1,427	-	343	-	-	-	-	-	-	-	13,800
Period 3b Additional Costs																					
3b.2.1	Site Characterization	-	-	-	-	-	-	2,148	644	2,792	2,792	-	-	-	-	-	-	-	-	13,042	4,640
3b.2	Subtotal Period 3b Additional Costs	-	-	-	-	-	-	2,148	644	2,792	2,792	-	-	-	-	-	-	-	-	13,042	4,640
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	823	-	-	-	-	-	-	123	946	946	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,224	184	1,408	1,408	-	-	-	-	-	-	-	-	-	-
3b.3.3	Pipe cutting equipment	-	1,100	-	-	-	-	-	165	1,265	1,265	-	-	-	-	-	-	-	-	-	-
3b.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-	-	-	-	-	-
3b.3.5	Fixed Overhead	-	-	-	-	-	-	212	32	243	243	-	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	823	1,100	-	-	-	-	1,436	504	3,863	3,863	-	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	25	-	-	-	-	-	-	6	32	32	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	259	26	285	285	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	36	4	40	40	-	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	147	-	-	-	-	-	37	184	184	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	247	-	-	-	-	-	37	284	284	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	4	3	-	10	-	3	20	20	-	-	-	209	-	-	-	4,189	7	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	1,153	173	1,327	1,327	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC Fees	-	-	-	-	-	-	105	11	116	116	-	-	-	-	-	-	-	-	-	-
3b.4.9	NEI Fees	-	-	-	-	-	-	75	7	82	82	-	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	127	19	146	146	-	-	-	-	-	-	-	-	-	3,171
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	3,230	484	3,714	3,714	-	-	-	-	-	-	-	-	-	43,343
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	6,456	968	7,425	7,425	-	-	-	-	-	-	-	-	-	101,486
3b.4	Subtotal Period 3b Period-Dependent Costs	25	394	4	3	-	10	11,442	1,776	13,654	13,654	-	-	-	209	-	-	-	4,189	7	148,000
3b.0	TOTAL PERIOD 3b COST	848	1,494	4	3	-	10	16,566	3,155	22,079	21,736	-	343	-	209	-	-	-	4,189	13,049	166,440
PERIOD 3 TOTALS		848	2,243	11	8	-	26	41,577	7,008	51,722	51,117	-	605	-	573	-	-	-	11,465	13,061	404,043

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIDD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	11	42	9	13	12	130	-	53	269	269	-	-	47	445	-	-	-	56,074	1,227	-
4a.1.1.2	Pressurizer Relief Tank	1	5	1	2	2	20	-	8	39	39	-	-	8	71	-	-	-	8,699	142	-
4a.1.1.3	Reactor Coolant Pumps & Motors	32	73	42	121	-	1,793	-	505	2,565	2,565	-	-	-	6,541	-	-	-	564,000	3,039	80
4a.1.1.4	Pressurizer	7	50	340	90	-	920	-	294	1,701	1,701	-	-	-	3,358	-	-	-	248,923	1,508	750
4a.1.1.5	Steam Generators	36	2,962	1,431	5,984	2,171	3,943	-	3,111	19,637	19,637	-	-	30,926	14,387	-	-	-	2,498,110	10,254	2,250
4a.1.1.6	CRDMs/ICIs/Service Structure Removal	30	87	248	73	36	208	-	130	810	810	-	-	419	3,724	-	-	-	97,016	2,491	-
4a.1.1.7	Reactor Vessel Internals	48	1,847	7,055	742	-	4,322	179	5,546	19,738	19,738	-	-	-	1,710	626	402	-	266,059	19,000	892
4a.1.1.8	Vessel & Internals GTCC Disposal	-	-	-	-	-	15,168	-	2,275	17,443	17,443	-	-	-	-	-	-	751	153,316	-	-
4a.1.1.9	Reactor Vessel	-	3,750	1,004	464	-	2,161	179	4,287	11,845	11,845	-	-	-	9,722	-	-	-	997,240	19,000	892
4a.1.1	Totals	166	8,814	10,129	7,488	2,220	28,666	358	16,207	74,048	74,048	-	-	31,399	39,957	626	402	751	4,889,435	56,662	4,864
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	265	99	24	552	-	-	162	1,102	1,102	-	-	5,333	-	-	-	-	239,983	5,967	-
4a.1.3	Main Condensers	-	886	121	29	677	-	-	340	2,054	2,054	-	-	6,545	-	-	-	-	294,503	20,075	-
Cascading Costs from Clean Building Demolition																					
4a.1.4.1	Reactor	-	1,312	-	-	-	-	-	197	1,509	1,509	-	-	-	-	-	-	-	-	20,314	-
4a.1.4.2	Reactor Auxiliary	-	186	-	-	-	-	-	28	214	214	-	-	-	-	-	-	-	-	2,564	-
4a.1.4.3	Steam Generator Blowdown Treatment	-	26	-	-	-	-	-	4	30	30	-	-	-	-	-	-	-	-	392	-
4a.1.4.4	Fuel Handling	-	107	-	-	-	-	-	16	123	123	-	-	-	-	-	-	-	-	1,519	-
4a.1.4	Totals	-	1,631	-	-	-	-	-	245	1,876	1,876	-	-	-	-	-	-	-	-	24,789	-
Disposal of Plant Systems																					
4a.1.5.1	Air Evacuation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	177	-
4a.1.5.2	Air Evacuation - Insulated	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	777	-
4a.1.5.3	Auxiliary Steam - Insulated	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	410	-
4a.1.5.4	Chemical & Volume Control	-	96	13	16	59	103	-	62	350	350	-	-	633	561	-	-	-	66,093	2,124	-
4a.1.5.5	Chemical & Volume Control - Insulated	-	535	56	57	7	445	-	260	1,360	1,360	-	-	73	1,947	-	-	-	177,404	10,611	-
4a.1.5.6	Chemical Feed	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	71	-
4a.1.5.7	Chemical Feed - Insulated	-	1	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	42	-
4a.1.5.8	Circulating & Intake Cooling Water	-	257	-	-	-	-	-	39	296	-	-	296	-	-	-	-	-	-	6,590	-
4a.1.5.9	Component Cooling	-	86	-	-	-	-	-	13	99	-	-	99	-	-	-	-	-	-	2,187	-
4a.1.5.10	Component Cooling - RCA	-	321	44	75	633	370	-	283	1,727	1,727	-	-	6,782	1,620	-	-	-	420,608	6,899	-
4a.1.5.11	Condensate	-	188	-	-	-	-	-	28	216	-	-	216	-	-	-	-	-	-	4,668	-
4a.1.5.12	Condensate - Insulated	-	110	-	-	-	-	-	17	127	-	-	127	-	-	-	-	-	-	2,879	-
4a.1.5.13	Condensate Recovery	-	4	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	113	-
4a.1.5.14	Condensate Recovery - Insulated	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	15	-
4a.1.5.15	Condensate Recovery - Insulated - RCA	-	1	0	0	0	1	-	0	2	2	-	-	2	2	-	-	-	283	14	-
4a.1.5.16	Condensate Recovery - RCA	-	11	1	1	13	5	-	6	38	38	-	-	134	25	-	-	-	7,565	236	-
4a.1.5.17	Condenser Tube Cleaning	-	36	-	-	-	-	-	5	41	-	-	41	-	-	-	-	-	-	920	-
4a.1.5.18	Demineralized Makeup Water	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	137	-
4a.1.5.19	Demineralized Makeup Water - RCA	-	6	1	1	1	4	-	3	15	15	-	-	12	19	-	-	-	2,221	100	-
4a.1.5.20	Domestic/Makeup/Service Water	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	215	-
4a.1.5.21	Domestic/Makeup/Service Water - RCA	-	21	2	2	8	16	-	11	60	60	-	-	88	69	-	-	-	9,781	407	-
4a.1.5.22	Domestic/Makeup/Service Water-Ins	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	19	-
4a.1.5.23	Domestic/Makeup/Service Water-Ins - RCA	-	2	0	0	1	1	-	1	6	6	-	-	6	6	-	-	-	796	44	-
4a.1.5.24	Electrical - Clean	-	3,363	-	-	-	-	-	504	3,867	-	-	3,867	-	-	-	-	-	-	81,595	-
4a.1.5.25	Extraction Steam	-	79	-	-	-	-	-	12	90	-	-	90	-	-	-	-	-	-	1,887	-
4a.1.5.26	Extraction Steam - Insulated	-	87	-	-	-	-	-	13	101	-	-	101	-	-	-	-	-	-	2,280	-
4a.1.5.27	Feedwater - Insulated	-	118	-	-	-	-	-	18	136	-	-	136	-	-	-	-	-	-	3,077	-
4a.1.5.28	Feedwater - Insulated - RCA	-	39	4	7	62	34	-	29	175	175	-	-	662	150	-	-	-	40,342	825	-
4a.1.5.29	Fire Protection	-	51	-	-	-	-	-	8	59	-	-	59	-	-	-	-	-	-	1,310	-
4a.1.5.30	Fire Protection - Insulated	-	6	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	145	-
4a.1.5.31	HVAC	-	248	-	-	-	-	-	37	285	-	-	285	-	-	-	-	-	-	6,876	-
4a.1.5.32	Heater Drain & Vents - Insulated	-	209	-	-	-	-	-	31	240	-	-	240	-	-	-	-	-	-	5,363	-
4a.1.5.33	Hydrogen Sampling	-	42	4	5	35	26	-	23	136	136	-	-	378	115	-	-	-	25,618	930	-
4a.1.5.34	Integrated Leak Rate Testing	-	30	2	3	21	17	-	16	88	88	-	-	224	74	-	-	-	15,782	636	-

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
4a.1.5.35	Main Steam - Insulated	-	190	-	-	-	-	-	29	219	-	-	219	-	-	-	-	-	-	4,827	-
4a.1.5.36	Main Steam - Insulated - RCA	-	40	5	8	68	36	-	31	187	187	-	-	733	156	-	-	-	43,766	871	-
4a.1.5.37	Misc Bulk Gas Supply	-	12	-	-	-	-	-	2	14	-	-	14	-	-	-	-	-	-	346	-
4a.1.5.38	Misc Bulk Gas Supply - RCA	-	10	1	1	2	7	-	5	26	26	-	-	18	30	-	-	-	3,465	192	-
4a.1.5.39	Miscellaneous	-	1	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	33	-
4a.1.5.40	Miscellaneous - RCA	-	4	1	1	14	6	-	5	32	32	-	-	155	26	-	-	-	8,613	98	-
4a.1.5.41	Post Accident Sampling	-	3	0	0	-	0	-	1	4	4	-	-	-	2	-	-	-	195	70	-
4a.1.5.42	Post Accident Sampling - Insulated	-	24	1	1	-	4	-	7	37	37	-	-	-	20	-	-	-	1,753	631	-
4a.1.5.43	RCP Oil Collection	-	6	1	1	1	6	-	3	18	18	-	-	10	25	-	-	-	2,666	127	-
4a.1.5.44	SGBTF Blowdown - Insulated	-	619	34	58	737	202	-	328	1,979	1,979	-	-	7,896	951	-	-	-	399,867	13,761	-
4a.1.5.45	SGBTF Demin - Ins - RCA	-	46	3	4	12	29	-	21	115	115	-	-	128	126	-	-	-	16,542	955	-
4a.1.5.46	SGBTF Demin - RCA	-	67	5	8	79	33	-	39	231	231	-	-	850	152	-	-	-	47,553	1,424	-
4a.1.5.47	SGBTF Miscellaneous - RCA	-	23	1	3	38	8	-	14	87	87	-	-	408	37	-	-	-	19,610	512	-
4a.1.5.48	SGBTF Waste Management	-	57	3	5	83	10	-	30	187	187	-	-	888	50	-	-	-	39,870	1,291	-
4a.1.5.49	SGBTF Waste Management - Insulated	-	54	3	4	15	28	-	24	129	129	-	-	165	125	-	-	-	17,885	1,183	-
4a.1.5.50	Safety Injection	-	196	54	74	342	463	-	232	1,361	1,361	-	-	3,662	2,108	-	-	-	330,233	4,375	-
4a.1.5.51	Safety Injection - Insulated	-	726	77	91	216	635	-	394	2,138	2,138	-	-	2,318	2,778	-	-	-	343,043	14,869	-
4a.1.5.52	Sampling	-	8	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	236	-
4a.1.5.53	Sampling - Insulated	-	12	-	-	-	-	-	2	13	-	-	13	-	-	-	-	-	-	328	-
4a.1.5.54	Sampling - Insulated - RCA	-	31	3	3	5	21	-	15	78	78	-	-	56	92	-	-	-	10,513	594	-
4a.1.5.55	Sampling - RCA	-	27	2	2	9	16	-	13	69	69	-	-	101	68	-	-	-	10,203	533	-
4a.1.5.56	Secondary Side Wet Layup	-	11	-	-	-	-	-	2	13	-	-	13	-	-	-	-	-	-	308	-
4a.1.5.57	Secondary Side Wet Layup - Ins	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	399	-
4a.1.5.58	Service & Instrument Air	-	19	-	-	-	-	-	3	22	-	-	22	-	-	-	-	-	-	485	-
4a.1.5.59	Service & Instrument Air - Ins	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	258	-
4a.1.5.60	Sodium Hypochlorite	-	44	-	-	-	-	-	7	51	-	-	51	-	-	-	-	-	-	1,137	-
4a.1.5.61	Steam Gen Blowdown Cooling	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	387	-
4a.1.5.62	Steam Gen Blowdown Cooling - Ins - RCA	-	53	6	10	79	48	-	39	234	234	-	-	849	209	-	-	-	53,229	1,113	-
4a.1.5.63	Steam Gen Blowdown Cooling - Insulated	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	47	-
4a.1.5.64	Steam Gen Blowdown Cooling - RCA	-	71	8	13	108	67	-	53	319	319	-	-	1,153	291	-	-	-	72,896	1,467	-
4a.1.5.65	Steam Generator Blowdown	-	22	2	2	8	11	-	10	55	55	-	-	87	49	-	-	-	7,933	514	-
4a.1.5.66	Steam Generator Blowdown - Insulated	-	52	3	4	15	27	-	23	125	125	-	-	162	120	-	-	-	17,322	1,144	-
4a.1.5.67	Turbine	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	29	-
4a.1.5.68	Turbine Cooling Water	-	58	-	-	-	-	-	9	66	-	-	66	-	-	-	-	-	-	1,431	-
4a.1.5.69	Turbine Cooling Water - Insulated	-	40	-	-	-	-	-	6	46	-	-	46	-	-	-	-	-	-	1,050	-
4a.1.5.70	Turbine Lube Oil & Diesel Oil	-	60	-	-	-	-	-	9	69	-	-	69	-	-	-	-	-	-	1,468	-
4a.1.5	Totals	-	8,648	338	459	2,674	2,680	-	2,794	17,593	11,368	-	6,225	28,630	12,005	-	-	-	2,213,646	203,074	-
4a.1.6	Scaffolding in support of decommissioning	-	669	15	5	77	11	-	183	958	958	-	-	739	46	-	-	-	37,405	18,288	-
4a.1	Subtotal Period 4a Activity Costs	165	20,913	10,702	8,005	6,200	31,356	358	19,932	97,631	91,406	-	6,225	72,646	52,009	626	402	751	7,674,972	328,855	4,864
Period 4a Additional Costs																					
4a.2.1	License Termination Survey Planning	-	-	-	-	-	-	706	212	918	918	-	-	-	-	-	-	-	-	-	6,240
4a.2	Subtotal Period 4a Additional Costs	-	-	-	-	-	-	706	212	918	918	-	-	-	-	-	-	-	-	-	6,240
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	5	-	5	34	-	30	-	15	88	88	-	-	-	82	-	-	-	4,894	16	-
4a.3.3	Small tool allowance	-	237	-	-	-	-	-	36	273	245	-	27	-	-	-	-	-	-	-	-
4a.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	110	11	121	121	-	-	-	-	-	-	-	-	-	-
4a.3.5	Fixed Overhead	-	-	-	-	-	-	480	72	552	552	-	-	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	5	237	5	34	-	30	590	134	1,034	1,007	-	27	-	82	-	-	-	4,894	16	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	58	-	-	-	-	-	-	14	72	72	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	589	59	648	648	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	82	8	91	82	-	9	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,679	-	-	-	-	-	420	2,099	2,099	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	2,309	-	-	-	-	-	346	2,655	2,655	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	62	49	-	153	-	52	316	316	-	-	-	3,358	-	-	-	67,166	110	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,488	373	2,861	2,861	-	-	-	-	-	-	-	-	-	-

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 4a Period-Dependent Costs (continued)																					
4a.4.8	NRC Fees	-	-	-	-	-	-	533	53	586	586	-	-	-	-	-	-	-	-	-	-
4a.4.9	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	447	67	514	514	-	-	-	-	-	-	-	-	-	-
4a.4.10	NEI Fees	-	-	-	-	-	-	170	17	187	187	-	-	-	-	-	-	-	-	-	-
4a.4.11	Security Staff Cost	-	-	-	-	-	-	1,507	241	1,848	1,848	-	-	-	-	-	-	-	-	-	62,472
4a.4.12	OOC Staff Cost	-	-	-	-	-	-	12,611	1,892	14,503	14,503	-	-	-	-	-	-	-	-	-	164,376
4a.4.13	Utility Staff Cost	-	-	-	-	-	-	19,184	2,878	22,062	22,062	-	-	-	-	-	-	-	-	-	292,056
4a.4	Subtotal Period 4a Period-Dependent Costs	58	3,988	62	49	-	153	37,711	6,420	48,442	48,433	-	9	-	3,358	-	-	-	67,165	110	518,904
4a.0	TOTAL PERIOD 4a COST	228	25,138	10,769	8,087	6,200	31,539	39,365	26,698	148,025	141,763	-	6,261	72,646	55,448	626	402	751	7,747,032	328,980	530,008
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	422	46	173	93	-	729	-	436	1,899	1,899	-	-	-	3,185	-	-	-	285,812	1,243	-
Disposal of Plant Systems																					
4b.1.2.1	Contnmnt Spray & Refueling Water	-	378	108	140	423	955	-	429	2,433	2,433	-	-	4,526	4,686	-	-	-	558,440	8,780	-
4b.1.2.2	Contnmnt Spray & Refueling Water - Ins	-	160	28	44	76	316	-	140	765	765	-	-	816	1,382	-	-	-	157,145	3,628	-
4b.1.2.3	Electrical - Contaminated	-	429	16	29	165	173	-	181	993	993	-	-	1,762	757	-	-	-	139,519	8,856	-
4b.1.2.4	Electrical - Decontaminated	-	3,011	152	266	1,507	1,570	-	1,426	7,932	7,932	-	-	16,129	6,860	-	-	-	1,270,558	59,144	-
4b.1.2.5	Emergency Diesel Generator	-	81	-	-	-	-	-	12	93	-	-	93	-	-	-	-	-	-	2,134	-
4b.1.2.6	Emergency Diesel Generator - Insulated	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	221	-
4b.1.2.7	Fire Protection - Insulated - RCA	-	4	0	1	5	3	-	3	16	16	-	-	49	13	-	-	-	3,173	92	-
4b.1.2.8	Fire Protection - RCA	-	50	4	7	54	34	-	30	179	179	-	-	576	149	-	-	-	36,731	1,065	-
4b.1.2.9	Fuel Pool	-	108	17	24	36	173	-	81	437	437	-	-	384	761	-	-	-	83,292	2,312	-
4b.1.2.10	Fuel Pool - Insulated	-	65	7	9	8	67	-	36	192	192	-	-	81	295	-	-	-	29,703	1,346	-
4b.1.2.11	HVAC - Contaminated	-	1,461	63	131	2,194	279	-	790	4,917	4,917	-	-	23,493	1,218	-	-	-	1,063,290	29,514	-
4b.1.2.12	Primary Water	-	135	20	25	104	161	-	95	540	540	-	-	1,114	902	-	-	-	108,361	3,064	-
4b.1.2.13	Primary Water - Insulated	-	2	0	0	0	2	-	1	6	6	-	-	1	8	-	-	-	716	52	-
4b.1.2.14	Radiation Monitoring	-	19	1	1	2	7	-	7	37	37	-	-	18	31	-	-	-	3,507	450	-
4b.1.2.15	Reactor Coolant - Insulated	-	63	6	6	9	44	-	30	157	157	-	-	98	194	-	-	-	21,346	1,438	-
4b.1.2.16	Refueling Equipment	-	125	9	17	83	103	-	73	410	410	-	-	890	450	-	-	-	76,479	2,945	-
4b.1.2.17	Secondary Side Wet Layup - Ins - RCA	-	13	1	1	3	9	-	6	34	34	-	-	33	41	-	-	-	5,058	239	-
4b.1.2.18	Secondary Side Wet Layup - RCA	-	12	1	1	12	7	-	7	41	41	-	-	133	31	-	-	-	8,126	240	-
4b.1.2.19	Service & Instrument Air - Ins - RCA	-	42	3	3	8	24	-	18	98	98	-	-	81	103	-	-	-	12,565	886	-
4b.1.2.20	Service & Instrument Air - RCA	-	26	2	2	4	15	-	11	60	60	-	-	40	65	-	-	-	7,419	548	-
4b.1.2.21	Spent Fuel	-	10	1	2	4	15	-	7	40	40	-	-	39	66	-	-	-	7,516	226	-
4b.1.2.22	Spent Fuel - Ins	-	1	0	0	-	1	-	1	4	4	-	-	-	5	-	-	-	491	27	-
4b.1.2.23	Waste Management	-	627	87	100	305	682	-	397	2,198	2,198	-	-	3,264	3,528	-	-	-	400,175	13,394	-
4b.1.2.24	Waste Management - Insulated	-	1,210	136	134	12	1,043	-	599	3,134	3,134	-	-	133	4,567	-	-	-	414,467	23,609	-
4b.1.2	Totals	-	8,039	664	944	5,012	5,684	-	4,382	24,725	24,623	-	102	53,662	26,112	-	-	-	4,408,076	164,211	-
4b.1.3	Scaffolding in support of decommissioning	-	1,003	22	7	115	16	-	275	1,437	1,437	-	-	1,109	69	-	-	-	56,108	27,432	-
Decontamination of Site Buildings																					
4b.1.4.1	Reactor	914	812	150	289	294	442	-	873	3,775	3,775	-	-	3,150	7,788	-	-	-	903,752	36,583	-
4b.1.4.2	Primary Water Tank & Pump - Contaminated	0	3	5	9	-	14	-	6	37	37	-	-	-	252	-	-	-	25,176	75	-
4b.1.4.3	Reactor Auxiliary	423	138	25	48	93	74	-	288	1,090	1,090	-	-	995	1,273	-	-	-	165,647	12,308	-
4b.1.4.4	Steam Generator Blowdown Treatment	137	27	8	15	3	23	-	84	296	296	-	-	28	413	-	-	-	42,407	3,575	-
4b.1.4.5	Fuel Handling	346	351	7	13	155	19	-	292	1,184	1,184	-	-	1,664	215	-	-	-	87,873	15,216	-
4b.1.4	Totals	1,821	1,331	195	374	545	571	-	1,543	6,381	6,381	-	-	5,837	9,940	-	-	-	1,224,855	67,757	-
4b.1	Subtotal Period 4b Activity Costs	2,243	10,420	1,054	1,418	5,672	7,000	-	6,636	34,443	34,341	-	102	60,608	39,307	-	-	-	5,974,852	260,643	-
Period 4b Additional Costs																					
4b.2.1	ISFSI License Termination	-	219	5	32	-	34	718	175	1,182	-	1,182	-	-	631	-	-	-	111,760	5,793	1,280
4b.2.2	Contaminated Soil Remediation	-	1,267	718	5,393	-	14,231	-	4,755	26,365	26,365	-	-	-	948,730	-	-	-	94,873,010	15,812	-
4b.2.3	Soil - Clean Closure	-	-	-	-	-	-	134	20	155	155	-	-	-	-	-	-	-	-	-	-
4b.2.4	Storm Drain Remediation	-	144	65	159	-	415	-	170	954	954	-	-	-	27,763	-	-	-	2,768,792	3,071	-
4b.2	Subtotal Period 4b Additional Costs	-	1,631	788	5,584	-	14,680	852	5,121	28,656	27,474	1,182	-	-	977,124	-	-	-	97,753,560	24,676	1,280

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(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	11	-	11	78	-	68	-	35	203	203	-	-	-	187	-	-	-	11,248	37	-
4b.3.3	Small tool allowance	-	202	-	-	-	-	-	30	232	232	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	118	44	621	85	-	133	1,002	1,002	-	-	6,000	373	-	-	-	303,507	88	-
4b.3.5	Florida LLRW Inspection Fea	-	-	-	-	-	-	1,992	199	2,192	2,192	-	-	-	-	-	-	-	-	-	-
4b.3.6	Fixed Overhead	-	-	-	-	-	-	914	137	1,051	1,051	-	-	-	-	-	-	-	-	-	-
4b.3	Subtotal Period 4b Collateral Costs	11	202	130	122	621	153	2,906	535	4,679	4,679	-	-	6,000	561	-	-	-	314,755	125	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	856	-	-	-	-	-	-	214	1,070	1,070	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	1,121	112	1,233	1,233	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	157	16	172	172	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	1,838	-	-	-	-	-	460	2,298	2,298	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	4,360	-	-	-	-	-	654	5,014	5,014	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	88	69	-	216	-	73	446	446	-	-	-	4,742	-	-	-	94,847	155	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	3,736	560	4,297	4,297	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	1,013	101	1,115	1,115	-	-	-	-	-	-	-	-	-	-
4b.4.9	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	850	127	977	977	-	-	-	-	-	-	-	-	-	-
4b.4.10	NEI Fees	-	-	-	-	-	-	324	32	356	356	-	-	-	-	-	-	-	-	-	-
4b.4.11	Security Staff Cost	-	-	-	-	-	-	6,169	925	7,094	7,094	-	-	-	-	-	-	-	-	-	142,679
4b.4.12	DOC Staff Cost	-	-	-	-	-	-	23,687	3,553	27,240	27,240	-	-	-	-	-	-	-	-	-	305,903
4b.4.13	Utility Staff Cost	-	-	-	-	-	-	36,021	5,403	41,425	41,425	-	-	-	-	-	-	-	-	-	538,754
4b.4	Subtotal Period 4b Period-Dependent Costs	856	6,198	88	69	-	216	73,078	12,232	92,736	92,736	-	-	-	4,742	-	-	-	94,847	155	987,336
4b.0	TOTAL PERIOD 4b COST	3,110	18,451	2,060	7,192	6,293	22,049	76,836	24,523	160,515	159,230	1,182	102	66,608	1,021,734	-	-	-	104,138,000	285,598	988,616
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license									a											
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	4,452	1,336	5,788	5,788	-	-	-	-	-	-	-	-	97,204	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	4,452	1,336	5,788	5,788	-	-	-	-	-	-	-	-	97,204	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,224	184	1,408	1,408	-	-	-	-	-	-	-	-	-	-
4f.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	1	1	-	-	-	-	-	-	-	-	-	-
4f.3.3	Fixed Overhead	-	-	-	-	-	-	315	47	362	362	-	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	1,539	231	1,770	1,770	-	-	-	-	-	-	-	-	-	-
Period 4f Period-Dependent Costs																					
4f.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4f.4.2	Property taxes	-	-	-	-	-	-	54	5	59	59	-	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	417	-	-	-	-	-	104	521	521	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	5	4	-	11	-	4	23	23	-	-	-	247	-	-	-	4,938	8	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	343	51	394	394	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC Fees	-	-	-	-	-	-	365	37	402	402	-	-	-	-	-	-	-	-	-	-
4f.4.7	NEI Fees	-	-	-	-	-	-	111	11	123	123	-	-	-	-	-	-	-	-	-	-
4f.4.8	Security Staff Cost	-	-	-	-	-	-	533	80	613	613	-	-	-	-	-	-	-	-	-	11,786
4f.4.9	DOC Staff Cost	-	-	-	-	-	-	3,497	524	4,021	4,021	-	-	-	-	-	-	-	-	-	46,750
4f.4.10	Utility Staff Cost	-	-	-	-	-	-	4,187	628	4,815	4,815	-	-	-	-	-	-	-	-	-	56,964
4f.4	Subtotal Period 4f Period-Dependent Costs	-	417	5	4	-	11	9,090	1,445	10,972	10,972	-	-	-	247	-	-	-	4,938	8	115,500
4f.0	TOTAL PERIOD 4f COST	-	417	5	4	-	11	15,234	3,057	18,728	18,728	-	-	-	247	-	-	-	4,938	97,212	118,620
PERIOD 4 TOTALS		3,338	44,026	12,833	15,283	12,493	53,599	131,436	54,279	327,267	319,721	1,182	6,363	139,254	1,077,430	626	402	751	111,890,000	711,791	1,637,244

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Reactor	-	7,549	-	-	-	-	-	1,132	8,681	-	-	8,681	-	-	-	-	-	-	116,660	-
5b.1.1.2	Intake Structure & CWS	-	659	-	-	-	-	-	99	758	-	-	758	-	-	-	-	-	-	9,766	-
5b.1.1.3	Miscellaneous Structures	-	5,091	-	-	-	-	-	764	5,854	-	-	5,854	-	-	-	-	-	-	78,966	-
5b.1.1.4	Primary Water Tank & Pump - Contaminated	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	48	-
5b.1.1.5	Reactor Auxiliary	-	1,681	-	-	-	-	-	252	1,934	-	-	1,934	-	-	-	-	-	-	23,172	-
5b.1.1.6	Security Improvements	-	231	-	-	-	-	-	35	265	-	-	265	-	-	-	-	-	-	2,317	-
5b.1.1.7	Steam Generator Blowdown Treatment	-	504	-	-	-	-	-	76	579	-	-	579	-	-	-	-	-	-	7,829	-
5b.1.1.8	Turbine	-	1,078	-	-	-	-	-	162	1,239	-	-	1,239	-	-	-	-	-	-	18,034	-
5b.1.1.9	Turbine Pedestal	-	765	-	-	-	-	-	115	880	-	-	880	-	-	-	-	-	-	8,825	-
5b.1.1.10	Fuel Handling	-	982	-	-	-	-	-	147	1,130	-	-	1,130	-	-	-	-	-	-	14,207	-
5b.1.1	Totals	-	18,541	-	-	-	-	-	2,781	21,323	-	-	21,323	-	-	-	-	-	-	279,825	-
Site Closeout Activities																					
5b.1.2	Remove Rubble	-	929	-	-	-	-	-	139	1,068	-	-	1,068	-	-	-	-	-	-	6,047	-
5b.1.3	Grade & landscape site	-	404	-	-	-	-	-	61	465	-	-	465	-	-	-	-	-	-	1,141	-
5b.1.4	Final report to NRC	-	-	-	-	-	-	74	11	86	86	-	-	-	-	-	-	-	-	-	668
5b.1	Subtotal Period 5b Activity Costs	-	19,874	-	-	-	-	74	2,992	22,941	86	-	22,855	-	-	-	-	-	-	287,013	668
Period 5b Additional Costs																					
5b.2.1	ISFSI Demolition and Site Restoration	-	896	-	-	-	-	24	138	1,057	-	1,057	-	-	-	-	-	-	-	6,454	80
5b.2.2	Concrete Crushing	-	626	-	-	-	-	5	95	726	-	-	726	-	-	-	-	-	-	3,052	-
5b.2.3	Circulating Water Diffuser Isolation	-	146	-	-	-	-	-	22	168	-	-	168	-	-	-	-	-	-	1,952	-
5b.2	Subtotal Period 5b Additional Costs	-	1,668	-	-	-	-	29	255	1,951	-	1,057	894	-	-	-	-	-	-	11,458	80
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	223	-	-	-	-	-	33	256	-	-	256	-	-	-	-	-	-	-	-
5b.3.2	Fixed Overhead	-	-	-	-	-	-	780	117	897	-	-	897	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	223	-	-	-	-	780	150	1,153	-	-	1,153	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	134	13	147	-	-	147	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	5,339	-	-	-	-	-	801	6,140	-	-	6,140	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	425	64	489	-	-	489	-	-	-	-	-	-	-	-
5b.4.5	Security Staff Cost	-	-	-	-	-	-	1,185	178	1,363	-	-	1,363	-	-	-	-	-	-	-	25,838
5b.4.6	ISFSI Staff Cost	-	-	-	-	-	-	8,331	1,250	9,580	-	-	9,580	-	-	-	-	-	-	-	103,274
5b.4.7	Utility Staff Cost	-	-	-	-	-	-	3,739	561	4,300	-	-	4,300	-	-	-	-	-	-	-	50,663
5b.4	Subtotal Period 5b Period-Dependent Costs	-	5,339	-	-	-	-	13,814	2,866	22,019	-	-	22,019	-	-	-	-	-	-	-	179,775
5b.0	TOTAL PERIOD 5b COST	-	27,104	-	-	-	-	14,697	6,263	48,064	86	1,057	46,921	-	-	-	-	-	-	298,471	180,523
PERIOD 5 TOTALS			27,104					14,697	6,263	48,064	86	1,057	46,921							298,471	180,523
TOTAL COST TO DECOMMISSION		8,019	78,136	13,652	16,441	17,495	54,667	534,044	121,528	843,982	616,915	173,178	53,889	166,271	1,085,159	626	402	751	113,532,000	1,092,349	5,590,393

Table D-2
St. Lucie Nuclear Plant, Unit 2
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours

TOTAL COST TO DECOMMISSION WITH 16.82% CONTINGENCY:	$843,982	thousands of 2010 dollars
TOTAL NRC LICENSE TERMINATION COST IS 73.1% OR:	$616,915	thousands of 2010 dollars
SPENT FUEL MANAGEMENT COST IS 20.52% OR:	$173,178	thousands of 2010 dollars
NON-NUCLEAR DEMOLITION COST IS 6.39% OR:	$53,889	thousands of 2010 dollars
TOTAL PRIMARY SITE RADWASTE VOLUME BURIED:	1,086,187	cubic feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	751	cubic feet
TOTAL SCRAP METAL REMOVED:	44,970	tons
TOTAL CRAFT LABOR REQUIREMENTS:	1,092,349	man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense.

SECTION 12

COMPARISON REPORT
Comparative Analysis of Cost Studies
2005 & 2010 Cost Studies

COMPARISON REPORT 2004 - 2010

for the

ST. LUCIE NUCLEAR PLANT, UNITS 1 AND 2



prepared for

Florida Power & Light Company

prepared by

TLG Services, Inc.
Bridgewater, Connecticut

December 2010

APPROVALS

Project Manager	William A. Cloutier **William A. Cloutier, Jr.**	12/02/2010 **Date**
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REVISION LOG

No.	CRA No.	Date	Item Revised	Reason for Revision
0		12-02-2010		Original Issue

SUMMARY

This document provides a comparative discussion on decommissioning cost estimates prepared for the St. Lucie Nuclear Plant (St. Lucie) in 2005[1] and updated in 2010[2] by TLG Services, Inc. (TLG). The estimates described in this document were constructed from a prompt decommissioning scenario following the scheduled cessation of operations, recognizing that there is a seven year offset in the scheduled shutdown dates for the two nuclear units. The scope of the two estimates is consistent, including cost elements for license termination, spent fuel management and site restoration activities.

The estimates were generated in 2004 and 2010 dollars, respectively. For purposes of comparison, they are referred to by their financial bases. The 2010, or current estimate, was developed using the basic inventory and plant design information from the 2004 or previous cost model. The data, estimating assumptions and site-specific considerations were reviewed for the 2010 analysis. The cost model was modified where new information was available, updated site-specific information was obtained, or experience from past decommissioning programs justified such changes.

The overall estimate to decommission St. Lucie increased approximately 43% over the six year period between estimates. The increase (or decrease) in the individual cost elements that comprise the estimates is shown in Table 1.

The cost elements were assigned to one of three subcategories: *NRC License Termination*, *Spent Fuel Management*, and *Site Restoration*. Delegation of cost elements into these categories was for the purpose of comparison (e.g., with NRC financial guidelines) or to permit specific financial treatment (e.g., ARO determinations). In reality, there can be considerable interaction or overlap between the activities in the three subcategories.

The subcategory *NRC License Termination* was used to accumulate costs that are consistent with the NRC's definition of decommissioning in its financial assurance regulations (i.e., 10 CFR Part 50.75). The cost reported for this subcategory is generally sufficient to terminate the operating licenses for the two reactors, recognizing that there may be some additional cost impact from spent fuel management. The cost associated with St. Lucie license termination activities

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1 "Decommissioning Cost Analysis for the St. Lucie Nuclear Plant, Units 1 and 2," TLG Document F02-1512-002, Rev. 0, dated October 2005.

2 "Decommissioning Cost Analysis for the St. Lucie Nuclear Plant, Units 1 and 2," TLG Document F02-1630-001, Rev. 0, dated November 2010.

increased 34% over the six years. Major contributors included: an increase in the volume of low-level radioactive waste designated for controlled disposal or processing (which resulted in higher removal, transport, packaging, and waste disposal costs), higher site operating costs for items related to energy, security, fees and insurance, and a general increase in the cost of labor and materials.

The *Spent Fuel Management* subcategory contains costs anticipated to be incurred once the nuclear units cease operation for the off-loading of the pools either directly to the Department of Energy (DOE) or to the Independent Spent Fuel Storage Installation (ISFSI) for interim storage, and the eventual transfer of fuel from the ISFSI to the DOE. Costs were also included for the operation of the ISFSI until such time that the transfer of all fuel from this facility to an off-site location (e.g., geologic repository or interim facility) is complete. The costs assigned to this subcategory increased 97% over the six years. This was a consequence of a 15-year delay in the assumed commencement of commercial spent fuel pickup by the DOE and a resulting 13-year longer ISFSI operating period. This delay resulted in more fuel being transferred at the ISFSI for interim storage (80 additional dry shielded canisters and horizontal storage modules) in the 2010 cost model. Higher site operating costs, including security, were compounded by the longer ISFSI operating period.

Site Restoration was used to capture costs associated with the dismantling and demolition of buildings and facilities demonstrated to be free from contamination. This includes structures never exposed to radioactive materials, as well as those facilities that have been decontaminated to appropriate levels. Structures are removed to a depth of three feet below grade and backfilled to conform to local grade. The costs assigned to this subcategory increased 10% over the six years. This modest increase is the result of increases in labor and material costs which were partially offset by savings resulting from a continuing optimization of the demolition management organization.

Cost Center	2004 ($1000s)	2010 ($1000s)	Delta ($1000s)	Percent Change	Annual Change
License Termination	782,948	1,052,235	269,287	34.4	5.1
Spent Fuel Management	168,122	331,105	162,983	96.9	12.0
Site Restoration	86,502	95,414	8,912	10.3	1.6
Total	1,037,572	1,478,754	441,182	42.5	6.1

The rationale for specific changes in several major cost centers is discussed in more detail within the following narrative. Comparisons are focused on permutations in the technical work scope and modifications to assumptions that have affected the

cost of decommissioning. Inflationary effects, while a factor, are generally ignored for purposes of this analysis. Cost element discussions are arranged in decreasing order of overall financial impact between the estimates.

COMPARATIVE ANALYSIS

TLG completed a decommissioning cost analysis for St. Lucie in 2005. The analysis provided the Florida Power & Light Company (FPL), the majority owner and operator of the nuclear units, with the projected costs (in 2004 dollars) to completely decontaminate and dismantle the station following the normal cessation of plant operations. For purposes of this comparison, this analysis is referred to as the 2004 estimate or previous analysis.

In 2010, TLG updated the cost analysis for FPL. The current analysis uses the physical plant inventory and design information from the previous analysis. This data was reviewed, along with the assumptions and other site-specific considerations, and modified or updated where new information was available or experience from ongoing decommissioning programs justified such changes. Since the update relied upon 2010 economic data, the analysis is referred to as the 2010 estimate or current analysis.

Generally, escalation of the various cost components in a decommissioning analysis (with the exception of those costs associated with radioactive waste disposal), follows "standard" cost indices. However, such indices can only be applied successfully to a static model, *i.e.*, where the bases against which the indices are applied have not undergone significant change. In the period between the last two analyses (the 2004 and 2010 financial years), new cost elements have been added and older cost elements revised. With this in mind, the following discussion encompasses the major areas of difference between the two estimates.

In 2004, the estimate to promptly decommission St. Lucie was estimated at approximately $1,037.6 million (in 2004 dollars). The comparable cost in 2010 is $1,478.8 million (in 2010 dollars). This represents a 43% increase in the overall cost. Major areas of change in the two estimates are shown in Table 1.

The decommissioning scope of the current cost estimate has not significantly changed from that evaluated presented in 2004. However, the current estimate delays the completion of the spent fuel transfer process by approximately 13 years. This was done in response to the continuing lack of progress by the Department of Energy (DOE) in developing a geologic repository (or interim facility) for the spent fuel. The longer schedule (primarily in the post-decommissioning dry spent fuel storage period), increased the period-dependent costs (e.g., staffing, fees, insurance, and other site operating costs), reported for spent fuel management.

The following cost element discussions are arranged in decreasing order of overall financial impact between the estimates.

1. Program Management

The organization identified to oversee the decommissioning project and manage the day-to-day activities is similar in structure to the operating organization, although much reduced in size.

The cost category includes several contributors:

- Plant Staff: comprised of the decision-making individuals at the site, administrative, secretarial and/or clerical support, plant management responsible for the facility's operation, maintenance, as well as compliance with the existing operating license and technical specifications during the initial preparation phase, quality assurance and quality surveillance, engineering support, planning and cost control personnel, health physics and radiation protection, industrial safety, waste management, procurement, document control, and field superintendents for work force direction
- Engineering: supplemental workforce employed in the preparation stages to support the reconfiguration of the plant for decommissioning, develop specifications, procedures and work packages for both in-house and subcontracted activities, and perform related studies and supporting analyses
- Security: personnel comprising the on-site, plant security force including surveillance personnel, access/egress control and processing personnel, a rapid response contingent, training and supervisory personnel
- Decommissioning Operations Contractor (DOC): organization contracted to manage the execution of the decontamination and dismantling activities including direct supervision of trades and oversight of subcontractors engaged in specialty activities such as reactor vessel segmentation

Table 2 provides a comparison of the peak staffing levels for each decommissioning period and corresponding cost per month. Staffing levels are relatively consistent for the major decommissioning periods with alterations in the 2010 organization resulting in a slight decrease in personnel. Re-evaluation of the site restoration phase (based upon industry experience) resulted in a greater change (decrease) in supervisory/ management personnel.

Exclusive of the adjustments to the organization and general increase in wages and benefits over the six year period, two changes in the modeling

assumptions combined to contribute to the $152.7 million increase in the cost of program management: a longer schedule and a larger security force.

The length of the decommissioning schedule (from the cessation of operations to the termination of the site licenses) in the 2010 cost model is approximately 13 years longer than in 2004 (Table 3). This increase is primarily in the post-decommissioning dry spent fuel storage duration (discussed below). This increase not only impacted plant staff and security costs, but other site operating costs as well.

In January 2007, the NRC approved a final rule that enhanced its security regulations governing the design basis threat (DBT). This rule imposed security requirements similar to those previously imposed by the Commission's April 29, 2003, DBT Orders. However, the new rule also modified and enhanced the DBT based on experience and insights gained by the Commission during implementation of the Orders, and extensive consideration of the factors specified in the Energy Policy Act of 2005.

Consequently, based upon the industry's response to the NRC's rulemaking, the security cost model for decommissioning was adjusted to increase the size of the security force (Table 4). The cost impact due to the adjustment was compounded by the lengthening of the spent fuel storage period and the increased cost of the security force in the 2010 estimate.

2. Spent Fuel Management (ISFSI Related)

For purposes of generating a comprehensive post-shutdown cost, the cost to manage the spent fuel generated over the operating life of St. Lucie was included within the decommissioning estimate (a NRC requirement) until such time that the DOE can complete the transfer of the assemblies off-site. The current (2010) analysis assumes that the DOE will begin the process of removing spent fuel from the St. Lucie site in 2032 (based upon a 2030 industry-wide start date). This is 15 years later than the 2015 date assumed in 2004. The delay is due several factors including DOE's delay in submitting a license application to the NRC for construction of a permanent repository and more recent efforts by the current administration to eliminate funding for the project.

As a result of the delay, the physical infrastructure for on-site storage of spent fuel has been expanded to permit continued operations. It is expected that the current storage facilities will need to be expanded/augmented to permit decommissioning operations to proceed. The impact of the delay can be seen in the variables listed in Table 5; less fuel shipped directly to the

DOE, more fuel placed designated for on-site storage, and a prolonged period of storage before the transfer process is completed. As indicated by the line "maximum number of HSMs on ISFSI," the size of the on-site fuel storage facility required to support decommissioning is more than double that envisioned in 2004.

3. Low-Level Radioactive Waste Disposal

Consistent with the 2004 cost estimating model regarding waste disposal, the current cost model assumes that the low-level radioactive waste requiring controlled disposal is sent to EnergySolutions' facility in Clive, Utah.

While the previous estimate was based upon negotiated rates, the current estimate reflects the lower rates afforded by the "Life of Plant Disposal Agreement" entered into by FPL with EnergySolutions. With the volume of containerized waste and bulk debris from the decontamination and dismantling of the plant systems and structures, classified as "Class A" material (in accordance with 10 CFR §61.55), relatively unchanged between the estimates, the cost to dispose of plant systems and structures decreased in the 2010 estimate. This savings was off-set by an additional volume of contaminated soil from the east settling pond, remediation of the storm drain system and disposition of the contaminated discharge canal dredge spoils pile. The volume added in the 2010 estimate is shown in Table 6.

The additional volume (approximately 2 million cubic feet) negated any savings from the lower rates and resulted in a $29.1 million dollar increase in the waste disposal cost category.

4. Removal

Contract labor is used to decontaminate, remove, and package the plant inventory, as well as to support the dismantling and demolition of the physical structures. The dismantling process is labor-intensive and the cost model assumes that a common laborer performs a majority of the required tasks, with support from the various skilled trades. Wage rates for the laborer and craftsman increased approximately 21% and 22% respectively over the six year period, as shown in Table 7. The rate increases is consistent with the overall increase in the "Removal" cost shown in Table 1.

5. Insurance and Regulatory Fees

Nuclear and property insurance is maintained throughout the active decommissioning phase. Current operating premiums are reduced

throughout the active decommissioning phase based upon the guidance and the limits for coverage defined in the NRC's proposed rulemaking "Financial Protection Requirements for Permanently Shutdown Nuclear Power Reactors." Therefore any change in the cost identified for insurance between the two estimates is due to a corresponding change in the starting premiums. As shown below, the starting (operating) premium for property insurance increased significantly, as compared to that for liability in the 2010 estimate.

NRC fees are associated with the Part 50 operating license(s) and for the oversight and regulatory review anticipated (based upon industry experience) for a decommissioning project. As shown below, the annual licensing cost has decreased over the past six years, but the hourly rate increased.

Emergency planning fees are included while spent fuel remains on site. FEMA fees are discontinued shortly after the cessation of operations and defueling. However, state fees are applied until such time that the fuel has been removed from the site. The state fees increased significantly in the 2010 estimate.

	2004	**2010**
Annual Cost (per unit)		
Nuclear Liability Insurance Premium	$496,559	$574,257
Nuclear Property Insurance Premium	$537,831	$2,017,811
NRC License Fee	$203,000	$122,000
Annual Cost (site)	**2004**	**2010**
Emergency Planning Fee (state and county)	$250,000	$816,808
Other	**2004**	**2010**
NRC Hourly Rate (e.g., for reviews, inspections)	$156	$257

6. Transportation

It was assumed in both the 2004 and 2010 cost models that the low-level radioactive waste requiring controlled disposal would be sent to EnergySolutions' burial facility in Clive, Utah. A portion of the increase in transportation costs is due to a combination of higher tariffs and fuel surcharges. However, the principal contributor to the increase (accounting for

approximately half of the total increase) is the additional cost associated with the transport of approximately 2 million cubic feet of contaminated soil for controlled disposal in the 2010 estimate.

7. Energy

Energy costs are included for critical plant systems, temporary power, offices and other facilities housing site personnel, security and other site services. The increase in energy costs in the 2010 estimate is a direct result of the purchase power rate increasing from $.043 per kilowatt hour in 2004 to $.117 per kilowatt hour in 2010.

8. Packaging

There are several factors contributing to increased packaging costs. Primary areas of increase were in the costs for the reactor vessel internals, specifically the GTCC material that is packaged in the same containers used for spent fuel (dry shielded canisters and horizontal storage modules). The number of GTCC canisters increased in the 2010 cost model due to the addition of highly-activated material currently stored in the spent fuel pools. Also contributing the higher 2010 cost was the packaging associated the disposal of 2 million cubic feet of contaminated soil.

9. Property Taxes

Property taxes continue to be included as a site operating cost during decommissioning. The 2004 estimate assumed that taxes would continue to be assessed on existing plant structures and equipment until they were physically removed. By comparison, the 2010 estimate assumes no significant value for the site structures and includes only a value on the land (protected area) during active decommissioning and only on ISFSI footprint thereafter.

Property taxes decreased $9.5 million in the 2010 estimate (Table 1), primarily due to the change in assumptions on how the tax would be assessed.

10. Off-Site Waste Processing

Off-site waste processing rates decreased slightly over the six year period. The savings was offset by additional material being designated for processing (recycling) in the 2010 estimate (from the steam generators, turbines and condensers) as shown in Table 6.

11. Site Characterization and License Termination Surveys

Survey costs increased commensurate with the increase in craft labor shown in Table 7.

12. Spent Fuel Pool Isolation

The isolation cost includes the engineering, facility modifications, and the capital improvements necessary to segregate the pool areas and reduce the protected boundary, so that decommissioning operations can proceed expeditiously. The 2010 value for this cost element represents an annual increase of 3% over the six year period, consistent with increase in the cost of engineering (personnel salaries) and craft labor.

13. Decontamination

An increase in labor-related costs (approximately 18%), mitigated by a smaller increase (8%) in the costs of equipment and materials, resulted in an overall 13% increase associated with the decontamination activity.

The volume of the primary system components (reactor vessel, steam generators, reactor coolant pumps, etc.) is used to estimate the cost to decontaminate the system. Based on past experience, the volume of wetted surfaces was adjusted in the 2010 estimate to exclude filling the reactor vessel. As a result, the volume decreased from approximately 80,000 gallons in the 2004 model to 26,000 gallons in the 2010 model. This impacted (lowered) the cost of the chemicals used to decontaminate the primary loop as well as the processing costs (filters and resin).

14. Fixed Overhead

Overhead charges were updated from the 2004 estimate, resulting in a $1.26 million dollar increase. The annual site cost for St. Lucie increased from approximately $730 thousand in 2004 to $836 thousand in 2010. The increase was applied across the active decommissioning periods.

TABLE 1
COST COMPARISON
INTEGRATED DECON ALTERNATIVE

Cost Center	2004 ($1000s)	2010 ($1000s)	Delta ($1000s)	Percent Change	Annual Change
Decontamination	22,958	26,001	3,042	13.3	2.1
Removal [1]	161,758	197,501	35,743	22.1	3.4
Packaging	22,679	41,172	18,493	81.5	10.4
Transportation	21,716	43,036	21,320	98.2	12.1
Radioactive Waste Disposal	126,035	155,092	29,057	23.1	3.5
Off-site Waste Processing	36,809	41,466	4,656	12.6	2.0
Program Management [2]	451,229	603,923	152,694	33.8	5.0
Spent Fuel Pool Isolation	16,020	19,129	3,109	19.4	3.0
Spent Fuel Management [3]	77,479	215,599	138,120	178.3	18.6
Insurance and Regulatory Fees, INPO and NEI fees, and Florida LLRW Inspection Fee	28,364	46,056	17,692	62.4	8.4
Energy	13,289	34,447	21,157	159.2	17.2
Characterization/Surveys	19,878	24,248	4,371	22.0	3.4
Property Taxes	30,696	21,167	(9,529)	-31.0	-6.0
Fixed Overhead	8,661	9,918	1,257	14.5	2.3
Total [4]	1,037,572	1,478,754	441,182	42.5	6.1

Cost Center	2004 ($1000s)	2010 ($1000s)	Delta ($1000s)	Percent Change	Annual Change
License Termination	782,948	1,052,235	269,287	34.4	5.1
Spent Fuel Management [5]	168,122	331,105	162,983	96.9	12.0
Site Restoration	86,502	95,414	8,912	10.3	1.6
Total [4]	1,037,572	1,478,754	441,182	42.5	6.1

[1] Includes Miscellaneous Equipment costs
[2] Includes engineering costs
[3] Excludes program management costs (staffing) but includes costs for dry shielded storage canisters and horizontal storage modules, spent fuel loading/transfer/spent fuel pool O&M and EP fees
[4] Columns may not add due to rounding
[5] Includes period-dependent costs such as Program Management costs

TABLE 2
DECOMMISSIONING STAFFING COMPARISON

		2004 Peak Staffing (persons)	2004 Peak Cost/Month ($1000s)	2010 Peak Staffing (persons)	2010 Peak Cost/Month ($1000s)
Unit 1					
Period 1 – Safe-Storage	FPL	210	2,009	203	2,301
	DOC	0	0	0	0
Period 2 – Dormancy	FPL	40	367	40	475
	DOC	0	0	0	0
Period 3 – Preparations	FPL	120	1,152	96	1,062
	DOC	45	484	41	531
Period 4 – Decommissioning	FPL	134	1,296	123	1,409
	DOC	76	849	69	917
Period 5 – Site Restore	FPL	14	147	13	167
	DOC	24	265	27	372
Unit 2					
Period 1 – Preparations	FPL	211	2,021	204	2,314
	DOC	61	709	61	829
Period 2 – Decommissioning	FPL	149	1,454	141	1,634
	DOC	76	849	76	1,034
Period 3 – Site Restore	FPL	32	383	17	212
	DOC	40	470	27	372

TABLE 3
PROJECT SCHEDULE COMPARISON

	2004 (months)	2010 (months)
Unit 1		
Period 1 – Safe-Storage	18	18
Period 2 – Dormancy	83	80
Period 3 – Preparations	18	18
Period 4 – Decommissioning Operations	48	51
Period 5 – Site Restoration	22	22
ISFSI Operations	109	265
ISFSI Decommissioning and Demolition	6	6
TOTAL	304	460
Unit 2		
Period 1 – Preparations	18	18
Period 2 – Decommissioning Operations	48	63
Period 3 – Site Restoration	22	22
ISFSI Operations	109	265
ISFSI Decommissioning and Demolition	6	6
TOTAL	203	375

TABLE 4
SECURITY FORCE COMPARISON

	2004	2010
	Peak Guard Force	
	(no. of full-time equivalents)	
Unit 1 [1]		
Period 1 – Safe-Storage	13.0	22.4
Period 2 – Dormancy	11.8	5.3
Period 3 – Preparations	7.8	3.0
Period 4 – Decommissioning Operations	30.0	17.8
Period 5 – Site Restoration	3.8	16.9
ISFSI Operations [2]	5.3	13.5
ISFSI Decommissioning and Demolition	2.6	3.6
Unit 2		
Period 1 – Preparations	28.3	75.5
Period 2 – Decommissioning Operations	35.3	63.3
Period 3 – Site Restoration	15.5	16.9
ISFSI Operations [2]	5.3	13.5
ISFSI Decommissioning and Demolition	2.6	3.6

Notes:

1. Unit 1 is assigned a supplemental guard force until such time that Unit 2 ceases operations (i.e., Unit 2 is responsible for site security during active plant operations)
2. The guard force is allocated equally between the units during the ISFSI Operations period (post-decommissioning)

TABLE 5
SPENT FUEL VARIABLES

	2004	2010
DOE Start Date (year)	2015	2030
DSC's or TADs Required to Empty Spent Fuel Pools		
DOE Direct (TADs)	70	51
ISFSI (DSCs)	30	47
Maximum Number of HSMs on ISFSI	52	132
Final Year of DOE Pickup	2060	2073
ISFSI Operating Period (post-Unit 2 shutdown) (years)	17	30
GTCC Canisters	6	8*

* Includes additional modified DSCs for spent fuel pool inventory of GTCC material

TABLE 6
DECOMMISSIONING WASTE SUMMARY

				2004	2010
Waste Class	Waste Form	Cost Basis	Class [1]	Waste Volume (cubic feet)	Waste Volume (cubic feet)
Low-Level Radioactive Waste (at near-surface disposal facility)	Containerized and Bulk Debris	EnergySolutions	A	236,278	232,794
		Barnwell	B	17,264	1,984
		Barnwell	C	804	804
	Contaminated Soil	EnergySolutions [2]	A	n/a	1,969,897
	Storm Drain Remediation	EnergySolutions	A	n/a	82,693
Greater than Class C (geologic repository)	Modified DSCs	Spent Fuel Equivalent	GTCC	1,121	1,502 [3]
Total Disposal Volume				255,466	2,289,673
Processed/Conditioned (at off-site recycling center)		Recycling Vendors	A	263,274	326,396

Notes:

1. Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55
2. Disposal cost discounted based upon industry experience for the large soil volume and low contamination level
3. Includes legacy (highly activated) waste from spent fuel pool in addition to the highly-activated reactor vessel components

TABLE 7
WAGES and PERSON-HOUR COMPARISON

Labor Costs				
	Labor	**2004**	**2010**	**Change**
	Category	**($/hour)**	**($/hour)**	**(%)**
	Laborers	25.90	31.23	21%
	Craft	40.76	49.78	22%
	Foreman	41.74	54.02	29%
		2004	**2010**	**Change**
Person-Hours		**(hours)**	**(hours)**	**(%)**
	Laborer/Craft	2,162,312	2,123,154	-2%

CONCLUSION

The total cost to decommission the St. Lucie units increased 43% over the six year period between estimates. The value is not indicative of the majority of the cost drivers, but skewed with the large increase in spent fuel management costs. (The spent fuel management increase is a direct result of the DOE's non-performance rather than changes in the cost estimating methodology.)

As shown in Table 1, license termination costs (or the cost associated with "decommissioning" as defined by the NRC in its financial assurance regulations) increased 34% over the six year period (for an average annual increase of 5.1%). As discussed in the previous narrative, cost drivers for the increase included a larger waste volume designated for controlled disposal in the 2010 cost model (2 million cubic feet of contaminated soil and additional highly-activated material requiring geologic isolation comparable to the spent fuel), additional security and higher site operating costs (e.g., energy, insurance, and emergency planning fees).

The spent fuel management category contains costs associated with the interim storage of fuel at the St. Lucie site until such time that the DOE is able to take possession. The costs estimated for this activity increased 97% from 2004 and 2010. While increases were realized in hardware and labor costs (for onsite storage and transfer of the fuel assemblies), the underlying reason for the increase was DOE's non-performance in meeting its contractual commitments. As a result, the assumed start date for fuel acceptance (for commercial generators) was delayed an additional 15 years for the 2010 estimate (from 2015 to 2030).[3] The outcome was a 13 year longer period of ISFSI operations and significantly more fuel in storage at the St. Lucie site. An additional $163 million was added to the 2010 estimate as a result.

If the 2010 spent fuel management costs are reduced by the $231.5 million in estimated DOE reimbursements (identified in Tables 3.7 and 3.8 of the 2010 cost study), the 2010 result would be a 40.7% decrease from the spent fuel management costs reported in 2004 (from approximately $168.1 million in 2004 to $99.6 million in 2010).

Site restoration (used to capture costs associated with the dismantling and demolition of buildings and facilities demonstrated to be free from contamination) showed only a modest increase (10%) over the six years. This was primarily a result of streamlining the organizations (plant and contractor) managing the site activities.

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[3] FPL's position is that the DOE has a contractual obligation to accept St. Lucie's fuel far earlier than the projections used as an estimating basis. No assumption used in the decommissioning study should be interpreted to be inconsistent with this claim.

FLORIDA POWER & LIGHT COMPANY

2010 DECOMMISSIONING STUDY

TURKEY POINT NUCLEAR UNIT
NOS. 3 & 4

December 2010

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Florida Power & Light Company
2010 Decommissioning Study
Turkey Point Nuclear Units

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SECTION 1

EXECUTIVE SUMMARY

Overview

FPL's 2010 Nuclear Decommissioning Study results are based on estimates and assumptions that follow Nuclear Regulatory Commission (NRC) requirements and industry guidelines for the development of the costs to remove and dismantle nuclear power plants decades into the future. Funds are maintained and interest reinvested in the decommissioning trusts as required by the NRC, Internal Revenue Service, Federal Energy Regulatory Commission and Florida Public Service Commission (FPSC). Under federal law, these funds may only be used for nuclear decommissioning, are not available for any other use and do not earn a return or profit for FPL. The study is essentially a snapshot, which shows that based on current assumptions FPL's nuclear decommissioning trust funds are appropriately funded and demonstrate that, despite downturns in the market, these funds are helping protect customers from potential future cost increases. Compared to 2005, the currently calculated funding position has improved primarily because of a decrease in the assumed escalation rate for future decommissioning costs, in addition to a reduction in the estimated nominal cost of decommissioning resulting from a settlement with the Department of Energy (DOE). FPL customers have not contributed to the decommissioning trusts since 2005, and the study confirms that, as of Dec. 31, 2010, the trusts continue to be adequately funded without FPL customer contributions.

Decommissioning studies represent the aggregation of numerous estimates for activities and costs that will not be incurred for at least 22 years. As such, they are highly dependent upon input assumptions that can and will change over time, such that future funding positions could differ substantially from today's position. Historical costs and investment returns over the last five years have actually had a negative impact on the funding position, but adjustments to assumptions regarding events that will occur far in the future drive the net improvement. The current assumed escalation rate is 1.6 percent lower than in the 2005 study, and the impact of this change is substantially greater than the entire difference in funding positions between 2005 and 2010, reaffirming the importance of maintaining adequate funding. For this reason, the FPSC and FPL should continue to review these studies on the scheduled basis to ensure that adequate funds are available to decommission FPL's nuclear plants at the appropriate time.

2010 Study Approach

The information contained in this 2010 Decommissioning Study is presented in compliance with Rule 25-6.04365, Florida Administrative Code, and prior Commission Orders. FPL contracted TLG Services, Inc. (TLG), the leading provider of these services to the U.S. nuclear industry, to prepare its 2010 site-specific nuclear decommissioning cost analysis and comparison reports, which are estimated based on NRC requirements, industry guidelines, and prior experience. TLG includes the most up to date actual decommissioning information available to ensure the methodology used to prepare the cost analysis is reasonable.

FPL selected a DECON (immediate dismantlement) decommissioning option for its units. The DECON method provides not only a lower cost, but also enables a coordinated sequence of decommissioning events, which allows for a one-time mobilization of contractor personnel and equipment. FPL's choice of the DECON method is consistent with the method in prior studies approved by the Commission for purposes of determining FPL's appropriate accrual and funding requirements.

Escalation Rate

The 2010 Decommissioning Study assumes that future decommissioning costs grow at an average rate of approximately 3.0 percent per year. In contrast, the 2005 study assumed an average escalation rate of 4.6 percent. FPL notes that the current escalation rates are below any typical range due to the current macro economic market conditions that have reduced escalation factors to near all time lows. While FPL believes that the current escalation rates are reasonable for the purpose of the 2010 Decommissioning Study, it should be noted that subsequent changes in the assumed escalation rate are likely to be increases, which would result in higher projected future decommissioning costs.

Spent Fuel Management

Consistent with prior studies and assumptions approved by the Commission, the decommissioning cost estimates include the cost associated with interim storage of spent nuclear fuel (SNF) on site until such time the DOE is able to remove SNF from the site. Subsequent to the 2005 study, in 2009, FPL executed a Settlement Agreement with the U.S. Government that resolved FPL's lawsuit for damages resulting from a DOE delay in commencement of disposal of SNF. The Settlement Agreement requires the Government to make payments to FPL to cover the cost incurred for managing and storing SNF that would not have been incurred but for DOE's delay in SNF disposal. As such and for purposes of this study, the DOE is expected to make payments to FPL to cover spent fuel management costs incurred by FPL prior to 2062, which is the date FPL currently projects that the DOE will meet its obligation to begin disposal of SNF. For purposes of the funding and accrual analysis contained in this study, the 2010 decommissioning costs have been reduced significantly to reflect the reimbursement by the Government of SNF management costs incurred during the decommissioning period. This is the first time expected Government reimbursements have been factored in to FPL's funding analyses and nuclear decommissioning studies. The ultimate timing and amount of reimbursements will depend on many factors, including but not limited to, the DOE's ability to receive SNF and the Government's compliance with the terms of the Settlement Agreement. Some state jurisdictions do not allow utilities to include SNF settlements in their decommissioning funding analyses due to the concern that reimbursements may not be guaranteed and may bias the result. FPL believes that the recognition of the SNF reimbursements should be included based on the fact that the Settlement Agreement is a binding legal agreement on the Government and FPL has successfully received SNF reimbursements pursuant to the Settlement Agreement.

Fund Earnings Rate

Since 2005, FPL customers have not made contributions to the nuclear decommissioning trusts, but an adequate funding level has been maintained, as indicated in the estimates included in the 2010 study. This is despite investment returns totaling $133 million less than estimated in the 2005 study. FPL's current investment strategy for its nuclear decommissioning funds is largely consistent with its 2005 study. The economy remains weak; therefore, future investment results are uncertain.

Changes from 2005 to 2010

The changes in actual cost and actual returns since 2005 have reduced the funded status of FPL's four nuclear units by more than $195 million as of Dec. 31, 2010. These reductions have been offset primarily by reductions in assumed escalation factors for future decommissioning costs and, to a lesser extent, government reimbursements pursuant to the SNF settlement. As discussed above, the funding status is highly dependent upon the assumed escalation rates, which are currently assumed to be at near all-time lows and could increase significantly in the future.

Sensitivities

FPL believes the assumptions used in the 2010 funding analyses are based on the best information available at the time the study was prepared, and represents a reasonable outcome. However, due to the number of assumptions that must be made and the length of time before decommissioning will actually begin, it is important to understand a range of results can be produced using other assumptions. The following are examples of sensitivities that provide a high degree of uncertainty:

- Timing and amount of future DOE reimbursement under the SNF settlement (represents approximately 88 percent of the change in the funded position)
- Lower than anticipated fund earnings as a result of future market downturns
- Increase in the escalation of burial costs
- Increase in cost of nuclear decommissioning activities

Conclusion

The 2010 Decommissioning Study indicates that the trusts are currently at an adequate funding level given current assumptions and projections. These trusts are necessary so FPL's customers are adequately protected from further cost increases when the time comes to decommission FPL's nuclear plant. FPL has earned its customers trust by using careful, prudent investment strategies in all facets of its business including the management of its nuclear decommissioning trusts. Despite recent volatile markets, the funds remain secure. As a result, FPL's current annual expense accrual requirements for decommissioning costs presented in this study support a zero accrual and funding requirement as of Dec. 31, 2010.

In addition, as required by the Commission in Order Nos. FPSC-02-0055-PAA-EI and FPSC-10-0153-FOF-EI, FPL has updated its estimates for End of Life Nuclear Fuel Last Core and End of Life Materials and Supplies Inventory balances. This information is provided for informational purposes with this study. FPL is not requesting a change in accruals at this time. Rather, FPL believes that the results of these updated values for End of Life Nuclear Fuel Last Core and End of Life Materials and Supplies should be addressed in FPL's next base rate proceeding and that the appropriate changes in accruals, if any, should be made at that time.

SECTION 2

ASSUMPTIONS

Florida Power & Light Company
2010 Decommissioning Study
Turkey Point Nuclear Units
Assumptions

Assumptions Summary

Following is a summary of the assumptions used to derive the annual accrual, and funding and revenue requirements. These assumptions are more fully developed on the following pages.

	Unit No. 3	Unit No. 4
Decommissioning Method	DECON (Prompt Removal/ Dismantling)	DECON (Prompt Removal/ Dismantling)
Total Decommissioning Cost Per TLG Services, Inc. (current cost estimate in 2010 $)	$653,704,000	$732,513,000
FPL's Cost of Decommissioning (Jurisdictional) In 2010 $	$645,978,526	$723,856,161
Method of Funding (2010 – End)	Qualified/ Nonqualified	Qualified/ Nonqualified
Funding Periods (Years till License Expiration)	21.50	22.25
Assumed Fund Earnings rate	3.9%	3.9%
Average Escalation Rate for Decommissioning Costs (2010 – End)	2.95%	2.95%
FPL Ownership Allocation (%)	100%	100%
FPSC Jurisdictional Separation Factor (%)	98.8182%	98.8182%
Estimated Fund Balance - Qualified (12/31/10)	$339,626,000	$389,183,000

	Unit No. 3	Unit No. 4
Estimated fund Balance - Nonqualified (12/31/10)	$151,912,000	$162,754,000
End of Life M & S Inventory Value	N/A	$31,353,707
End of Life Nuclear Fuel Last Core Values	$78,900,000	$78,700,000
Year of Last Pick Up of Spent Fuel	2072	2072
Expected DOE Reimbursement (current cost estimate in 2010 $)	$114,838,000	$150,595,000

Decommissioning Methods

For purposes of this analysis, decommissioning is defined as the activity whereby nuclear facilities are removed safely from service and residual radioactivity is reduced to a level that permits release of the property for unrestricted use and termination of the operating license granted under Title 10 CFR Part 50. Decommissioning also includes the dismantlement, disposal and site restoration activities associated with the non-contaminated portion of the facilities. These activities are not required for termination of the operating license, but are required to address other non-radiological requirements associated with the release of the site.

The Nuclear Regulatory Commission (NRC) has defined three acceptable decommissioning methods: Prompt Removal/Dismantling (DECON); Safe Storage/Deferred Decontamination (SAFSTOR); and Entombment (ENTOMB). The study utilizes the NRC terminology, but also includes the additional activities required to accommodate the non-contaminated portion of the facilities.

The DECON and SAFSTOR alternatives were both examined and are presented in the (TLG) Decommissioning Cost Analysis section (Section 10) of this filing. The ENTOMB alternative was not considered, because it is considered impractical for a facility which generates significant amounts of long-lived radioactive material due to neutron activation. FPL selected the DECON decommissioning option for Turkey Point Units 3 and 4. The DECON method provides not only a lower cost, but also enables a sequence of events, which allows for a one-time mobilization of contractor personnel and equipment. This method is consistent with the method in prior studies approved by the Commission for purposes of determining the appropriate accrual and funding requirements.

Total Decommissioning Costs

Below are the total estimated costs of decommissioning the Turkey Point facility as provided by FPL's consultant, TLG Services, Inc. in 2010 dollars.

Turkey Point Unit No. 3		
Labor	$	359,799,000
Equip & Materials		107,863,000
Transportation		15,678,000
Burial		60,216,000
Other		110,148,000
Total		653,704,000
Turkey Point Unit No. 4		
Labor	$	403,829,000
Equip & Materials		140,449,000
Transportation		17,050,000
Burial		67,490,000
Other		103,695,000
Total		732,513,000

Funding Method

In Docket No. 810100-EU, Order No. 10987 issued July 13, 1982, the FPSC ordered FPL to establish a funded reserve. Beginning in 1983 FPL began making contributions, on a net of tax basis, to an externally funded reserve. In 1986, the Treasury Department issued temporary regulations under Internal Revenue Code Section 468A relating to the deductibility of contributions made to a qualified decommissioning fund. These regulations, which were finalized in March of 1988, provide for an annual election by the taxpayer to make tax-deductible contributions to a qualified nuclear decommissioning fund. Qualified nuclear decommissioning funds have been established by FPL for each of the four nuclear units. FPL elected to make contributions to the qualified funds, to the maximum allowed, for the years 1984 through 1987, 1992 through 2004 and for the year to date period ended August 31, 2005. Per the Stipulation and Settlement Agreement approved by the Commission in FPSC Order No. FPSC-05-0902-S-EI, FPL suspended accruals effective September 1, 2005, and as such, no additional contributions to the funds have been made subsequent to that date.

The funding analysis presented in Sections G of this study indicates that no additional contributions to the qualified and nonqualified funds are projected to be required through the remainder of the funding period that ends with the expiration of the unit's operating license. Only the after-tax earnings of the trust fund investments are assumed to continue to be reinvested and accumulated in the respective funds. Future decommissioning expenditures are assumed to be distributed from the qualified and nonqualified funds in proportion to the balance accumulated at the time of expenditure.

Funding Period

The funding period, to the extent funding is required, is that period over which revenues are collected from ratepayers for purposes of decommissioning the Turkey Point Units. Funding periods for both units end on the last day of the month preceding the month in which the operating license for the unit is due to expire. The operating license expiration dates for the Turkey Point units are as follows.

- Turkey Point Unit No. 3 - July 19, 2032
- Turkey Point Unit No. 4 - April 10, 2033

Based on the results of the funding analysis presented in Support Schedule G, no additional funding is required at this time.

Fund Earnings Rate

For purposes of this 2010 study update and funding analysis, the projected annual funds earnings rate, net of taxes and all other administrative costs charged to the trust funds, for Units 3 and 4 qualified and nonqualified fund investments, is assumed to be 3.9%. This assumption is based on a projected real long-term, after tax and net of fees, earnings rate of 1.9% plus an estimated long term average inflation rate of 2.0%. The long-term, after tax and net of fees earnings rate reflects the projection of continued adequacy of the funds and assumes a conservative investment strategy where the funds are moved to 100% fixed income prior to the first year of decommissioning and a more conservative all bonds & cash asset mix in the final years of decommissioning. FPL recognizes that over the long-term period there will likely be periods when the earned return may be greater or less than the assumed 3.9%. Consistent with prior Commission practice and Rule 25-6.04365 (FAC) the assumptions presented in this 2010 study will be reviewed and updated as appropriate "at least once every five years".

The annual rates of change in CPI were taken from "The U. S. Economy, The 30 – Year Focus, Third – Quarter 2010", published by Global Insight.

Escalation Rate

The annual escalation rates used to estimate total future dismantlement costs from 2010 through the final year of decommissioning are as follows:

	Average Annual Escalation Rate
Turkey Point Unit No. 3	2.95%
Turkey Point Unit No. 4	2.95%

The above rates were derived by applying separate inflation indices to each of the major cost components of Labor, Materials and Equipment, Transportation, Burial, and Other.

Cost Component	Inflation Index
Labor	Compensation per Hour
Materials and Equip.	PPI - Intermediate Materials, Supplies, and Components
Shipping	GDP Deflator-Transportation
Burial	FPL Analysis & CPI
Other	GDP (Implicit)

For purposes of this 2010 study update, the inflation indices were obtained from The U.S. Economy, The 30 – Year Focus, Third – Quarter 2010", published by Global Insight except for the burial index.

The burial cost estimates are assumed to escalate at an average annual rate of 3%. This is a reduction from the 6.6% rate assumed in the 2005 study. Since the 2005 study was prepared, FPL has signed an agreement with Energy Solutions which provides for the long-term disposal of Class A waste generated during decommissioning. As such, burial

costs for disposal of Class A waste is estimated based on the Energy Solution agreement. Escalation of pricing under this agreement is tied to changes in the Consumer Price Index (CPI). In addition, the cost estimates for processed/conditioned (at off-site recycling center) disposal of Class A waste is assumed to be at a competitive rate comparable to the Energy Solutions pricing. Burial cost rates for Class B and Class C waste, not covered by the Energy Solutions Agreement, are less certain and based on rates equivalent to Barnwell published rates. The escalation rate applicable to Class B and C waste is assumed to be 6.6% which approximates the historical rate of change in published Barnwell rates. The resulting annual escalation rate of 3% applied to burial costs is a weighted rate based on Class A waste (approx. 68% of total burial costs) at the estimated long-term CPI rate of 2% and Class B and C waste (approx. 32% of total burial costs) estimated at 6.6%.

For a more detail calculation of the overall weighted average escalation rate and annual rate of change for each component please refer to Support Schedule G ("Inflation and Funding Analysis").

FPSC Jurisdictional Factor

The factor applicable to both units is 98.8182%.

Fund Balances

Estimated/actual fund balances (qualified and nonqualified) at December 31, 2010[(a)] for each of the two Turkey Point Units are as Follows:

	$(000)	
	Qualified	Nonqualified
Unit No. 3	$339,626,000	$151,912,000
Unit No. 4	$389,183,000	$162,754,000

(a) Excluding unrealized market gains/losses.

See support Schedule C ("Projected Fund and Reserve Balances") for detail composition and adjustments to the qualified and nonqualified fund balances.

End of Life Materials and Supplies Inventory Values

The decommissioning cost estimates contained in the TLG Decommissioning Cost Analysis section of this study and in the funding analysis contained in Support Schedule G of this filing do not take into consideration the unrecovered value of any Materials and Supplies Inventories that will ultimately exist at the site following shut down of both units. Both FPL and this Commission have previously recognized that there will be a level of inventories that will remain at the end of life of Unit No. 4, the last unit to reach end of license, which must be recovered prior to the end of site operations. These inventories are unique and will have little value other than scrap value when the units are decommissioned. In Order No. FPSC-02-0055-PAA-EI, the Commission authorized FPL to begin recording the amortization of estimated end of life materials and supplies costs as a base rate fuel expense with a credit to a separate (unfunded) sub-account of Reserve Account 228. Additionally, the Commission directed the Company to address the costs associated with the materials and supplies in subsequent decommissioning studies so that the related annual accruals can be revised, if warranted. The annual expense/reserve accruals associated with End of Life Inventories are being accounted for, as directed by the Commission, in a separate (unfunded) sub-account of Reserve Account 228.

As provided in Support Schedule E of this study, the Materials and Supplies inventory balance, less estimated salvage, that is anticipated to remain at the end of life of Unit No. 4, the last unit to reach end of license, is projected to be $31,353,707. The actual balance accrued as of 12/31/10 is $10,483,288. FPL is not requesting a change in accruals at this time. Rather, FPL believes that the results of these updated values for End of Life Materials and Supplies should be addressed in FPL's next base rate proceeding and the appropriate changes in accruals, if any, be made at that time.

End of Life Last Core Nuclear Fuel Values

FPL recognizes that there will be unburned fuel that will remain in the fuel assemblies at the end of the last operating cycle of each nuclear unit when it ceases operation. In Docket No 981246-EI the Commission found that the cost associated with the Last Core were costs that should be considered a base rate future obligation and that amortization of this obligation over the remaining life span of each nuclear unit ratably allocates the costs to those customers receiving the benefit of the nuclear generation and avoids a burdensome expense at the time of unit shut down. In Order No. FPSC-002-0055-PAA-EI

the Commission authorized FPL to begin recording the amortization of estimated Last Core costs as a base rate fuel expense with a credit to a separate (unfunded) sub-account of Reserve Account 228. Additionally, the Commission directed the Company to address the costs associated with the Last Core in subsequent decommissioning studies so that the related annual accruals can be revised, if warranted. The annual expense/reserve accruals associated with End of Life Nuclear Fuel Last Core values are accounted for, as directed by the Commission, in a separate (unfunded) sub-account of Reserve Account 228.

As provided in Support Schedule F of this study, the estimated cost of unburned fuel remaining in the reactor at the end of life (end of license) for each unit is:

- Unit No. 3 $78,900,000
- Unit No. 4 $78,700,000

The actual balances accrued as of 12/31/10 are:

- Unit No. 3 $13,716,005
- Unit No. 4 $9,346,107

FPL is not requesting a change in accruals at this time. Rather, FPL believes that the results of these updated values for End of Life Nuclear Fuel Last Core should be addressed in FPL's next base rate proceeding and the appropriate changes in accruals, if any, be made at that time.

Spent Nuclear Fuel Storage

The Nuclear Waste Policy Act of 1982 assigns to the Federal Government responsibility to provide for the permanent disposal of spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and committed the DOE to begin acceptance of SNF/HLW not later than January 31, 1998 under terms of its Standard Disposal Contracts with waste generators. The DOE has not yet provided for SNF storage and is not accepting SNF as committed to under the contract.

In Docket No. 941350-EI, and No. 981246-EI, the FPSC recognized the impact on the decommissioning process and the potential costs of on-site dry fuel storage resulting from the inability of the DOE to provide for the timely removal of SNF. In Order Nos. PSC-95-1531-FOF-EI and PSC-02-0055-PAA-EI, the FPSC specifically approved the inclusion of

costs associated with the dry storage of spent nuclear fuel following the end of each units operating license which were considered necessary to accommodate the timely decommissioning of each unit.

Consistent with the Commission's prior findings, this updated 2010 decommissioning study includes the costs relating to the construction, operation, and dismantlement of an on-site independent spent fuel storage installation (ISFSI) that is required to accommodate the timely decommissioning of the Turkey Point units. The potential cost impact of extended spent fuel storage that will exist subsequent to the license expiration of the Turkey Point nuclear units is presented in (Section 10) the 2010 Decommissioning Cost Analysis for the Turkey Point Plant. The decommissioning cost estimates included in this filing are based on the TLG prepared Decommissioning Cost Analysis for the Turkey Point Plant, Units 3 and 4 dated December, 2010.

In addition, FPL and certain nuclear plant joint owners signed a settlement agreement (spent fuel settlement agreement) with the U.S. Government in 2009 agreeing to dismiss with prejudice lawsuits filed against the U.S. Government seeking damages caused by the DOE's failure to dispose of spent nuclear fuel from FPL's nuclear plants. As such, the DOE is expected to make payments to FPL to cover the costs incurred for managing and storing the spent fuel that it would not have incurred but for DOE's delay in performance.

Below are the Turkey Point estimated costs of Decommissioning expected to be recovered from the DOE as provided by FPL's consultant, TLG Services, Inc. in 2010 dollars.

Turkey Point Unit No. 3		
Labor	$	51,041,000
Equip & Materials		43,630,000
Other		20,167,000
Total		114,838,000
Turkey Point Unit No. 4		
Labor	$	60,071,000
Equip & Materials		70,718,000
Other		19,806,000
Total		150,595,000

Further discussion of the costs and assumptions regarding DOE reimbursement is contained in Section 3.8 of the Decommissioning Cost Analysis for the Turkey Point Plant, Units 3 and 4 dated December, 2010.

Annual Decommissioning Accrual Requirements

FPL's current annual expense accrual requirements for Turkey Point Nuclear Plant Decommissioning costs presented in this study support a zero accrual and funding requirement as of 12/31/10. The decommissioning costs estimates, funding analysis, and supporting assumptions presented in this study were prepared in a manner consistent with prior Commission approved studies, methodologies and practices.

SECTION 3

SUPPORT SCHEDULE A
Nuclear Decommissioning Reserve Balance
December 31, 2005 through November 30, 2010

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Reserve Balances (1)
December 31, 2005 through November 30, 2010
$000

December 31, 2005	Beginning Balance	Revenues Collected	Earnings to Reserve	Ending Balance
NONQUALIFIED				
Turkey Point Unit No. 3	$190,917	$5,712	$6,975	$203,603
Turkey Point Unit No. 4	205,022	5,606	7,493	218,121
St. Lucie Unit No. 1	173,329	3,795	6,339	183,463
St. Lucie Unit No. 2	86,018	1	3,155	89,173
TOTAL	$655,286	$15,114	$23,961	$694,360
QUALIFIED				
Turkey Point Unit No. 3	$260,624	$8,833	$8,082	$277,539
Turkey Point Unit No. 4	305,557	11,209	8,457	325,223
St. Lucie Unit No. 1	343,347	8,661	9,892	361,900
St. Lucie Unit No. 2	309,957	8,532	8,971	327,460
TOTAL	$1,219,485	$37,235	$35,402	$1,292,122
TOTAL RESERVES				
Turkey Point Unit No. 3	$451,541	$14,545	$15,056	$481,142
Turkey Point Unit No. 4	510,579	16,815	15,950	543,343
St. Lucie Unit No. 1	516,676	12,457	16,231	545,364
St. Lucie Unit No. 2	395,975	8,532	12,126	416,633
TOTAL	$1,874,771	$52,349	$59,363	$1,986,482
December 31, 2006				
NONQUALIFIED				
Turkey Point Unit No. 3	$203,603	$0	$7,525	$211,128
Turkey Point Unit No. 4	218,121	0	8,066	226,186
St. Lucie Unit No. 1	183,463	0	6,784	190,248
St. Lucie Unit No. 2	89,173	0	3,320	92,493
TOTAL	$694,360	$0	$25,694	$720,054
QUALIFIED				
Turkey Point Unit No. 3	$277,539	$0	$12,349	$289,888
Turkey Point Unit No. 4	325,223	0	6,959	332,182
St. Lucie Unit No. 1	361,900	0	13,690	375,590
St. Lucie Unit No. 2	327,460	0	16,196	343,655
TOTAL	$1,292,122	$0	$49,193	$1,341,315
TOTAL RESERVES				
Turkey Point Unit No. 3	$481,142	$0	$19,874	$501,016
Turkey Point Unit No. 4	543,343	0	15,024	558,368
St. Lucie Unit No. 1	545,364	0	20,474	565,838
St. Lucie Unit No. 2	416,633	0	19,515	436,148
TOTAL	$1,986,482	$0	$74,887	$2,061,369

(1) Balances exclude unrealized market gains/losses.

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Reserve Balances (1)
December 31, 2005 through November 30, 2010
$000

December 31, 2007	Beginning Balance	Revenues Collected	Earnings to Reserve	Ending Balance
NONQUALIFIED				
Turkey Point Unit No. 3	$211,128	$0	$8,183	$219,311
Turkey Point Unit No. 4	226,186	0	8,769	234,956
St. Lucie Unit No. 1	190,248	0	7,373	197,621
St. Lucie Unit No. 2	92,493	0	3,603	96,096
TOTAL	$720,055	$0	$27,928	$747,982
QUALIFIED				
Turkey Point Unit No. 3	$289,888	$0	$13,821	$303,709
Turkey Point Unit No. 4	332,182	0	15,864	348,046
St. Lucie Unit No. 1	375,590	0	17,911	393,501
St. Lucie Unit No. 2	343,655	0	16,361	360,016
TOTAL	$1,341,315	$0	$63,957	$1,405,272
TOTAL RESERVES				
Turkey Point Unit No. 3	$501,016	$0	$22,004	$523,019
Turkey Point Unit No. 4	558,368	0	24,634	583,002
St. Lucie Unit No. 1	565,838	0	25,284	591,122
St. Lucie Unit No. 2	436,148	0	19,964	456,112
TOTAL	$2,061,369	$0	$91,885	$2,153,255
December 31, 2008				
NONQUALIFIED				
Turkey Point Unit No. 3	$219,311	$0	$6,323	$225,634
Turkey Point Unit No. 4	234,956	0	6,776	241,732
St. Lucie Unit No. 1	197,621	0	5,697	203,318
St. Lucie Unit No. 2	96,096	0	2,784	98,879
TOTAL	$747,982	$0	$21,581	$769,563
QUALIFIED				
Turkey Point Unit No. 3	$303,709	$0	$10,785	$314,494
Turkey Point Unit No. 4	348,046	0	12,355	360,401
St. Lucie Unit No. 1	393,501	0	13,974	407,475
St. Lucie Unit No. 2	360,016	0	12,761	372,777
TOTAL	$1,405,272	$0	$49,875	$1,455,147
TOTAL RESERVES				
Turkey Point Unit No. 3	$523,019	$0	$17,108	$540,128
Turkey Point Unit No. 4	583,001	0	19,131	602,133
St. Lucie Unit No. 1	591,122	0	19,671	610,793
St. Lucie Unit No. 2	456,112	0	15,545	471,657
TOTAL	$2,153,255	$0	$71,455	$2,224,710

(1) Balances exclude unrealized market gains/losses.

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Reserve Balances (1)
December 31, 2005 through November 30, 2010
$000

December 31, 2009	Beginning Balance	Revenues Collected	Earnings to Reserve	Ending Balance
NONQUALIFIED				
Turkey Point Unit No. 3	$225,634	$0	$12,204	$237,838
Turkey Point Unit No. 4	241,732	0	13,079	254,811
St. Lucie Unit No. 1	203,318	0	10,996	214,314
St. Lucie Unit No. 2	98,879	0	5,373	104,253
TOTAL	$769,563	$0	$41,652	$811,215
QUALIFIED				
Turkey Point Unit No. 3	$314,494	$0	$12,036	$326,529
Turkey Point Unit No. 4	360,401	0	13,781	374,182
St. Lucie Unit No. 1	407,475	0	15,581	423,056
St. Lucie Unit No. 2	372,777	0	14,236	387,013
TOTAL	$1,455,147	$0	$55,634	$1,510,781
TOTAL RESERVES				
Turkey Point Unit No. 3	$540,128	$0	$24,240	$564,367
Turkey Point Unit No. 4	602,133	0	26,860	628,993
St. Lucie Unit No. 1	610,793	0	26,577	637,370
St. Lucie Unit No. 2	471,657	0	19,609	491,266
TOTAL	$2,224,710	$0	$97,286	$2,321,996
November 30, 2010				
NONQUALIFIED				
Turkey Point Unit No. 3	$237,838	$0	$8,685	$246,523
Turkey Point Unit No. 4	254,811	0	9,308	264,118
St. Lucie Unit No. 1	214,314	0	7,826	222,140
St. Lucie Unit No. 2	104,253	0	3,824	108,077
TOTAL	$811,215	$0	$29,643	$840,858
QUALIFIED				
Turkey Point Unit No. 3	$326,529	$0	$12,006	$338,535
Turkey Point Unit No. 4	374,182	0	13,751	387,933
St. Lucie Unit No. 1	423,056	0	15,547	438,604
St. Lucie Unit No. 2	387,013	0	14,203	401,217
TOTAL	$1,510,781	$0	$55,507	$1,566,289
TOTAL RESERVES				
Turkey Point Unit No. 3	$564,367	$0	$20,691	$585,057
Turkey Point Unit No. 4	628,993	0	23,059	652,051
St. Lucie Unit No. 1	637,370	0	23,373	660,743
St. Lucie Unit No. 2	491,266	0	18,027	509,294
TOTAL	$2,321,996	$0	$85,150	$2,407,146

(1) Balances exclude unrealized market gains/losses.

SECTION 4

SUPPORT SCHEDULE B
Nuclear Decommissioning Fund Balance
December 31, 2005 through November 30, 2010

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Fund Balances (1)
December 31, 2005 through November 30, 2010
$000

	Beginning Balance	Contribution	Fund Earnings	Ending Balance
December 31, 2005				
NONQUALIFIED				
Turkey Point Unit No. 3	$117,271	$3,509	$4,284	$125,063
Turkey Point Unit No. 4	125,935	3,443	4,603	133,981
St Lucie Unit No. 1	106,467	2,331	3,894	112,692
St Lucie Unit No. 2	52,837	0	1,938	54,775
Total	$402,509	$9,283	$14,719	$426,511
QUALIFIED				
Turkey Point Unit No. 3	$260,624	$8,833	$8,082	$277,539
Turkey Point Unit No. 4	305,557	11,209	8,457	325,223
St Lucie Unit No. 1	343,347	8,661	9,892	361,900
St Lucie Unit No. 2	309,957	8,532	8,971	327,460
Total	$1,219,485	$37,235	$35,402	$1,292,122
TOTAL				
Turkey Point Unit No. 3	$377,895	$12,342	$12,366	$402,602
Turkey Point Unit No. 4	431,491	14,652	13,060	459,203
St Lucie Unit No. 1	449,815	10,992	13,786	474,593
St Lucie Unit No. 2	362,793	8,532	10,909	382,234
Total	$1,621,994	$46,518	$50,121	$1,718,633
December 31, 2006				
NONQUALIFIED				
Turkey Point Unit No. 3	$125,063	$0	$4,622	$129,685
Turkey Point Unit No. 4	133,981	0	4,955	138,935
St Lucie Unit No. 1	112,692	0	4,167	116,860
St Lucie Unit No. 2	54,775	0	2,039	56,814
Total	$426,511	$0	$15,783	$442,293
QUALIFIED				
Turkey Point Unit No. 3	$277,539	$0	$12,349	$289,888
Turkey Point Unit No. 4	325,223	0	6,959	332,182
St Lucie Unit No. 1	361,900	0	13,690	375,590
St Lucie Unit No. 2	327,460	0	16,196	343,655
Total	$1,292,122	$0	$49,193	$1,341,315
TOTAL				
Turkey Point Unit No. 3	$402,602	$0	$16,971	$419,573
Turkey Point Unit No. 4	459,203	0	11,914	471,116
St Lucie Unit No. 1	474,593	0	17,857	492,450
St Lucie Unit No. 2	382,234	0	18,235	400,469
Total	$1,718,633	$0	$64,977	$1,783,608

(1) Balances exclude unrealized market gains/losses.

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Fund Balances (1)
December 31, 2005 through November 30, 2010
$000

	Beginning Balance	Contribution	Fund Earnings	Ending Balance
December 31, 2007				
NONQUALIFIED				
Turkey Point Unit No. 3	$129,685	$0	$5,026	$134,712
Turkey Point Unit No. 4	138,935	0	5,386	144,321
St Lucie Unit No. 1	116,860	0	4,529	121,389
St Lucie Unit No. 2	56,814	0	2,213	59,027
Total	$442,293	$0	$17,155	$459,448
QUALIFIED				
Turkey Point Unit No. 3	$289,888	$0	$13,821	$303,709
Turkey Point Unit No. 4	332,182	0	15,864	348,046
St Lucie Unit No. 1	375,590	0	17,911	393,501
St Lucie Unit No. 2	343,655	0	16,361	360,016
Total	$1,341,315	$0	$63,957	$1,405,272
TOTAL				
Turkey Point Unit No. 3	$419,573	$0	$18,847	$438,420
Turkey Point Unit No. 4	471,116	0	21,250	492,367
St Lucie Unit No. 1	492,450	0	22,440	514,890
St Lucie Unit No. 2	400,469	0	18,574	419,043
Total	$1,783,608	$0	$81,112	$1,864,721
December 31, 2008				
NONQUALIFIED				
Turkey Point Unit No. 3	$134,712	$0	$3,884	$138,596
Turkey Point Unit No. 4	144,321	0	4,162	148,484
St Lucie Unit No. 1	121,389	0	3,499	124,888
St Lucie Unit No. 2	59,027	0	1,710	60,737
Total	$459,448	$0	$13,256	$472,704
QUALIFIED				
Turkey Point Unit No. 3	$303,709	$0	$10,785	$314,494
Turkey Point Unit No. 4	348,046	0	12,355	360,401
St Lucie Unit No. 1	393,501	0	13,974	407,475
St Lucie Unit No. 2	360,016	0	12,761	372,777
Total	$1,405,272	$0	$49,875	$1,455,147
TOTAL				
Turkey Point Unit No. 3	$438,420	$0	$14,669	$453,089
Turkey Point Unit No. 4	492,367	0	16,517	508,885
St Lucie Unit No. 1	514,890	0	17,473	532,363
St Lucie Unit No. 2	419,043	0	14,471	433,514
Total	$1,864,721	$0	$63,131	$1,927,851

(1) Balances exclude unrealized market gains/losses.

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Nuclear Decommissioning Fund Balances (1)
December 31, 2005 through November 30, 2010
$000

	Beginning Balance	Contribution	Fund Earnings	Ending Balance
December 31, 2009				
NONQUALIFIED				
Turkey Point Unit No. 3	$138,596	$0	$7,496	$146,092
Turkey Point Unit No. 4	148,484	0	8,034	156,517
St Lucie Unit No. 1	124,888	0	6,754	131,642
St Lucie Unit No. 2	60,737	0	3,300	64,037
Total	$472,704	$0	$25,585	$498,289
QUALIFIED				
Turkey Point Unit No. 3	$314,494	$0	$12,036	$326,529
Turkey Point Unit No. 4	360,401	0	13,781	374,182
St Lucie Unit No. 1	407,475	0	15,581	423,056
St Lucie Unit No. 2	372,777	0	14,236	387,013
Total	$1,455,147	$0	$55,634	$1,510,781
TOTAL				
Turkey Point Unit No. 3	$453,089	$0	$19,532	$472,621
Turkey Point Unit No. 4	508,885	0	21,815	530,700
St Lucie Unit No. 1	532,363	0	22,335	554,699
St Lucie Unit No. 2	433,514	0	17,536	451,051
Total	$1,927,851	$0	$81,219	$2,009,070
November 30, 2010				
NONQUALIFIED				
Turkey Point Unit No. 3	$146,092	$0	$5,335	$151,427
Turkey Point Unit No. 4	156,517	0	5,717	162,235
St Lucie Unit No. 1	131,642	0	4,807	136,450
St Lucie Unit No. 2	64,037	0	2,349	66,386
Total	$498,289	$0	$18,208	$516,497
QUALIFIED				
Turkey Point Unit No. 3	$326,529	$0	$12,006	$338,535
Turkey Point Unit No. 4	374,182	0	13,751	387,933
St Lucie Unit No. 1	423,056	0	15,547	438,604
St Lucie Unit No. 2	387,013	0	14,203	401,217
Total	$1,510,781	$0	$55,507	$1,566,289
TOTAL				
Turkey Point Unit No. 3	$472,621	$0	$17,341	$489,962
Turkey Point Unit No. 4	530,700	0	19,468	550,168
St Lucie Unit No. 1	554,699	0	20,354	575,053
St Lucie Unit No. 2	451,051	0	16,552	467,603
Total	$2,009,070	$0	$73,715	$2,082,786

(1) Balances exclude unrealized market gains/losses.

SECTION 5

SUPPORT SCHEDULE C
Projected Fund and Reserve Balance
at December 31, 2010

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Projected Fund and Reserve Balance at December 31, 2010 [a]
$000

	TURKEY POINT UNIT 3	TURKEY POINT UNIT 4	ST. LUCIE UNIT 1	ST. LUCIE UNIT 2 (Note 1)	TOTALS
NON-QUALIFIED FUND					
Actual Fund Balance @11/30/10	$151,427	$162,235	$136,450	$66,386	$516,497
Add: Estimate Income Dec. 2010 (after-tax)	485	520	437	214	1,655
Est/Actual Fund Balance @ 12/31/10	$151,912	$162,754	$136,886	$66,599	$518,151
QUALIFIED FUND					
Actual Fund Balance @11/30/10	$338,535	$387,933	$438,604	$401,217	$1,566,289
Add: Estimate Income Dec. 2010 (after-tax)	1,091	1,250	1,413	1,291	5,045
Est/Actual Fund Balance @ 12/31/10	$339,626	$389,183	$440,017	$402,508	$1,571,334
TOTAL FUND					
Actual Fund Balance @11/30/10	$489,962	$550,168	$575,053	$467,603	$2,082,786
Add: Estimate Income Dec. 2010 (after-tax)	1,576	1,770	1,850	1,505	6,700
Est/Actual Fund Balance @ 12/31/10	$491,538	$551,937	$576,903	$469,107	$2,089,485
NON-QUALIFIED RESERVE					
Actual Reserve Balance@11/30/10	$246,523	$264,118	$222,140	$108,077	$840,858
Add: Estimate Income Dec. 2010	790	846	711	347	2,694
Est/Actual Reserve Balance@12/31/10	$247,313	$264,964	$222,851	$108,423	$843,551
QUALIFIED RESERVE					
Actual Reserve Balance@11/30/10	$338,535	$387,933	$438,604	$401,217	$1,566,289
Add: Estimate Income Dec. 2010	1,091	1,250	1,413	1,291	5,045
Est/Actual Reserve Balance@12/31/10	$339,626	$389,183	$440,017	$402,508	$1,571,334
TOTAL RESERVE					
Actual Reserve Balance@11/30/10	$585,057	$652,051	$660,743	$509,294	$2,407,146
Add: Estimate Income Dec. 2010	1,881	2,096	2,125	1,638	7,739
Est/Actual Reserve Balance@12/31/10	$586,938	$654,147	$662,868	$510,931	$2,414,885

(a) Balances exclude unrealized market gains/losses.

Note (1): Amounts for St Lucie Common are included with Unit No. 2

SECTION 6

SUPPORT SCHEDULE D
Reconciliation of Projected Fund and Reserve Balance
at December 31, 2010

Florida Power & Light Company
2010 Decommissioning Study
Support Schedule: Reconciliation of Projected Fund and Reserve Balance at December 31, 2010[(a)]
$000

RECONCILIATION FUND/RESERVE
Projected 12/31/10

	TURKEY POINT UNIT 3	TURKEY POINT UNIT 4	ST. LUCIE UNIT 1	ST. LUCIE UNIT 2 (Note 1)	TOTALS
NON-QUALIFIED					
Projected Fund Balance @12/31/10	$151,912	$162,754	$136,886	$66,599	$518,151
Deferred Tax @ 12/31/10	95,401	102,210	85,965	41,824	325,400
Projected Reserve Balance @ 12/31/10	$247,313	$264,964	$222,851	$108,423	$843,551
QUALIFIED					
Projected Fund Balance @12/31/10	$339,626	$389,183	$440,017	$402,508	$1,571,334
Deferred Tax @ 12/31/10	0	0	0	0	0
Projected Reserve Balance @ 12/31/10	$339,626	$389,183	$440,017	$402,508	$1,571,334
TOTAL					
Projected Fund Balance @12/31/10	$491,538	$551,938	$576,902	$469,107	$2,089,484
Deferred Tax @ 12/31/10	95,401	102,210	85,965	41,824	325,400
Projected Reserve Balance @ 12/31/10	$586,938	$654,147	$662,868	$510,931	$2,414,885

DEFERRED TAXES
Projected balance @ 12/31/10

NON-QUALIFIED FUND					
Balance @ 11/30/10 (Fed & State)	$95,096	$101,883	$85,691	$41,690	$324,360
Add: Tax on Earnings - December	305	326	274	134	1,038
Balance @ 12/31/10 (Fed & State)	$95,401	$102,210	$85,965	$41,824	$325,400

(a) Balances exclude unrealized market gains/losses.

Note (1): Amounts for St Lucie Common are included with Unit No. 2

SECTION 7

SUPPORT SCHEDULE E
End-of-Life Materials and Supplies Inventory
Expense Accrual Calculation

Florida Power and Light Company
2010 Decommissioning Study
Support Schedule: End-of-Life Materials and Supplies Inventory

Line Number		Turkey Point Unit 4
1	Adjusted Ending Inventory Value @ End of License	$ 31,993,579
2	Estimated Salvage	(639,872)
3	**Inventory Subject to Write-off**	**$ 31,353,707**
4		
5	**FPL's Ownership Share 100%**	**$ 31,353,707**
6		
7	Estimated/Actual Reserve Balance Accrued as of 12/31/10	10,483,288
8		
9	**Remaining Amount to be Recovered as of 12/31/10**	**$ 20,870,419**
10		
11		
12	Total Number of Months From:	
13	12/31/10 to End of License	267
14		

SECTION 8

SUPPORT SCHEDULE F
End-of-Life Unamortized Nuclear Fuel
Expense Accrual Calculation

Florida Power and Light Company
2010 Decommissioning Study
Support Schedule: End-of-Life Unamortized Nuclear Fuel

Line Number		Turkey Point Unit 3	Turkey Point Unit 4
1	**Estimated Cost of Unburned Fuel @ End of License**	$ 78,900,000	$ 78,700,000
2			
3			
4			
5	**FPL's Ownership Share (100%)**	**$ 78,900,000**	**$ 78,700,000**
6			
7	Estimated/Actual Reserve Balance Accrued as of 12/31/2010	13,716,005	9,346,107
8			
9	**Remaining Amount to be Recovered as of 12/31/2010**	**$ 65,183,995**	**$ 69,353,893**
10			
11			
12	Total Number of Months From:		
13	**12/31/2010 to End of License**	258	267
14			

SECTION 9

SUPPORT SCHEDULE G
Inflation and Funding Analysis

INFLATION FORECAST

The U.S. Economy
The 30 - Year Focus August 2010
GLOBAL INSIGHT

YEAR	GDP	HRLY COMP	PPI INT M&S	GDP Transport	Burial	CPI	CPI MULTIPLIER
2009	0.9%	1.9%	-8.4%	-5.5%	3.0%	-0.3%	1.000
2010	0.9%	1.3%	4.5%	3.7%	3.0%	1.6%	1.016
2011	1.2%	2.4%	-0.4%	4.2%	3.0%	1.3%	1.029
2012	1.4%	2.7%	2.4%	3.0%	3.0%	1.9%	1.048
2013	1.7%	3.0%	2.7%	3.3%	3.0%	2.0%	1.070
2014	1.9%	3.2%	2.5%	4.6%	3.0%	2.1%	1.092
2015	1.8%	3.3%	1.6%	4.1%	3.0%	2.1%	1.115
2016	1.8%	3.4%	1.3%	2.2%	3.0%	2.0%	1.137
2017	1.8%	3.5%	1.2%	2.5%	3.0%	2.0%	1.160
2018	1.9%	3.6%	1.1%	2.6%	3.0%	2.1%	1.184
2019	1.9%	3.6%	1.1%	2.8%	3.0%	2.0%	1.207
2020	1.9%	3.6%	1.0%	3.5%	3.0%	1.9%	1.231
2021	1.8%	3.6%	1.0%	3.6%	3.0%	1.9%	1.254
2022	1.7%	3.6%	0.8%	3.8%	3.0%	1.8%	1.276
2023	1.7%	3.6%	0.9%	3.8%	3.0%	1.8%	1.299
2024	1.7%	3.7%	0.9%	3.7%	3.0%	1.9%	1.324
2025	1.7%	3.7%	0.8%	3.8%	3.0%	1.9%	1.349
2026	1.7%	3.7%	0.8%	3.8%	3.0%	1.9%	1.375
2027	1.8%	3.8%	0.9%	3.9%	3.0%	2.0%	1.402
2028	1.8%	3.8%	1.1%	3.9%	3.0%	2.0%	1.430
2029	1.8%	3.7%	1.1%	3.8%	3.0%	2.0%	1.459
2030	1.8%	3.7%	1.1%	3.9%	3.0%	2.0%	1.488
2031	1.8%	3.6%	1.0%	4.0%	3.0%	1.9%	1.516
2032	1.8%	3.7%	1.0%	4.0%	3.0%	1.9%	1.544
2033	1.8%	3.6%	0.9%	3.8%	3.0%	1.9%	1.574
2034	1.8%	3.6%	0.9%	3.8%	3.0%	1.9%	1.603
2035	1.7%	3.6%	0.8%	3.9%	3.0%	1.9%	1.633
2036	1.8%	3.6%	0.8%	4.0%	3.0%	1.9%	1.664
2037	1.8%	3.6%	0.8%	4.0%	3.0%	2.0%	1.697
2038	1.9%	3.6%	0.9%	4.0%	3.0%	2.0%	1.731
2039	1.9%	3.6%	1.0%	3.9%	3.0%	2.1%	1.766
2040	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.803
2041	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.840
2042	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.877
2043	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.916
2044	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.955
2045	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	1.995
2046	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.036
2047	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.078
2048	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.121
2049	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.164
2050	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.209
2051	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.254
2052	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.300
2053	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.347
2054	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.395
2055	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.445
2056	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.495
2057	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.546
2058	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.598
2059	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.651
2060	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.706
2061	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.761
2062	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.818
2063	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.876
2064	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.935
2065	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	2.995
2066	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.056
2067	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.119
2068	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.183
2069	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.248
2070	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.315
2071	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.383
2072	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.452
2073	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.523
2074	1.9%	3.6%	0.9%	3.9%	3.0%	2.1%	3.595

2.0% = AVERAGE COMPOUND CPI INFLATION MULTIPLIER 2010-2073
2.0% = AVERAGE COMPOUND CPI INFLATION MULTIPLIER 2010-2074

GENERAL ASSUMPTIONS

JURISDICTIONAL FACTOR =	98.8182%	
FPL'S SHARE OF ST. LUCIE 2 COST (NET OF PARTICIPANTS)	85.15848%	
CORPORATE TAX RATE	38.575%	
	ANNUAL	MONTHLY
EARNINGS RATE QUALIFIED FUND	3.900%	0.319331%
EARNINGS RATE NON-QUALIFIED FUND	3.900%	0.319331%

	TP3	TP4	SL1	SL2
Adjusted QUALIFIED FUNDING % (at 12/31/10)	57.864%	59.495%	66.381%	78.779%
QUALIFYING %	66.670%	68.570%	77.140%	97.560%
FUND BALANCES ($000's)				
A. QUALIFIED FUND BALANCE 11/30/10	338,535	387,933	438,604	401,217
B. CONTRIBUTIONS - Dec 2010	-	-	-	-
C. EARNINGS - Dec 2010	1,091	1,250	1,413	1,291
D. QUALIFIED FUND BALANCE 12/31/10	339,626	389,183	440,017	402,508
E. JURISDICTIONAL FACTOR	98.8182%	98.8182%	98.8182%	98.8182%
F. JURIS. QUAL. FUND BAL. 12/31/10	335,613	384,584	434,817	397,751
A. NON-QUALIFIED FUND BALANCE 11/30/10	151,427	162,235	136,449	66,386
B. CONTRIBUTIONS - Dec 2010	-	-	-	-
C. EARNINGS - Dec 2010	485	520	437	214
D. NON-QUALIFIED FUND BALANCE 12/31/10	151,912	162,754	136,886	66,599
E. JURISDICTIONAL FACTOR	98.8182%	98.8182%	98.8182%	98.8182%
F. JURIS. NON-QUAL. FUND BAL. 12/31/10	150,117	160,831	135,269	65,812
Juris. Est/Actual Fund Balance	485,729	545,415	570,085	463,564
Juris. Est/Actual Reserve Balance	580,003	646,417	655,034	504,894
Adjusted/Actual Qualified split	0.5786	0.5949	0.6638	0.7878

Turkey Point Unit 3 DECON Cash Flows ($000, 2010 dollars)							Turkey Point Unit 3 DECON Cash Flows ($000, includes inflation)							Average Inflation Rate
Year	Labor	Equip & Mat	Trans	Burial	Other	Total	Year	Labor	Equip & Mat	Trans	Burial	Other	Total	
2032	$ 22,870	$ 1,451	$ 4	$ 13	$ 4,070	$ 28,408	2032	$ 48,522	$ 1,873	$ 9	$ 24	$ 5,954	$ 56,381	3.20%
2033	60,261	10,638	593	8,439	19,606	99,537	2033	132,491	13,851	1,333	16,655	29,192	193,521	2.90%
2034	57,044	21,286	8,395	27,396	8,230	122,350	2034	129,901	27,970	19,598	55,690	12,470	245,629	2.90%
2035	43,120	18,897	4,367	14,331	6,735	87,449	2035	101,702	25,033	10,593	30,005	10,383	177,718	2.90%
2036	32,879	16,984	883	3,645	6,620	61,010	2036	80,322	22,676	2,227	7,861	10,387	123,472	2.70%
2037	32,789	16,937	881	3,635	6,602	60,843	2037	82,991	22,796	2,309	8,074	10,545	126,716	2.80%
2038	12,725	3,574	513	2,700	5,184	24,697	2038	33,377	4,855	1,399	6,177	8,437	54,246	2.90%
2039	10,914	1,392	4	13	5,976	18,299	2039	29,659	1,909	11	31	9,912	41,524	2.90%
2040	12,522	5,021	1	3	2,400	19,946	2040	35,242	6,951	2	6	4,057	46,259	2.80%
2041	11,812	5,519	-	-	1,535	18,866	2041	34,429	7,711	-	-	2,644	44,784	2.80%
2042	2,390	379	-	-	1,020	3,789	2042	7,215	535	-	-	1,790	9,540	2.90%
2043	1,986	159	-	-	998	3,143	2043	6,209	226	-	-	1,785	8,220	3.00%
2044	1,992	159	-	-	1,001	3,152	2044	6,448	229	-	-	1,824	8,501	3.00%
2045	1,986	159	-	-	998	3,143	2045	6,660	230	-	-	1,853	8,743	3.00%
2046	1,986	159	-	-	998	3,143	2046	6,897	232	-	-	1,888	9,018	3.00%
2047	1,986	159	-	-	998	3,143	2047	7,143	234	-	-	1,924	9,302	3.00%
2048	1,992	159	-	-	1,001	3,152	2048	7,418	237	-	-	1,966	9,621	3.00%
2049	1,986	159	-	-	998	3,143	2049	7,661	239	-	-	1,998	9,898	3.00%
2050	1,986	159	-	-	998	3,143	2050	7,934	241	-	-	2,036	10,211	3.00%
2051	1,986	159	-	-	998	3,143	2051	8,217	243	-	-	2,075	10,535	3.00%
2052	1,992	159	-	-	1,001	3,152	2052	8,533	246	-	-	2,120	10,899	3.00%
2053	1,986	159	-	-	998	3,143	2053	8,813	248	-	-	2,154	11,215	3.00%
2054	1,986	159	-	-	998	3,143	2054	9,127	250	-	-	2,195	11,572	3.00%
2055	1,986	159	-	-	998	3,143	2055	9,453	252	-	-	2,237	11,942	3.00%
2056	1,992	159	-	-	1,001	3,152	2056	9,816	255	-	-	2,286	12,357	3.00%
2057	1,986	159	-	-	998	3,143	2057	10,139	257	-	-	2,323	12,718	3.00%
2058	1,986	159	-	-	998	3,143	2058	10,500	259	-	-	2,367	13,126	3.00%
2059	1,986	159	-	-	998	3,143	2059	10,874	261	-	-	2,412	13,547	3.00%
2060	1,992	159	-	-	1,001	3,152	2060	11,292	265	-	-	2,464	14,021	3.00%
2061	1,986	159	-	-	998	3,143	2061	11,663	266	-	-	2,504	14,433	3.00%
2062	1,986	159	-	-	998	3,143	2062	12,079	269	-	-	2,552	14,899	3.00%
2063	1,986	159	-	-	998	3,143	2063	12,509	271	-	-	2,600	15,380	3.00%
2064	1,992	159	-	-	1,001	3,152	2064	12,990	274	-	-	2,657	15,921	3.00%
2065	1,986	159	-	-	998	3,143	2065	13,417	276	-	-	2,700	16,392	3.00%
2066	1,986	159	-	-	998	3,143	2066	13,895	279	-	-	2,751	16,924	3.10%
2067	1,986	159	-	-	998	3,143	2067	14,390	281	-	-	2,803	17,474	3.10%
2068	1,992	159	-	-	1,001	3,152	2068	14,944	285	-	-	2,864	18,092	3.10%
2069	1,986	159	-	-	998	3,143	2069	15,434	286	-	-	2,911	18,631	3.10%
2070	1,986	159	-	-	998	3,143	2070	15,984	289	-	-	2,966	19,239	3.10%
2071	1,986	159	-	-	998	3,143	2071	16,554	292	-	-	3,022	19,867	3.10%
2072	1,988	484	0	0	12,206	14,679	2072	17,160	896	3	2	37,662	55,723	2.20%
2073	845	690	37	42	1,000	2,615	2073	7,557	1,290	390	272	3,145	12,653	2.50%
Total	$ 359,799	$ 107,863	$ 15,678	$ 60,216	$ 110,148	$ 653,704	Total	$ 1,047,564	$ 145,817	$ 37,874	$ 124,798	$ 214,813	$ 1,570,866	2.95%

NOTE: The 2010 cash flows are inflated to the year of expenditure based on the indices provided on Support Schedule G, page 1 of 8

Year	Turkey Point Unit 4 DECON Cash Flows ($000, 2010 dollars) Labor	Equip & Mat	Trans	Burial	Other	Total	Year	Turkey Point Unit 4 DECON Cash Flows ($000, includes inflation) Labor	Equip & Mat	Trans	Burial	Other	Total	Average Inflation Rate
2033	$ 26,581	$ 1,783	$ 6	$ 19	$ 6,305	$ 34,695	2033	$ 58,442	$ 2,322	$ 13	$ 37	$ 9,388	$ 70,202	3.10%
2034	43,091	9,277	1,248	11,295	16,665	81,576	2034	98,127	12,190	2,913	22,961	25,252	161,443	2.90%
2035	58,405	19,307	8,988	28,894	6,663	122,257	2035	137,753	25,576	21,803	60,498	10,273	255,903	3.00%
2036	56,581	28,001	3,977	13,973	6,489	109,020	2036	138,227	37,385	10,028	30,133	10,182	225,955	2.80%
2037	55,375	32,504	1,297	5,985	6,370	101,531	2037	140,158	43,747	3,402	13,295	10,175	210,777	2.70%
2038	50,009	26,198	1,184	5,607	6,352	89,350	2038	131,170	35,589	3,227	12,828	10,338	193,153	2.80%
2039	22,688	3,195	312	1,672	7,634	35,501	2039	61,658	4,383	884	3,941	12,662	83,527	3.00%
2040	14,294	6,607	1	3	2,489	23,394	2040	40,230	9,148	2	6	4,207	53,593	2.80%
2041	13,859	7,344	-	-	1,537	22,739	2041	40,396	10,260	-	-	2,646	53,302	2.80%
2042	2,474	454	-	-	1,020	3,948	2042	7,468	640	-	-	1,790	9,899	2.90%
2043	1,986	159	-	-	998	3,143	2043	6,209	226	-	-	1,785	8,220	3.00%
2044	1,992	159	-	-	1,001	3,152	2044	6,448	229	-	-	1,824	8,500	3.00%
2045	1,986	159	-	-	998	3,143	2045	6,660	230	-	-	1,853	8,743	3.00%
2046	1,986	159	-	-	998	3,143	2046	6,897	232	-	-	1,888	9,018	3.00%
2047	1,986	159	-	-	998	3,143	2047	7,143	234	-	-	1,924	9,301	3.00%
2048	1,992	159	-	-	1,001	3,152	2048	7,418	237	-	-	1,966	9,621	3.00%
2049	1,986	159	-	-	998	3,143	2049	7,661	238	-	-	1,998	9,898	3.00%
2050	1,986	159	-	-	998	3,143	2050	7,934	241	-	-	2,036	10,211	3.00%
2051	1,986	159	-	-	998	3,143	2051	8,217	243	-	-	2,075	10,534	3.00%
2052	1,992	159	-	-	1,001	3,152	2052	8,533	246	-	-	2,120	10,899	3.00%
2053	1,986	159	-	-	998	3,143	2053	8,813	247	-	-	2,154	11,215	3.00%
2054	1,986	159	-	-	998	3,143	2054	9,127	250	-	-	2,195	11,572	3.00%
2055	1,986	159	-	-	998	3,143	2055	9,452	252	-	-	2,237	11,941	3.00%
2056	1,992	159	-	-	1,001	3,152	2056	9,816	255	-	-	2,286	12,357	3.00%
2057	1,986	159	-	-	998	3,143	2057	10,138	256	-	-	2,323	12,717	3.00%
2058	1,986	159	-	-	998	3,143	2058	10,500	259	-	-	2,367	13,125	3.00%
2059	1,986	159	-	-	998	3,143	2059	10,874	261	-	-	2,412	13,546	3.00%
2060	1,992	159	-	-	1,001	3,152	2060	11,292	264	-	-	2,464	14,021	3.00%
2061	1,986	159	-	-	998	3,143	2061	11,663	266	-	-	2,504	14,433	3.00%
2062	1,986	159	-	-	998	3,143	2062	12,078	268	-	-	2,552	14,898	3.00%
2063	1,986	159	-	-	998	3,143	2063	12,509	271	-	-	2,600	15,380	3.00%
2064	1,992	159	-	-	1,001	3,152	2064	12,990	274	-	-	2,657	15,921	3.00%
2065	1,986	159	-	-	998	3,143	2065	13,416	276	-	-	2,700	16,392	3.00%
2066	1,986	159	-	-	998	3,143	2066	13,894	278	-	-	2,751	16,924	3.10%
2067	1,986	159	-	-	998	3,143	2067	14,390	281	-	-	2,803	17,474	3.10%
2068	1,992	159	-	-	1,001	3,152	2068	14,943	284	-	-	2,864	18,092	3.10%
2069	1,986	159	-	-	998	3,143	2069	15,434	286	-	-	2,911	18,630	3.10%
2070	1,986	159	-	-	998	3,143	2070	15,984	289	-	-	2,966	19,238	3.10%
2071	1,986	159	-	-	998	3,143	2071	16,553	291	-	-	3,022	19,867	3.10%
2072	1,988	484	0	0	12,206	14,679	2072	17,160	896	3	2	37,662	55,723	2.20%
2073	845	690	37	42	1,000	2,615	2073	7,557	1,290	390	272	3,145	12,653	2.50%
Total	$403,829	$ 140,449	$17,050	$67,490	$103,695	$732,513	Total	$ 1,185,333	$ 190,889	$42,664	$143,973	$205,956	$ 1,768,815	2.95%

NOTE: The 2010 cash flows are inflated to the year of expenditure based on the indices provided on Support Schedule G, page 1 of 8

Florida Power & Light Company
2010 Decommissioning Study
Turkey Point Nuclear Units
Support Schedule : Inflation and Funding Analysis

Turkey Point Unit 3 Expected DOE Recovery ($000, 2010 dollars)							Turkey Point Unit 3 Expected DOE Recovery ($000, includes inflation)						
Year	Labor	Equip & Mat	Trans	Burial	Other	Total	Year	Labor	Equip & Mat	Trans	Burial	Other	Total
2032	$ -	$ -	$ -	$ -	$ -	$ -	2032	$ -	$ -	$ -	$ -	$ -	$ -
2033	236	708	-	-	23	967	2033	519	922	-	-	35	1,476
2034	607	1,820	-	-	51	2,477	2034	1,381	2,391	-	-	77	3,850
2035	861	2,583	-	-	51	3,494	2035	2,030	3,421	-	-	79	5,530
2036	2,749	8,247	-	-	51	11,047	2036	6,716	11,011	-	-	80	17,807
2037	4,244	12,733	-	-	51	17,029	2037	10,743	17,138	-	-	82	27,963
2038	4,233	12,698	-	-	51	16,982	2038	11,102	17,251	-	-	83	28,436
2039	294	881	-	-	479	1,654	2039	798	1,209	-	-	795	2,802
2040	339	1,017	-	-	500	1,856	2040	954	1,408	-	-	845	3,207
2041	1,743	202	-	-	933	2,877	2041	5,080	282	-	-	1,606	6,968
2042	1,949	42	-	-	998	2,990	2042	5,884	59	-	-	1,752	7,695
2043	1,985	154	-	-	998	3,137	2043	6,205	219	-	-	1,785	8,209
2044	1,986	159	-	-	998	3,143	2044	6,431	228	-	-	1,819	8,478
2045	1,992	159	-	-	1,001	3,152	2045	6,678	231	-	-	1,858	8,767
2046	1,986	159	-	-	998	3,143	2046	6,897	232	-	-	1,888	9,018
2047	1,986	159	-	-	998	3,143	2047	7,143	234	-	-	1,924	9,302
2048	1,986	159	-	-	998	3,143	2048	7,398	237	-	-	1,961	9,595
2049	1,992	159	-	-	1,001	3,152	2049	7,682	239	-	-	2,004	9,925
2050	1,986	159	-	-	998	3,143	2050	7,934	241	-	-	2,036	10,211
2051	1,986	159	-	-	998	3,143	2051	8,217	243	-	-	2,075	10,535
2052	1,986	159	-	-	998	3,143	2052	8,510	245	-	-	2,114	10,869
2053	1,992	159	-	-	1,001	3,152	2053	8,837	248	-	-	2,160	11,246
2054	1,986	159	-	-	998	3,143	2054	9,127	250	-	-	2,195	11,572
2055	1,986	159	-	-	998	3,143	2055	9,453	252	-	-	2,237	11,942
2056	1,986	159	-	-	998	3,143	2056	9,790	254	-	-	2,279	12,323
2057	1,992	159	-	-	1,001	3,152	2057	10,166	257	-	-	2,329	12,753
2058	1,986	159	-	-	998	3,143	2058	10,500	259	-	-	2,367	13,126
2059	1,986	159	-	-	998	3,143	2059	10,874	261	-	-	2,412	13,547
2060	-	-	-	-	-	-	2060	-	-	-	-	-	-
2061	-	-	-	-	-	-	2061	-	-	-	-	-	-
2062	-	-	-	-	-	-	2062	-	-	-	-	-	-
2063	-	-	-	-	-	-	2063	-	-	-	-	-	-
2064	-	-	-	-	-	-	2064	-	-	-	-	-	-
2065	-	-	-	-	-	-	2065	-	-	-	-	-	-
2066	-	-	-	-	-	-	2066	-	-	-	-	-	-
2067	-	-	-	-	-	-	2067	-	-	-	-	-	-
2068	-	-	-	-	-	-	2068	-	-	-	-	-	-
2069	-	-	-	-	-	-	2069	-	-	-	-	-	-
2070	-	-	-	-	-	-	2070	-	-	-	-	-	-
2071	-	-	-	-	-	-	2071	-	-	-	-	-	-
2072	-	-	-	-	-	-	2072	-	-	-	-	-	-
2073	-	-	-	-	-	-	2073	-	-	-	-	-	-
Total	$ 51,041	$ 43,630	$ -	$ -	$ 20,167	$ 114,838	Total	$ 187,052	$ 59,225	$ -	$ -	$ 40,875	$ 287,152

NOTE: The 2010 cash flows are inflated to the year of expenditure based on the indices provided on Support Schedule G, page 1 of 8

Turkey Point Unit 4
Expected DOE Recovery
($000, 2010 dollars)

Year	Labor	Equip & Mat	Trans	Burial	Other	Total
2033	$ -	$ -	$ -	$ -	$ -	$ -
2034	206	619	-	-	37	862
2035	77	230	-	-	51	358
2036	-	-	-	-	51	51
2037	5,914	17,741	-	-	51	23,705
2038	9,031	27,093	-	-	51	36,176
2039	6,999	20,996	-	-	156	28,150
2040	365	1,095	-	-	500	1,960
2041	1,744	204	-	-	933	2,881
2042	1,950	45	-	-	998	2,993
2043	1,985	154	-	-	998	3,137
2044	1,986	159	-	-	998	3,143
2045	1,992	159	-	-	1,001	3,152
2046	1,986	159	-	-	998	3,143
2047	1,986	159	-	-	998	3,143
2048	1,986	159	-	-	998	3,143
2049	1,992	159	-	-	1,001	3,152
2050	1,986	159	-	-	998	3,143
2051	1,986	159	-	-	998	3,143
2052	1,986	159	-	-	998	3,143
2053	1,992	159	-	-	1,001	3,152
2054	1,986	159	-	-	998	3,143
2055	1,986	159	-	-	998	3,143
2056	1,986	159	-	-	998	3,143
2057	1,992	159	-	-	1,001	3,152
2058	1,986	159	-	-	998	3,143
2059	1,986	159	-	-	998	3,143
2060	-	-	-	-	-	-
2061	-	-	-	-	-	-
2062	-	-	-	-	-	-
2063	-	-	-	-	-	-
2064	-	-	-	-	-	-
2065	-	-	-	-	-	-
2066	-	-	-	-	-	-
2067	-	-	-	-	-	-
2068	-	-	-	-	-	-
2069	-	-	-	-	-	-
2070	-	-	-	-	-	-
2071	-	-	-	-	-	-
2072	-	-	-	-	-	-
2073	-	-	-	-	-	-
Total	$ 60,071	$ 70,718	$ -	$ -	$ 19,806	$ 150,595

Turkey Point Unit 4
Expected DOE Recovery
($000, includes inflation)

Year	Labor	Equip & Mat	Trans	Burial	Other	Total
2033	$ -	$ -	$ -	$ -	$ -	$ -
2034	469	813	-	-	56	1,339
2035	181	305	-	-	79	565
2036	-	-	-	-	80	80
2037	14,968	23,877	-	-	82	38,927
2038	23,688	36,806	-	-	83	60,577
2039	19,019	28,806	-	-	258	48,083
2040	1,027	1,516	-	-	845	3,388
2041	5,082	286	-	-	1,606	6,974
2042	5,887	63	-	-	1,752	7,702
2043	6,205	219	-	-	1,785	8,209
2044	6,431	228	-	-	1,819	8,477
2045	6,678	231	-	-	1,858	8,767
2046	6,897	232	-	-	1,888	9,018
2047	7,143	234	-	-	1,924	9,301
2048	7,397	236	-	-	1,961	9,595
2049	7,682	239	-	-	2,004	9,925
2050	7,934	241	-	-	2,036	10,211
2051	8,217	243	-	-	2,075	10,534
2052	8,510	245	-	-	2,114	10,869
2053	8,837	248	-	-	2,160	11,245
2054	9,127	250	-	-	2,195	11,572
2055	9,452	252	-	-	2,237	11,941
2056	9,789	254	-	-	2,279	12,323
2057	10,166	257	-	-	2,329	12,752
2058	10,500	259	-	-	2,367	13,125
2059	10,874	261	-	-	2,412	13,546
2060	-	-	-	-	-	-
2061	-	-	-	-	-	-
2062	-	-	-	-	-	-
2063	-	-	-	-	-	-
2064	-	-	-	-	-	-
2065	-	-	-	-	-	-
2066	-	-	-	-	-	-
2067	-	-	-	-	-	-
2068	-	-	-	-	-	-
2069	-	-	-	-	-	-
2070	-	-	-	-	-	-
2071	-	-	-	-	-	-
2072	-	-	-	-	-	-
2073	-	-	-	-	-	-
Total	$ 212,161	$ 96,600	$ -	$ -	$ 40,283	$ 349,045

NOTE: The 2010 cash flows are inflated to the year of expenditure based on the indices provided on Support Schedule G, page 1 of 8

Florida Power & Light Company
2010 Decommissioning Study
Turkey Point Nuclear Units
Support Schedule : Inflation and Funding Analysis

TURKEY POINT UNIT 3

	NOMINAL ANNUAL	NOMINAL MONTHLY
EARNINGS RATE QUALIFIED FUND	3.900%	0.319331%
EARNINGS RATE NON-QUALIFIED FUND	3.900%	0.319331%
CORPORATE TAX RATE	38.575%	
JURISDICTIONAL FACTOR	98.8182%	
Adjusted QUALIFIED % 57.864%		
LICENSE ENDS	7/19/32	
MONTHS TO FUND	258	

YEAR	SPENDING CURVE	ESTIMATED COST IN ($2010)	ESTIMATED COST IN NOMINAL $	EXPECTED DOE RECOVERY NOMINAL $	NET NOMINAL $	JURISDICTIONAL AMOUNT	QUALIFIED AMOUNT	NON-QUAL AMOUNT	TAX SAVINGS	PV @ 3.9% QUALIFIED AMOUNT	PV @ 3.9% NON-QUAL AMOUNT
2032	4.3457%	$ 28,407,679	$ 56,380,947	$ -	$ 56,380,947	$ 55,714,637	$ 32,238,709	$ 14,420,089	$ 9,055,839	$ 13,894,266	$ 6,214,782
2033	15.2266%	99,536,795	193,520,805	1,475,616	192,045,189	189,775,599	109,811,723	49,117,811	30,846,065	45,550,287	20,374,240
2034	18.7164%	122,349,621	245,628,691	3,849,906	241,778,784	238,921,443	138,249,467	61,837,761	38,834,215	55,193,803	24,687,699
2035	13.3775%	87,449,475	177,717,678	5,530,198	172,187,480	170,152,569	98,457,056	44,038,969	27,656,544	37,831,900	16,921,874
2036	9.3330%	61,009,899	123,471,845	17,807,224	105,664,621	104,415,876	60,419,186	27,024,967	16,971,723	22,344,500	9,994,497
2037	9.3075%	60,843,205	126,716,086	27,962,558	98,753,528	97,586,459	56,467,413	25,257,374	15,861,672	20,099,169	8,990,180
2038	3.7780%	24,696,767	54,246,375	28,436,069	25,810,307	25,505,281	14,758,372	6,601,289	4,145,620	5,055,954	2,261,483
2039	2.7993%	18,298,900	41,523,569	2,801,939	38,721,629	38,264,017	22,141,085	9,903,511	6,219,421	7,300,423	3,265,414
2040	3.0513%	19,948,269	46,258,502	3,206,656	43,051,846	42,543,059	24,617,109	11,011,015	6,914,935	7,812,151	3,494,306
2041	2.8861%	18,866,366	44,783,781	6,968,190	37,815,591	37,368,686	21,623,011	9,671,781	6,073,894	6,604,412	2,954,095
2042	0.5797%	3,789,423	9,539,631	7,695,214	1,844,417	1,822,620	1,054,640	471,731	296,248	310,032	138,675
2043	0.4808%	3,143,268	8,220,401	8,208,825	11,576	11,439	6,619	2,961	1,859	1,873	838
2044	0.4822%	3,151,880	8,500,882	8,477,655	23,226	22,952	13,281	5,940	3,731	3,617	1,818
2045	0.4808%	3,143,268	8,743,459	8,767,414	(23,955)	(23,672)	(13,697)	(6,127)	(3,848)	(3,590)	(1,606)
2046	0.4808%	3,143,268	9,018,105	9,018,105	-	-	-	-	-	-	-
2047	0.4808%	3,143,268	9,301,898	9,301,898	-	-	-	-	-	-	-
2048	0.4822%	3,151,880	9,621,440	9,595,152	26,288	25,977	15,032	6,723	4,222	3,512	1,571
2049	0.4808%	3,143,268	9,898,193	9,925,311	(27,118)	(26,798)	(15,506)	(6,936)	(4,356)	(3,487)	(1,560)
2050	0.4808%	3,143,268	10,211,356	10,211,356	-	-	-	-	-	-	-
2051	0.4808%	3,143,268	10,534,990	10,534,990	-	-	-	-	-	-	-
2052	0.4822%	3,151,880	10,899,237	10,869,457	29,779	29,427	17,028	7,616	4,783	3,414	1,527
2053	0.4808%	3,143,268	11,215,130	11,245,856	(30,726)	(30,363)	(17,569)	(7,859)	(4,935)	(3,391)	(1,517)
2054	0.4808%	3,143,268	11,572,394	11,572,394	-	-	-	-	-	-	-
2055	0.4808%	3,143,268	11,941,649	11,941,649	-	-	-	-	-	-	-
2056	0.4822%	3,151,880	12,357,073	12,323,311	33,762	33,363	19,305	8,635	5,423	3,322	1,486
2057	0.4808%	3,143,268	12,717,806	12,752,649	(34,843)	(34,432)	(19,923)	(8,912)	(5,596)	(3,299)	(1,476)
2058	0.4808%	3,143,268	13,125,579	13,125,579	-	-	-	-	-	-	-
2059	0.4808%	3,143,268	13,547,088	13,547,088	-	-	-	-	-	-	-
2060	0.4822%	3,151,880	14,021,118	-	14,021,118	13,855,416	8,017,296	3,586,065	2,252,055	1,183,724	529,469
2061	0.4808%	3,143,268	14,433,232	-	14,433,232	14,262,660	8,252,944	3,691,469	2,318,248	1,172,778	524,573
2062	0.4808%	3,143,268	14,898,868	-	14,898,868	14,722,793	8,519,195	3,810,560	2,393,038	1,165,172	521,171
2063	0.4808%	3,143,268	15,380,243	-	15,380,243	15,198,479	8,794,446	3,933,678	2,470,356	1,157,669	517,815
2064	0.4822%	3,151,880	15,921,403	-	15,921,403	15,733,244	9,103,882	4,072,086	2,557,276	1,153,419	515,914
2065	0.4808%	3,143,268	16,392,409	-	16,392,409	16,198,684	9,373,204	4,192,551	2,632,929	1,142,965	511,238
2066	0.4808%	3,143,268	16,924,350	-	16,924,350	16,724,338	9,677,368	4,328,601	2,718,369	1,135,760	508,015
2067	0.4808%	3,143,268	17,474,328	-	17,474,328	17,267,817	9,991,847	4,469,264	2,806,705	1,128,651	504,835
2068	0.4822%	3,151,880	18,092,403	-	18,092,403	17,878,587	10,345,263	4,627,344	2,905,980	1,124,708	503,072
2069	0.4808%	3,143,268	18,630,924	-	18,630,924	18,410,744	10,653,190	4,765,077	2,992,476	1,114,711	498,600
2070	0.4808%	3,143,268	19,238,861	-	19,238,861	19,011,496	11,000,809	4,920,564	3,090,122	1,107,878	495,544
2071	0.4808%	3,143,268	19,867,474	-	19,867,474	19,632,680	11,360,251	5,081,340	3,191,090	1,101,132	492,527
2072	2.2455%	14,679,101	55,723,454	-	55,723,454	55,064,915	31,862,754	14,251,927	8,950,234	2,972,483	1,329,565
2073	0.4000%	2,614,954	12,652,558	-	12,652,558	12,503,030	7,234,752	3,236,040	2,032,239	649,597	290,559
	100.0000%	$ 653,703,517	$ 1,570,866,216	$ 287,152,262	$ 1,283,713,954	$ 1,268,543,023	$ 734,029,538	$ 328,324,908	$ 206,188,577	$ 239,309,516	$ 107,041,026

	QUALIFIED	NON-QUAL	TOTAL
NPV @12/31/10	$ 239,309,516	$ 107,041,026	$ 346,350,541
LESS BALANCE @ 12/31/10	335,612,574	150,116,530	485,729,104
PV OF FUNDING REQUIREMENTS	$ (96,303,058)	$ (43,075,505)	$ (139,378,563)
MONTHLY FUNDING REQUIREMENT	-	-	-
ANNUAL FUNDING REQUIREMENT	-	-	-
MONTHLY ACCRUAL	-	-	-
ANNUAL ACCRUAL	-	-	-

TURKEY POINT UNIT 4

		NOMINAL ANNUAL	NOMINAL MONTHLY
EARNINGS RATE QUALIFIED FUND		3.900%	0.319331%
EARNINGS RATE NON-QUALIFIED FUND		3.900%	0.319331%
CORPORATE TAX RATE		38.575%	
JURISDICTIONAL FACTOR		98.8182%	
Adjusted QUALIFIED %	59.495%		
LICENSE ENDS		4/10/33	
MONTHS TO FUND	as of 12/31/10	267	

YEAR	SPENDING CURVE	ESTIMATED COST IN ($2010)	ESTIMATED COST IN NOMINAL $	ESTIMATED DOE RECOVERY NOMINAL $	NET NOMINAL $	JURISDICTIONAL AMOUNT	QUALIFIED AMOUNT	NON-QUAL AMOUNT	TAX SAVINGS	PV @ 3.9% QUALIFIED AMOUNT	PV @ 3.9% NON-QUAL AMOUNT
2033	4.7364%	$ 34,694,610	$ 70,201,942	$ -	$ 70,201,942	$ 69,372,295	$ 41,272,847	$ 17,260,086	$ 10,839,362	$ 17,120,121	$ 7,159,544
2034	11.1364%	81,575,624	161,442,744	1,338,550	160,104,194	158,212,083	94,127,823	39,363,757	24,720,503	37,578,970	15,715,326
2035	16.6901%	122,256,999	255,903,029	564,589	255,338,440	252,320,851	150,117,563	62,778,369	39,424,918	57,682,333	24,122,446
2036	14.8831%	109,020,479	225,955,285	80,061	225,875,224	223,205,831	132,795,666	55,534,444	34,875,721	49,111,100	20,538,002
2037	13.8606%	101,530,694	210,777,188	38,926,828	171,850,360	169,819,433	101,033,582	42,251,709	26,534,142	35,962,176	15,039,192
2038	12.1977%	89,349,660	193,152,792	60,577,165	132,575,627	131,008,848	77,943,337	32,595,490	20,470,021	26,701,992	11,166,832
2039	4.8465%	35,501,283	83,527,392	48,083,466	35,443,925	35,025,049	20,838,052	8,714,363	5,472,634	6,870,783	2,873,325
2040	3.1936%	23,393,650	53,592,719	3,387,664	50,205,055	49,611,732	29,516,357	12,343,584	7,751,791	9,366,910	3,917,192
2041	3.1043%	22,739,301	53,302,021	6,973,908	46,328,112	45,780,607	27,237,040	11,390,386	7,153,181	8,319,130	3,479,016
2042	0.5390%	3,948,365	9,898,994	7,701,951	2,197,043	2,171,079	1,291,677	540,172	339,229	379,714	158,794
2043	0.4291%	3,143,039	8,219,977	8,208,701	11,276	11,143	6,629	2,772	1,741	1,876	784
2044	0.4303%	3,151,650	8,500,448	8,477,222	23,225	22,951	13,655	5,710	3,586	3,718	1,555
2045	0.4291%	3,143,039	8,743,017	8,766,971	(23,953)	(23,670)	(14,083)	(5,889)	(3,698)	(3,691)	(1,544)
2046	0.4291%	3,143,039	9,017,654	9,017,654	-	-	-	-	-	-	-
2047	0.4291%	3,143,039	9,301,438	9,301,438	-	-	-	-	-	-	-
2048	0.4303%	3,151,650	9,620,969	9,594,682	26,287	25,976	15,454	6,463	4,059	3,611	1,510
2049	0.4291%	3,143,039	9,697,712	9,924,830	(27,117)	(26,797)	(15,943)	(6,667)	(4,187)	(3,586)	(1,499)
2050	0.4291%	3,143,039	10,210,865	10,210,865	-	-	-	-	-	-	-
2051	0.4291%	3,143,039	10,534,490	10,534,490	-	-	-	-	-	-	-
2052	0.4303%	3,151,650	10,898,723	10,868,945	29,778	29,426	17,507	7,321	4,598	3,510	1,468
2053	0.4291%	3,143,039	11,214,606	11,245,331	(30,725)	(30,362)	(18,064)	(7,554)	(4,744)	(3,486)	(1,458)
2054	0.4291%	3,143,039	11,571,859	11,571,859	-	-	-	-	-	-	-
2055	0.4291%	3,143,039	11,941,103	11,941,103	-	-	-	-	-	-	-
2056	0.4303%	3,151,650	12,356,513	12,322,752	33,761	33,362	19,849	8,301	5,213	3,415	1,428
2057	0.4291%	3,143,039	12,717,235	12,752,077	(34,842)	(34,430)	(20,484)	(8,566)	(5,380)	(3,392)	(1,419)
2058	0.4291%	3,143,039	13,124,995	13,124,995	-	-	-	-	-	-	-
2059	0.4291%	3,143,039	13,546,490	13,546,490	-	-	-	-	-	-	-
2060	0.4303%	3,151,650	14,020,504	-	14,020,504	13,854,810	8,242,879	3,447,128	2,164,802	1,217,031	508,956
2061	0.4291%	3,143,039	14,432,607	-	14,432,607	14,262,042	8,485,161	3,548,449	2,228,432	1,205,777	504,250
2062	0.4291%	3,143,039	14,898,228	-	14,898,228	14,722,160	8,758,907	3,662,928	2,300,325	1,197,958	500,980
2063	0.4291%	3,143,039	15,379,587	-	15,379,587	15,197,831	9,041,906	3,781,277	2,374,648	1,190,244	497,754
2064	0.4303%	3,151,650	15,920,730	-	15,920,730	15,732,579	9,360,052	3,914,324	2,458,202	1,185,874	495,926
2065	0.4291%	3,143,039	16,391,722	-	16,391,722	16,198,005	9,636,956	4,030,124	2,530,924	1,175,127	491,432
2066	0.4291%	3,143,039	16,923,646	-	16,923,646	16,723,642	9,949,683	4,160,905	2,613,055	1,167,720	488,334
2067	0.4291%	3,143,039	17,473,607	-	17,473,607	17,267,104	10,273,014	4,296,120	2,697,970	1,160,411	485,278
2068	0.4303%	3,151,650	18,091,662	-	18,091,662	17,877,855	10,636,378	4,448,077	2,793,400	1,156,357	483,582
2069	0.4291%	3,143,039	18,630,167	-	18,630,167	18,409,996	10,952,974	4,580,476	2,876,546	1,146,080	479,284
2070	0.4291%	3,143,039	19,238,085	-	19,238,085	19,010,729	11,310,379	4,729,940	2,970,410	1,139,054	476,346
2071	0.4291%	3,143,039	19,866,679	-	19,666,679	19,631,895	11,679,939	4,864,489	3,067,467	1,132,119	473,446
2072	2.0039%	14,678,880	55,722,671	-	55,722,671	55,064,140	32,760,252	13,700,164	8,603,725	3,056,211	1,278,091
2073	0.3570%	2,614,954	12,652,558	-	12,652,558	12,503,030	7,438,642	3,110,801	1,953,588	667,904	279,314
	100.0000%	$ 732,512,906	$ 1,768,814,654	$ 349,044,587	$ 1,419,770,067	$ 1,402,991,224	$ 834,705,587	$ 349,069,453	$ 219,216,185	$ 266,893,072	$ 111,613,268

	QUALIFIED	NON-QUAL	TOTAL
NPV @12/31/10	$ 266,893,072	$ 111,613,268	$ 378,506,340
LESS BALANCE @ 12/31/10	384,584,040	160,831,008	545,415,048
PV OF FUNDING REQUIREMENTS	$ (117,690,969)	$ (49,217,739)	$ (166,908,708)
MONTHLY FUNDING REQUIREMENT	-	-	-
ANNUAL FUNDING REQUIREMENT	-	-	-
MONTHLY ACCRUAL	-	-	-
ANNUAL ACCRUAL	-	-	-

SECTION 10

DECOMMISSIONING COST ANALYSIS FOR THE TURKEY POINT PLANT UNITS 3 AND 4

Prepared By

TLG SERVICES, INC.

DECOMMISSIONING COST ANALYSIS

for the

TURKEY POINT NUCLEAR PLANT, UNITS 3 AND 4



prepared for

Florida Power & Light Company

prepared by

TLG Services, Inc.
Bridgewater, Connecticut

December 2010

APPROVALS

Project Manager	William A. Cloutier, Jr.	12/02/2010 Date
Project Engineer	John A. Carlson	12/2/10 Date
Technical Manager	Francis W. Seymore	12/2/10 Date

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REVISION LOG

No.	Date	Item Revised	Reason for Revision
0	12-02-2010		Original Issue

EXECUTIVE SUMMARY

This report presents estimates of the cost to decommission the Turkey Point Nuclear Plant, Units 3 and 4 (Turkey Point). The analysis relies upon site-specific, technical information from an evaluation prepared in 2005,[1] updated to reflect current assumptions pertaining to the disposition of the two nuclear units and relevant industry experience in undertaking such projects. The station inventory, the basis for the decontamination and dismantling requirements and cost, and the decommissioning waste streams, were reviewed for this analysis. The current estimates reflect any substantive changes over the five year period to the configuration of the plant or site that would impact decommissioning.

The current estimates are designed to provide Florida Power & Light Company (FPL) with sufficient information to assess its financial obligations, as they pertain to the decommissioning of the nuclear station. The estimates do not reflect the actual plan to decommission all aspects of Turkey Point; the plan may differ from the assumptions made in the cost estimates based on facts that exist at the time of the decommissioning activity.

The primary goal of the decommissioning is the removal and disposal of the contaminated systems and structures so that the operating licenses for the nuclear units can be terminated. The analysis recognizes that spent fuel will be stored at the site in the wet storage pools and/or in an independent spent fuel storage installation (ISFSI) until such time that it can be transferred to the U.S. Department of Energy (DOE). Consequently, the estimates also include those costs to manage and subsequently decommission these interim storage facilities.

The currently projected cost to promptly decommission the station (DECON alternative), manage the spent fuel, and restore the site, is estimated at $1,386.2 million, as reported in 2010 dollars. The cost to defer decommissioning by placing the unit in safe-storage (SAFSTOR alternative) for approximately 50 years is estimated at $1,770.0 million, as reported in 2010 dollars. A portion of the costs associated with spent fuel management is considered to be recoverable from the DOE, as described later in this section and in more detail in Section 3.

The estimates are based on numerous fundamental assumptions, including regulatory requirements, low-level radioactive waste disposal practices, high-level radioactive waste management options, project contingencies, and site restoration requirements. The estimates incorporate a minimum cooling period for the spent

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1 "Decommissioning Cost Analysis for the Turkey Point Nuclear Plant, Units 3 and 4," Document F02-1512-003, Rev. 0, TLG Services, Inc., October 2005

fuel that resides in the storage pools when operations cease. Once sufficiently cooled the spent fuel is transferred to the DOE or to the ISFSI for interim storage. The prompt decommissioning scenario assumes that the dismantling of Unit 3 will be sequenced with the similar activities at Unit 4. The estimates also include the dismantling of site structures and non-essential facilities and the limited restoration of the site.

Alternatives and Regulations

The ultimate objective of the decommissioning process is to reduce the inventory of contaminated and activated material so that the license can be terminated. The Nuclear Regulatory Commission (NRC) provided initial decommissioning requirements in its rule adopted on June 27, 1988.[2] In this rule, the NRC set forth financial criteria for decommissioning licensed nuclear power facilities. The regulations addressed planning needs, timing, funding methods, and environmental review requirements for decommissioning. The rule also defined three decommissioning alternatives as being acceptable to the NRC: DECON, SAFSTOR, and ENTOMB.

> DECON is defined as "the alternative in which the equipment, structures, and portions of a facility and site containing radioactive contaminants are removed or decontaminated to a level that permits the property to be released for unrestricted use shortly after cessation of operations."[3]
>
> SAFSTOR is defined as "the alternative in which the nuclear facility is placed and maintained in a condition that allows the nuclear facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use."[4] Decommissioning is to be completed within 60 years, although longer time periods will be considered when necessary to protect public health and safety.
>
> ENTOMB is defined as "the alternative in which radioactive contaminants are encased in a structurally long-lived material, such as concrete; the entombed structure is appropriately maintained and continued surveillance is carried out until the radioactive material

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2 U.S. Code of Federal Regulations, Title 10, Parts 30, 40, 50, 51, 70 and 72 "General Requirements for Decommissioning Nuclear Facilities," Nuclear Regulatory Commission, Federal Register Volume 53, Number 123 (p 24018 et seq.), June 27, 1988

3 Ibid. Page 24022, Column 3

4 Ibid.

> decays to a level permitting unrestricted release of the property."[5] As with the SAFSTOR alternative, decommissioning is currently required to be completed within 60 years.
>
> The 60-year restriction has limited the practicality for the ENTOMB alternative at commercial reactors that generate significant amounts of long-lived radioactive material. In 1997, the NRC directed its staff to re-evaluate this alternative and identify the technical requirements and regulatory actions that would be necessary for entombment to become a viable option. The resulting evaluation provided several recommendations; however, rulemaking has been deferred pending the completion of additional research studies, for example, on engineered barriers.

In 1996, the NRC published revisions to the general requirements for decommissioning nuclear power plants to clarify ambiguities and codify procedures and terminology as a means of enhancing efficiency and uniformity in the decommissioning process.[6] The amendments allow for greater public participation and better define the transition process from operations to decommissioning. Regulatory Guide 1.184, issued in July 2000, further described the methods and procedures acceptable to the NRC staff for implementing the requirements of the 1996 revised rule relating to the initial activities and major phases of the decommissioning process. The costs and schedules presented in this analysis follow the general guidance and processes described in the amended regulations. The format and content of the estimates is also consistent with the recommendations of Regulatory Guide 1.202, issued in February 2005.[7]

Turkey Point Decommissioning Scenarios

Two decommissioning scenarios were evaluated for the Turkey Point nuclear units. In both instances a 60-year operating life was assumed. The scenarios selected are representative of alternatives available to the owner and are defined as follows:

1. DECON: The operating licenses for Units 3 and 4 currently expire in July 2032 and April 2033, respectively. The first scenario assumes that decommissioning activities at the two units are sequenced and integrated so as to minimize the total duration of the physical dismantling processes. Any

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5 Ibid. Page 24023, Column 2

6 U.S. Code of Federal Regulations, Title 10, Parts 2, 50, and 51, "Decommissioning of Nuclear Power Reactors," Nuclear Regulatory Commission, Federal Register Volume 61, (p 39278 et seq.), July 29, 1996

7 "Standard Format and Content of Decommissioning Cost Estimates for Nuclear Power Reactors," Regulatory Guide 1.202, U.S. Nuclear Regulatory Commission, February 2005

residual spent fuel is transferred to the ISFSI so as to facilitate decontamination and dismantling activities within the fuel handling buildings. Spent fuel storage operations continue at the site until the transfer of the fuel to the DOE is complete, assumed to be in the year 2072.

2. SAFSTOR: The units are placed into safe-storage shortly after the permanent cessation of operations and defueling. Spent fuel remaining in the spent fuel storage pools after a minimum cooling period is transferred to the ISFSI for interim storage, consistent with the DECON spent fuel management plan. Decommissioning is deferred beyond the fuel storage period to the maximum extent possible; termination of the licenses would conclude within the required 60-year period. As with the DECON scenario, decommissioning activities at the two units are sequenced and integrated so as to minimize the total duration of the physical dismantling processes.

Methodology

The methodology used to develop the estimates described within this document follows the basic approach originally presented in the cost estimating guidelines[8] developed by the Atomic Industrial Forum (now Nuclear Energy Institute). This reference describes a unit factor method for determining decommissioning activity costs. The unit factors used in this analysis incorporate site-specific costs and the latest available information on worker productivity in decommissioning.

The estimates also reflect lessons learned from TLG's involvement in the Shippingport Station decommissioning, completed in 1989, and the decommissioning of the Cintichem reactor, hot cells and associated facilities, completed in 1997. In addition, the planning and engineering for the Pathfinder, Shoreham, Rancho Seco, Trojan, Yankee Rowe, Big Rock Point, Maine Yankee, Humboldt Bay-3, Connecticut Yankee and San Onofre-1 nuclear units have provided additional insight into the process, the regulatory aspects, and technical challenges of decommissioning commercial nuclear units.

An activity duration critical path is used to determine the total decommissioning program schedule. The schedule is relied upon in calculating the carrying costs, which include program management, administration, field engineering, equipment rental, and support services, such as quality control and security.

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8 T.S. LaGuardia et al., "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986

Contingency

Consistent with cost estimating practice, contingencies are applied to the decontamination and dismantling costs developed as "specific provision for unforeseeable elements of cost within the defined project scope, particularly important where previous experience relating estimates and actual costs has shown that unforeseeable events which will increase costs are likely to occur."[9] The cost elements in the estimates are based on ideal conditions; therefore, the types of unforeseeable events that are almost certain to occur in decommissioning, based on industry experience, are addressed through a percentage contingency applied on a line-item basis. This contingency factor is a nearly universal element in all large-scale construction and demolition projects. It should be noted that contingency, as used in this analysis, does not account for price escalation and inflation in the cost of decommissioning over the remaining operating life of the nuclear units.

Contingency funds are expected to be fully expended throughout the program. As such, inclusion of contingency is necessary to provide assurance that sufficient funding will be available to accomplish the intended tasks.

Low-Level Radioactive Waste Disposal

The contaminated and activated material generated in the decontamination and dismantling of a commercial nuclear reactor is classified as low-level (radioactive) waste, although not all of the material is suitable for "shallow-land" disposal. With the passage of the "Low-Level Radioactive Waste Policy Act" in 1980,[10] and its Amendments of 1985,[11] the states became ultimately responsible for the disposition of low-level radioactive waste generated within their own borders. However, with the exception of Texas (which has issued a license for a new facility), no new compact facilities have been successfully sited, licensed, and constructed.

In past studies, there were two facilities available to FPL for the disposal of low-level radioactive waste generated by Turkey Point. As of July 1, 2008, however, the facility in Barnwell, South Carolina was closed to generators outside the Atlantic Compact (comprised of the states of Connecticut, New Jersey and South Carolina). This leaves the facility in Clive, Utah, operated by EnergySolutions, as the only currently available destination for low-level radioactive waste requiring controlled disposal, until the construction of Waste Control Specialist's facility in Andrews County, Texas, is complete.

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9 Project and Cost Engineers' Handbook, Second Edition, American Association of Cost Engineers, Marcel Dekker, Inc., New York, New York, p. 239

10 "Low-Level Radioactive Waste Policy Act of 1980," Public Law 96-573, 1980

11 "Low-Level Radioactive Waste Policy Amendments Act of 1985," Public Law 99-240, 1986

For the purpose of this analysis, the EnergySolutions' facility is used as the basis for estimating the disposal cost for the majority of the radioactive waste (Class A [12]). EnergySolutions does not have a license to dispose of the more highly radioactive waste (Classes B and C), for example, generated in the dismantling of the reactor vessel. As a proxy, the disposal cost for this material is based upon the last published rate schedule for non-compact waste for the Barnwell facility, adjusted for escalation of the Atlantic Compact rates.

The dismantling of the components residing closest to the reactor core generates radioactive waste that may be considered unsuitable for shallow-land disposal (i.e., low-level radioactive waste with concentrations of radionuclides that exceed the limits established by the NRC for Class C radioactive waste (GTCC)). The Low-Level Radioactive Waste Policy Amendments Act of 1985 assigned the federal government the responsibility for the disposal of this material. The Act also stated that the beneficiaries of the activities resulting in the generation of such radioactive waste bear all reasonable costs of disposing of such waste. However, to date, the federal government has not identified a cost for disposing of GTCC or a schedule for acceptance. For purposes of this estimate, the GTCC radioactive waste has been assumed to be packaged and disposed of as high-level waste, at a cost equivalent to that envisioned for the spent fuel.

For purposes of this analysis, GTCC is packaged in the same canisters that are designated for the disposal of spent fuel (modified for the different waste form). The GTCC material is stored with the spent fuel at the ISFSI in the DECON scenario and shipped at the conclusion of the spent fuel transfer process. GTCC is shipped as it is generated in the SAFSTOR scenario since it occurs after the fuel has been removed from the site.

A significant portion of the waste material generated during decommissioning may only be potentially contaminated by radioactive materials. This waste can be analyzed on site or shipped off site to licensed facilities for further analysis, for processing and/or for conditioning/recovery. Reduction in the volume of low-level radioactive waste requiring disposal in a licensed low-level radioactive waste disposal facility can be accomplished through a variety of methods, including analyses and surveys or decontamination to eliminate the portion of waste that does not require disposal as radioactive waste, compaction, incineration or metal melt. The estimates for Turkey Point reflect the savings from waste recovery/volume reduction.

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12 U.S. Code of Federal Regulations, Title 10, Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste"

High-Level Radioactive Waste Management

Congress passed the "Nuclear Waste Policy Act"[13] (NWPA) in 1982, assigning the federal government's long-standing responsibility for disposal of the spent nuclear fuel and high level radioactive waste created by the commercial nuclear generating plants to the DOE. The NWPA provided that DOE would enter into contracts with utilities in which DOE would promise to take the utilities' spent fuel and high-level radioactive waste and utilities would pay the cost of the disposition services for that material. The NWPA, along with the individual contracts with the utilities, specified that the DOE was to begin accepting spent fuel by January 31, 1998.

Since the original legislation, the DOE has announced several delays in the program schedule. By January 1998, the DOE had failed to accept any spent fuel or high level waste, as required by the NWPA and utility contracts. Delays continue and, as a result, generators have initiated legal action against the DOE in an attempt to obtain compensation for DOE's breach of contract.

A federal appeals court has ruled that DOE's obligation to take possession of spent nuclear fuel is unconditional and cannot be excused either by the absence of a repository or by a claim of unavoidable delay. FPL filed a lawsuit in 2004 claiming damages for DOE's failure to perform as originally prescribed in the standard disposal contract.

On March 31, 2009, FPL executed a Settlement Agreement with the DOE and the Department of Justice (DoJ). In the Agreement, FPL settled the lawsuit in exchange for payments. The payments are intended to cover those costs incurred for managing and storing the spent fuel that it would not have incurred but for DOE's delay in performance.

While the DOE is responsible for the costs incurred until it fulfills its obligation, certain assumptions are needed to assess the financial impact on the identified decommissioning cost scenarios. The assumptions and methodology employed to quantify the expected level of compensation are outlined in Section 3.8.

It is generally necessary that spent fuel be cooled and stored for a minimum period at the generating site prior to transfer. As such, the NRC requires that licensees establish a program to manage and provide funding for the management of all irradiated fuel at the reactor site until title of the fuel is transferred to the Secretary of Energy, pursuant to 10 CFR Part 50.54(bb).[14] This funding requirement is fulfilled

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13 "Nuclear Waste Policy Act of 1982 and Amendments," DOE's Office of Civilian Radioactive Management, 1982

14 U.S. Code of Federal Regulations, Title 10, Part 50, "Domestic Licensing of Production and Utilization Facilities," Subpart 54 (bb), "Conditions of Licenses"

through inclusion of certain cost elements in the decommissioning estimates, for example, expansion and operation of the ISFSI subsequent to plant shutdown and continued operation of the spent fuel pools.

The spent fuel pools are expected to contain freshly discharged assemblies (from the most recent refueling cycles) as well as the final reactor core at shutdown. Over the following five and one half years the assemblies are packaged into DOE-provided multi-purpose canisters (MPCs) for transfer to the DOE or dry shielded canisters (DSCs) to the ISFSI for interim storage. It is assumed that this period provides the necessary cooling for the final core to meet the transport and/or storage requirements for decay heat.

DOE's contracts with utilities order the acceptance of spent fuel from utilities based upon the oldest fuel receiving the highest priority.[15] However, DOE contracts provide mechanisms for altering the oldest fuel first allocation scheme, including emergency deliveries, exchanges of allocations amongst utilities and the option of providing priority acceptance from permanently shutdown nuclear reactors. Because it is unclear how these mechanisms may operate once DOE begins accepting spent fuel from commercial reactors, this study conservatively assumes that DOE will accept spent fuel in an oldest fuel first order. For purposes of this analysis, the first assemblies removed from the Turkey Point site are conservatively assumed to be in 2031. With an estimated, maximum rate of transfer of 3,000 metric tons of uranium (MTU)/year, completion of the removal of fuel from the site is conservatively projected to be in the year 2072. Consequently, costs are included within the estimates for the long-term caretaking of the spent fuel at the Turkey Point site until the year 2072.

FPL's position is that the DOE has a contractual obligation to accept Turkey Point's fuel far 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. However, at this time, including the cost of storing spent fuel in this study is the most reasonable approach because it insures the availability of sufficient decommissioning funds at the end of the station's life if, contrary to its contractual obligation, the DOE has not performed earlier.

An ISFSI, which is operated under a general (10 CFR Part 50) license, has been constructed to support management of the spent fuel at the site until the DOE is able to complete the transfer to a federal repository. It is assumed that the ISFSI will be expanded subsequent to plant shutdown to support decommissioning operations. As

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15 DOE's acceptance priority ranking is based on the date that spent nuclear fuel was permanently discharged, with the oldest spent nuclear fuel, on an industry-wide basis, given the higher priority. However, the generator has the right to determine which spent nuclear fuel is delivered, provided that it is in compliance with the Standard Contract.

such, the fuel that cannot be transferred directly to the DOE from the wet pools is packaged for interim storage at the ISFSI. This will allow decommissioning to continue on the nuclear units.

Site Restoration

The efficient removal of the contaminated materials at the site may result in damage to many of the site structures. Blasting, coring, drilling, and the other decontamination activities will substantially damage power block structures, potentially weakening the footings and structural supports. Prompt dismantling of site structures (once the facilities are decontaminated) is clearly the most appropriate and cost-effective option. It is unreasonable to anticipate that these structures would be repaired and preserved after the radiological contamination is removed. The cost to dismantle site structures with a work force already mobilized on site is more efficient than if the process is deferred. Site facilities quickly degrade without maintenance, adding additional expense and creating potential hazards to the public and the demolition work force. Consequently, this study assumes that site structures are removed to a nominal depth of three feet below the local grade level wherever possible. The site is then to be graded and stabilized.

Summary

The cost to decommission Turkey Point assumes the removal of all contaminated and activated plant components and structural materials such that the owner may then have unrestricted use of the site with no further requirements for an operating license. Low-level radioactive waste, other than GTCC waste, is sent to a commercial processor for treatment/conditioning or to a controlled disposal facility.

Decommissioning is accomplished within the 60-year period required by current NRC regulations. In the interim, the spent fuel remains in storage at the site until such time that the transfer to a DOE facility is complete. Once emptied, the fuel storage facilities can be decommissioned (DECON alternative) or placed in storage and decommissioned with the reactor complex (SAFSTOR alternative).

The decommissioning scenarios are described in Section 2. The assumptions are presented in Section 3, along with schedules of annual expenditures. The major cost contributors are identified in Section 6, with detailed activity costs, waste volumes, and associated manpower requirements delineated in Appendices C and D for the DECON and SAFSTOR alternatives. The major cost components are also identified in the cost summary provided at the end of this section.

The cost elements in the estimates are assigned to one of three subcategories: NRC License Termination, Spent Fuel Management, and Site Restoration. The subcategory

"NRC License Termination" is used to accumulate costs that are consistent with "decommissioning" as defined by the NRC in its financial assurance regulations (i.e., 10 CFR Part 50.75). The cost reported for this subcategory is generally sufficient to terminate the operating licenses for the two reactors, recognizing that there may be some additional cost impact from spent fuel management.

The "Spent Fuel Management" subcategory contains costs anticipated to be incurred once the nuclear units cease operation for the off-loading of the pools either directly to the DOE or to the ISFSI for interim storage, and the eventual transfer of fuel from the ISFSI to the DOE. Costs are also included for the operation of the ISFSI until such time that the transfer of all fuel from this facility to an off-site location (e.g., geologic repository or interim facility) is complete. Under the terms of the settlement agreement with the DOE, there are activities and costs identified in the decommissioning cost study that are expected to be eligible for reimbursement (depending upon the timing of the activities). The activities are identified in Section 3.8 and the costs in Tables 3.6 through 3.8.

"Site Restoration" is used to capture costs associated with the dismantling and demolition of buildings and facilities demonstrated to be free from contamination. This includes structures never exposed to radioactive materials, as well as those facilities that have been decontaminated to appropriate levels. Structures are removed to a depth of three feet and backfilled to conform to local grade.

It should be noted that the costs assigned to these subcategories are allocations. Delegation of cost elements is for the purposes of comparison (e.g., with NRC financial guidelines) or to permit specific financial treatment (e.g., ARO determinations). In reality, there can be considerable interaction between the activities in the three subcategories. For example, an owner may decide to remove non-contaminated structures early in the project to improve access to highly contaminated facilities or plant components. In these instances, the non-contaminated removal costs could be reassigned from Site Restoration to an NRC License Termination support activity. However, in general, the allocations represent a reasonable accounting of those costs that can be expected to be incurred for the specific subcomponents of the total estimated program cost, if executed as described.

As noted within this document, the estimates were developed and costs are presented in 2010 dollars. As such, the estimates do not reflect the escalation of costs (due to inflationary and market forces) over the remaining operating life of the station or during the decommissioning period.

DECON COST SUMMARY
DECOMMISSIONING COST ELEMENTS
(thousands of 2010 dollars)

Cost Element	Unit 3	Unit 4	Total
Decontamination	8,900	12,013	20,913
Removal	65,665	84,019	149,685
Packaging	16,582	17,127	33,709
Transportation	15,681	17,056	32,737
Waste Disposal	56,288	60,298	116,586
Off-site Waste Processing	15,142	18,406	33,548
Program Management [1]	302,827	325,098	627,925
Spent Fuel Pool Isolation	11,477	7,652	19,129
Spent Fuel Management (Direct Costs) [2]	91,936	127,716	219,653
Insurance and Regulatory Fees	24,141	21,761	45,902
Energy	14,277	14,825	29,101
Characterization and Licensing Surveys	10,539	7,449	17,988
Property Taxes	162	114	277
Miscellaneous Equipment	6,574	6,564	13,139
Fixed Overhead	9,677	8,752	18,429
INPO,NEI Fees	3,559	3,348	6,907
Florida LLRW Inspection Fee	277	314	591
Total [3]	653,704	732,513	1,386,216

Cost Element			
License Termination	449,544	483,444	932,988
Spent Fuel Management [4]	169,113	204,893	374,006
Site Restoration	35,047	44,176	79,223
Total [3]	653,704	732,513	1,386,216

[1] Includes engineering costs
[2] Excludes program management costs (staffing) but includes costs for dry shielded storage canisters and horizontal storage modules, spent fuel loading/transfer/spent fuel pool O&M and EP fees
[3] Columns may not add due to rounding
[4] Includes period-dependent costs such as Program Management costs

SAFSTOR COST SUMMARY
DECOMMISSIONING COST ELEMENTS
(thousands of 2010 dollars)

Cost Element	Unit 3	Unit 4	Total
Decontamination	7,493	9,477	16,971
Removal	67,273	85,046	152,319
Packaging	12,279	12,550	24,829
Transportation	12,989	13,444	26,434
Waste Disposal	39,892	41,085	80,977
Off-site Waste Processing	16,515	21,227	37,742
Program Management [1]	370,459	411,659	782,118
Spent Fuel Pool Isolation	11,477	7,652	19,129
Spent Fuel Management (Direct Costs) [2]	87,416	123,168	210,584
Insurance and Regulatory Fees	59,809	56,780	116,589
Energy	29,306	29,423	58,729
Characterization and Licensing Surveys	11,931	8,841	20,772
Property Taxes	198	150	348
Miscellaneous Equipment	15,580	18,078	33,658
Fixed Overhead	76,499	75,574	152,072
INPO,NEI Fees	18,265	18,054	36,319
Florida LLRW Inspection Fee	224	234	458
Total [3]	837,605	932,442	1,770,047

Cost Element			
License Termination	659,685	682,128	1,341,814
Spent Fuel Management [4]	142,100	205,386	347,486
Site Restoration	35,820	44,927	80,748
Total [3]	837,605	932,442	1,770,047

[1] Includes engineering costs
[2] Excludes program management costs (staffing) but includes costs for dry shielded storage canisters and horizontal storage modules, spent fuel loading/transfer/spent fuel pool O&M and EP fees
[3] Columns may not add due to rounding
[4] Includes period-dependent costs such as Program Management costs

1. INTRODUCTION

This report presents estimates of the costs to decommission the Turkey Point Nuclear Plant, Units 3 and 4, (Turkey Point), assuming a 60-year operating life for the selected decommissioning alternatives. The analysis relies upon site-specific, technical information from an earlier evaluation prepared in 2005,[1]* updated to reflect current assumptions pertaining to the disposition of the nuclear station and relevant industry experience in undertaking such projects. The station inventory, the basis for the decontamination and dismantling requirements and cost, and the decommissioning waste streams, were reviewed for this analysis. The current estimates reflect any substantive changes over the five year period to the configuration of the plant or site that would impact decommissioning.

The current estimates are designed to provide Florida Power & Light Company (FPL) with sufficient information to assess their financial obligations, as they pertain to the decommissioning of the nuclear station. It is not a detailed engineering document, but a financial analysis prepared in advance of the detailed engineering that will be required to carry out the decommissioning activity.

1.1 OBJECTIVES OF STUDY

The objectives of this analysis are to present comprehensive estimates of the costs to decommission Turkey Point, to provide a sequence or schedule for the associated activities, and to identify the waste streams expected from the decontamination and dismantling activities.

For the purposes of this study, the cessation of operations is assumed to be on July 19, 2032 and April 10, 2033 for Units 3 and 4, respectively, based upon the full term of the current operating licenses.

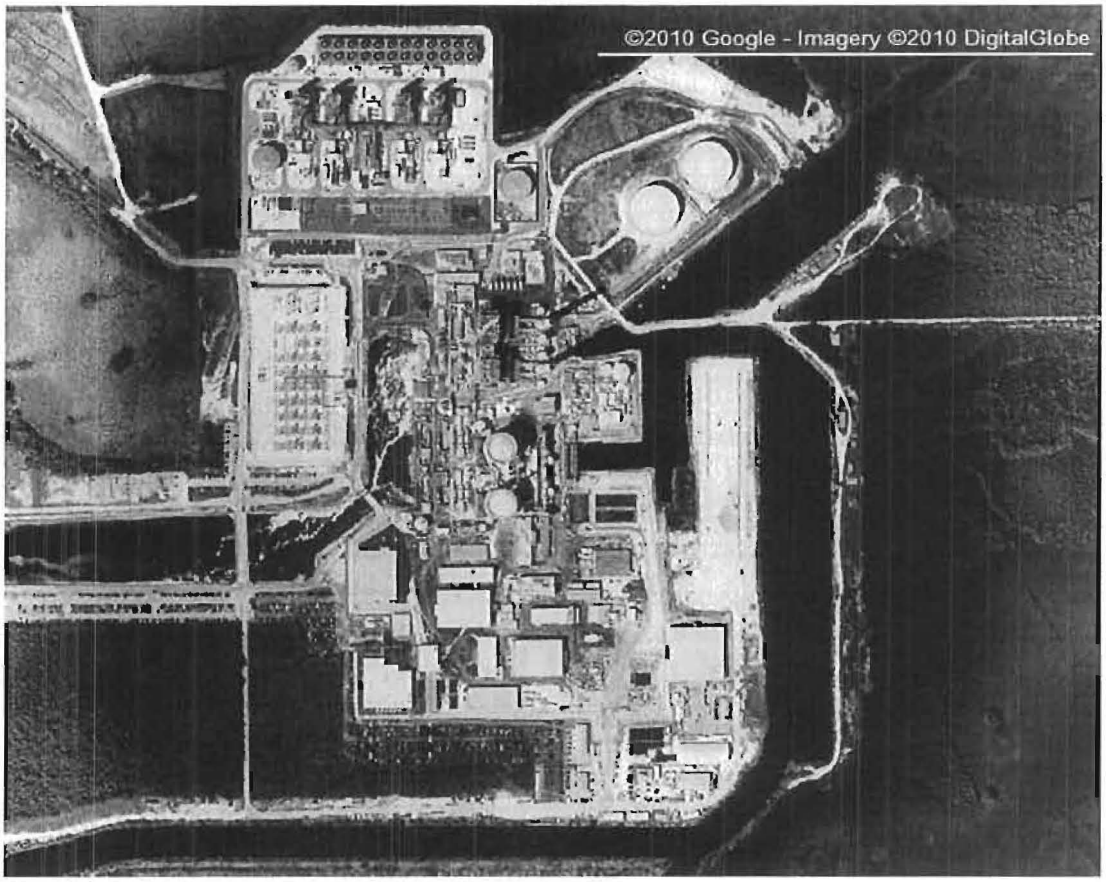
1.2 SITE DESCRIPTION

The Turkey Point site is located on the shore of Biscayne Bay, approximately 25 miles south of Miami, Florida, 8 miles east of Florida City and 9 miles southeast of Homestead, Florida. Units 3 and 4 are essentially identical pressurized water reactors (see Figure 1.1, Site Photo, below). The two nuclear units are located adjacent to two oil and gas fired units (which are not considered in this study). The nuclear units were designed and constructed by Bechtel Energy Corporation.

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* References provided in Section 7 of the document

Figure 1.1
Site Photo



The nuclear steam supply systems (NSSS) consist of a pressurized water reactor system designed by Westinghouse Electric Corporation. The reactor coolant system consists of three similar heat transfer loops connected in parallel to the reactor pressure vessel. Each loop contains a reactor coolant pump, steam generator, and associated piping and valves. In addition, the system includes a pressurizer, a pressurizer relief tank, interconnecting piping, and the instrumentation necessary for operational control. All system equipment, except for the digital pressure indicator, three wide range pressure transmitters, and the containment isolation and process actuated valves located in the lines connected to the pressurizer relief tank, are located in the containment building.

The containment is a steel lined, post-tensioned, reinforced-concrete structure consisting of a vertical cylinder with a hemispherical dome, supported on a flat

foundation mat. The cylinder and dome are post-tensioned with high-strength unbounded wire tendons.

Heat produced in the reactor is converted to electrical energy by the steam and power conversion system. The function of the turbine generator is to receive steam from the steam generators, economically convert a portion of the thermal energy contained in the steam to electrical energy, and provide extract steam for six stages of feedwater heating. The turbine generator serves no safety function and has two reheaters before entering the low pressure turbines. The exhaust steam from the two low pressure turbines is condensed in the condenser. With the completion of the extended power uprate activities (described below), Units 3 and 4 will each have a net electrical output of 804 megawatt-electric (MWe).

Heat rejected in the main condensers is removed by the circulating water system. The system provides cooling water for removal of heat loads developed in the plant's main condenser which condenses the steam exhaust from the turbine. Cooling water for the condenser is supplied by a network of cooling canals.

Modifications are underway to increase the power output for each unit. The Extended Power Uprate (EPU) will be a 15-percent uprate. The original licensed core rated thermal power level was 2,200 megawatts-thermal (MWt), and after a 4.5-percent stretch power uprate in 1996, the current licensed thermal power rating is 2,300 MWt. The uprate licensed thermal power would then be 2,644 MWt. The modifications necessary to support the power uprate will be implemented during the 2010, 2011 and 2012 refueling outages. The impact of the EPU (e.g., from increased neutron fluence), although not significant in decommissioning, is considered in this analysis.

1.3 REGULATORY GUIDANCE

The Nuclear Regulatory Commission (NRC) provided initial decommissioning requirements in its rule "General Requirements for Decommissioning Nuclear Facilities," issued in June 1988.[2] This rule set forth financial criteria for decommissioning licensed nuclear power facilities. The regulation addressed decommissioning planning needs, timing, funding methods, and environmental review requirements. The intent of the rule was to ensure that decommissioning would be accomplished in a safe and timely manner and that adequate funds would be available for this purpose. Subsequent to the rule, the NRC issued Regulatory Guide 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors,"[3] which provided additional guidance to the licensees of nuclear facilities on the financial methods acceptable to the

NRC staff for complying with the requirements of the rule. The regulatory guide addressed the funding requirements and provided guidance on the content and form of the financial assurance mechanisms indicated in the rule.

The rule defined three decommissioning alternatives as being acceptable to the NRC: DECON, SAFSTOR, and ENTOMB. The DECON alternative assumes that any contaminated or activated portion of the plant's systems, structures and facilities are removed or decontaminated to levels that permit the site to be released for unrestricted use shortly after the cessation of plant operations. The rule also placed limits on the time allowed to complete the decommissioning process. For SAFSTOR, the process is restricted in overall duration to 60 years, unless it can be shown that a longer duration is necessary to protect public health and safety. The guidelines for ENTOMB are similar, providing the NRC with both sufficient leverage and flexibility to ensure that these deferred options are only used in situations where it is reasonable and consistent with the definition of decommissioning. At the conclusion of a 60-year dormancy period (or longer for ENTOMB if the NRC approves such a case), the site would still require significant remediation to meet the unrestricted release limits for license termination.

The ENTOMB alternative has not been viewed as a viable option for power reactors due to the significant time required to isolate the long-lived radionuclides for decay to permissible levels. However, with rulemaking permitting the controlled release of a site,[4] the NRC has re-evaluated this alternative. The resulting feasibility study, based upon an assessment by Pacific Northwest National Laboratory, concluded that the method did have conditional merit for some, if not most reactors. However, the staff also found that additional rulemaking would be needed before this option could be treated as a generic alternative. The NRC had considered rulemaking to alter the 60-year time for completing decommissioning and to clarify the use of engineered barriers for reactor entombments.[5]

The NRC's staff has recommended that rulemaking be deferred, based upon several factors, e.g., no licensee has committed to pursuing the option, disposition of certain waste forms, effectiveness of engineering barriers, and the NRC's current priorities, at least until after the additional research studies are complete. The NRC concurred with the staff's recommendation.

In 1996, the NRC published revisions to the general requirements for decommissioning nuclear power plants.[6] When the decommissioning regulations were adopted in 1988, it was assumed that the majority of licensees would operate for their full licensed life. However, shortly after the regulations were enacted, several licensees permanently and prematurely

ceased operations. Exemptions from certain operating requirements were required once the reactor was defueled to facilitate the decommissioning. Each case was handled individually, without clearly defined generic requirements. The NRC amended the decommissioning regulations in 1996 to clarify ambiguities and codify procedures and terminology as a means of enhancing efficiency and uniformity in the decommissioning process. The amendments allow for greater public participation and better define the transition process from operations to decommissioning.

Under the revised regulations, licensees will submit written certification to the NRC within 30 days after the decision to cease operations. Certification will also be required once the fuel is permanently removed from the reactor vessel. Submittal of these notices will entitle the licensee to a fee reduction and eliminate the obligation to follow certain requirements needed only during operation of the reactor. Within two years of submitting notice of permanent cessation of operations, the licensee is required to submit a Post-Shutdown Decommissioning Activities Report (PSDAR) to the NRC. The PSDAR describes the planned decommissioning activities, the associated sequence and schedule, and an estimate of expected costs. Prior to completing decommissioning, the licensee is required to submit an application to the NRC to terminate the license, which will include a license termination plan (LTP).

1.3.1 Nuclear Waste Policy Act

Congress passed the "Nuclear Waste Policy Act"[7] (NWPA) in 1982, assigning the federal government's long-standing responsibility for disposal of the spent nuclear fuel and high level radioactive waste created by the commercial nuclear generating plants to the DOE. The NWPA provided that DOE would enter into contracts with utilities in which DOE would promise to take the utilities' spent fuel and high-level radioactive waste and utilities would pay the cost of the disposition services for that material. The NWPA, along with the individual contracts with the utilities, specified that the DOE was to begin accepting spent fuel by January 31, 1998.

Since the original legislation, the DOE has announced several delays in the program schedule. By January 1998, the DOE had failed to accept any spent fuel or high level waste, as required by the NWPA and utility contracts. Delays continue and, as a result, generators have initiated legal action against the DOE in an attempt to obtain compensation for DOE's breach of contract.

A federal appeals court has ruled that DOE's obligation to take possession of spent nuclear fuel is unconditional and cannot be excused either by the absence of a repository or by a claim of unavoidable delay. FPL filed a lawsuit in 2004 claiming damages for DOE's failure to perform as originally prescribed in the standard disposal contract.

On March 31, 2009, FPL executed a Settlement Agreement with the DOE and the Department of Justice (DoJ). In the Agreement, FPL settled the lawsuit in exchange for payments. The payments are intended to cover those costs incurred for managing and storing the spent fuel that it would not have incurred but for DOE's delay in performance.

While the DOE is responsible for the costs incurred until it fulfills its obligation, certain assumptions are needed to assess the financial impact on the identified decommissioning cost scenarios. The assumptions and methodology employed to quantify the expected level of compensation are outlined in Section 3.8.

It is generally necessary that spent fuel be cooled and stored for a minimum period at the generating site prior to transfer. As such, the NRC requires that licensees establish a program to manage and provide funding for the management of all irradiated fuel at the reactor site until title of the fuel is transferred to the Secretary of Energy, pursuant to 10 CFR Part 50.54(bb).[8] This funding requirement is fulfilled through inclusion of certain cost elements in the decommissioning estimates, for example, expansion and operation of the Independent Spent Fuel Storage Installation (ISFSI) subsequent to plant operations and continued operation of the spent fuel pools.

The spent fuel pools are expected to contain freshly discharged assemblies (from the most recent refueling cycles) as well as the final reactor core at shutdown. Over the following five and one half years the assemblies are packaged into DOE-provided multi-purpose canisters (MPCs) for transfer to the DOE or in dry-shielded canisters (DSCs) for interim storage at the ISFSI. It is assumed that this period provides the necessary cooling for the final core to meet the transport and/or storage requirements for decay heat.

DOE's contracts with utilities order the acceptance of spent fuel from utilities based upon the oldest fuel receiving the highest priority. [While DOE's acceptance priority ranking is based on the date that spent nuclear fuel was permanently discharged, with the oldest spent nuclear

fuel, on an industry-wide basis, given the higher priority, the generator has the right to determine which spent nuclear fuel is delivered, provided that it is in compliance with the Standard Contract. DOE contracts also provide mechanisms for altering the oldest fuel first allocation scheme, including emergency deliveries, exchanges of allocations amongst utilities and the option of providing priority acceptance from permanently shutdown nuclear reactors.] Because it is unclear how these mechanisms may operate once DOE begins accepting spent fuel from commercial reactors, this study conservatively assumes that DOE will accept spent fuel in an oldest fuel first order. For purposes of this analysis, the first assemblies removed from the Turkey Point site are conservatively assumed to be in 2031. With an estimated, maximum rate of transfer of 3,000 metric tons of uranium (MTU)/year, completion of the removal of fuel from the site is conservatively projected to be in the year 2072. Consequently, costs are included within the estimates for the long-term caretaking of the spent fuel at the Turkey Point site until the year 2072.

FPL's position is that the DOE has a contractual obligation to accept Turkey Point's fuel far 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. However, at this time, including the cost of storing spent fuel in this study is the most reasonable approach because it insures the availability of sufficient decommissioning funds at the end of the station's life if, contrary to its contractual obligation, the DOE has not performed earlier.

An ISFSI, which is operated under a general (10 CFR Part 50) license, has been constructed to support management of the spent fuel at the site until the DOE is able to complete the transfer to a federal repository. It is assumed that the ISFSI will be expanded subsequent to plant shutdown to support decommissioning operations. As such, the fuel that cannot be transferred directly to the DOE from the wet pools is packaged for interim storage at the ISFSI. This will allow decommissioning to continue on the nuclear units.

1.3.2 Low-Level Radioactive Waste Acts

The contaminated and activated material generated in the decontamination and dismantling of a commercial nuclear reactor is classified as low-level (radioactive) waste, although not all of the material is suitable for "shallow-land" disposal. With the passage of the "Low-Level Radioactive Waste Policy Act" in 1980,[9] and its

Amendments of 1985,[10] the states became ultimately responsible for the disposition of low-level radioactive waste generated within their own borders. However, with the exception of Texas (which has issued a license for a new facility), no new compact facilities have been successfully sited, licensed, and constructed.

In past studies, there were two facilities available to FPL for the disposal of low-level radioactive waste generated by Turkey Point. As of July 1, 2008, however, the facility in Barnwell, South Carolina was closed to generators outside the Atlantic Compact (comprised of the states of Connecticut, New Jersey and South Carolina). This leaves the facility in Clive, Utah, operated by EnergySolutions, as the only currently available destination for low-level radioactive waste requiring controlled disposal, until the construction of Waste Control Specialist's facility in Andrews County, Texas, is complete.

For the purpose of this analysis, the EnergySolutions' facility is used as the basis for estimating the disposal cost for the majority of the radioactive waste (Class A [11]). EnergySolutions does not have a license to dispose of the more highly radioactive waste (Classes B and C), for example, generated in the dismantling of the reactor vessel. As a proxy, the disposal cost for this material is based upon the last published rate schedule for non-compact waste for the Barnwell facility, adjusted for escalation of the Atlantic Compact rates.

The dismantling of the components residing closest to the reactor core generates radioactive waste that may be considered unsuitable for shallow-land disposal (i.e., low-level radioactive waste with concentrations of radionuclides that exceed the limits established by the NRC for Class C radioactive waste (GTCC)). The Low-Level Radioactive Waste Policy Amendments Act of 1985 assigned the federal government the responsibility for the disposal of this GTCC material. The Act also stated that the beneficiaries of the activities resulting in the generation of such radioactive waste bear all reasonable costs of disposing of such waste. However, to date, the federal government has not identified a cost for disposing of GTCC or a schedule for acceptance. For purposes of this estimate, the GTCC radioactive waste has been assumed to be packaged and disposed of as high-level waste, at a cost equivalent to that envisioned for the spent fuel.

For purposes of this analysis, GTCC is packaged in the same canisters that are designated for the disposal of spent fuel (modified for the different waste form). The GTCC material is stored with the spent fuel

at the ISFSI in the DECON scenario and shipped at the conclusion of the spent fuel transfer process. GTCC is shipped as it is generated in the SAFSTOR scenario since it occurs after the fuel has been removed from the site.

A significant portion of the waste material generated during decommissioning may only be potentially contaminated by radioactive materials. This waste can be analyzed on site or shipped off site to licensed facilities for further analysis, for processing and/or for conditioning/recovery. Reduction in the volume of low-level radioactive waste requiring disposal in a licensed low-level radioactive waste disposal facility can be accomplished through a variety of methods, including analyses and surveys or decontamination to eliminate the portion of waste that does not require disposal as radioactive waste, compaction, incineration or metal melt. The estimates for Turkey Point reflect the savings from waste recovery/volume reduction.

1.3.3 Radiological Criteria for License Termination

In 1997, the NRC published Subpart E, "Radiological Criteria for License Termination,"[12] amending 10 CFR Part 20. This subpart provides radiological criteria for releasing a facility for unrestricted use. The regulation states that the site can be released for unrestricted use if radioactivity levels are such that the average member of a critical group would not receive a Total Effective Dose Equivalent (TEDE) in excess of 25 millirem per year, and provided that residual radioactivity has been reduced to levels that are As Low As Reasonably Achievable (ALARA). The decommissioning estimates assume that the Turkey Point site will be remediated to a residual level consistent with the NRC-prescribed level. It should be noted that the NRC and the Environmental Protection Agency (EPA) differ on the amount of residual radioactivity considered acceptable in site remediation. The EPA has two limits that apply to radioactive materials. An EPA limit of 15 millirem per year is derived from criteria established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund).[13] An additional and separate limit of 4 millirem per year, as defined in 40 CFR §141.16, is applied to drinking water.[14]

On October 9, 2002, the NRC signed an agreement with the EPA on the radiological decommissioning and decontamination of NRC-licensed sites. The Memorandum of Understanding (MOU)[15] provides that EPA will defer exercise of authority under CERCLA for the majority of facilities decommissioned under NRC authority. The MOU also includes

provisions for NRC and EPA consultation for certain sites when, at the time of license termination, (1) groundwater contamination exceeds EPA-permitted levels; (2) NRC contemplates restricted release of the site; and/or (3) residual radioactive soil concentrations exceed levels defined in the MOU.

The MOU does not impose any new requirements on NRC licensees and should reduce the involvement of the EPA with NRC licensees who are decommissioning. Most sites are expected to meet the NRC criteria for unrestricted use, and the NRC believes that only a few sites will have groundwater or soil contamination in excess of the levels specified in the MOU that trigger consultation with the EPA. However, if there are other hazardous materials on the site, the EPA may be involved in the cleanup. As such, the possibility of dual regulation remains for certain licensees. The present study does not include any costs for this occurrence.

2. DECOMMISSIONING ALTERNATIVES

Detailed cost estimates were developed to decommission Turkey Point based upon the approved decommissioning alternatives: DECON and SAFSTOR. Although the alternatives differ with respect to technique, process, cost, and schedule, they attain the same result: the ultimate release of the site for unrestricted use.

Two decommissioning scenarios were evaluated for the Turkey Point nuclear units. In both instances a 60-year operating life was assumed. The scenarios selected are representative of alternatives available to the owner and are defined as follows:

1. DECON: The operating licenses for Units 3 and 4 currently expire in July 2032 and April 2033, respectively. The first scenario assumes that decommissioning activities at the two units are sequenced and integrated so as to minimize the total duration of the physical dismantling processes. Any residual spent fuel is transferred to the ISFSI so as to facilitate decontamination and dismantling activities within the fuel handling buildings. Spent fuel storage operations continue at the site until the transfer of the fuel to the DOE is complete, assumed to be in the year 2072.

2. SAFSTOR: The units are placed into safe-storage shortly after the permanent cessation of operations and defueling. Spent fuel remaining in the spent fuel storage pools after a minimum cooling period is transferred to the ISFSI for interim storage, consistent with the DECON spent fuel management plan. Decommissioning is deferred beyond the fuel storage period to the maximum extent possible; termination of the licenses would conclude within the required 60-year period. As with the DECON scenario, decommissioning activities at the two units are sequenced and integrated so as to minimize the total duration of the physical dismantling processes.

The following sections describe the basic activities associated with each alternative. Although detailed procedures for each activity identified are not provided, and the actual sequence of work may vary, the activity descriptions provide a basis not only for estimating but also for the expected scope of work, i.e., engineering and planning at the time of decommissioning.

The conceptual approach that the NRC has described in its regulations divides decommissioning into three phases. The initial phase commences with the effective date of permanent cessation of operations and involves the transition of both plant and licensee from reactor operations (i.e., power production) to facility de-activation and closure. During the first phase, notification is to be provided to the NRC

certifying the permanent cessation of operations and the removal of fuel from the reactor vessel. The licensee is then prohibited from reactor operation.

The second phase encompasses activities during the storage period or during major decommissioning activities, or a combination of the two. The third phase pertains to the activities involved in license termination. The decommissioning estimates developed for Turkey Point are also divided into phases or periods; however, demarcation of the phases is based upon major milestones within the project or significant changes in the projected expenditures.

2.1 DECON

The DECON alternative, as defined by the NRC, is "the alternative in which the equipment, structures, and portions of a facility and site containing radioactive contaminants are removed or decontaminated to a level that permits the property to be released for unrestricted use shortly after cessation of operations." This study does not address the cost to dispose of the spent fuel residing at the site; such costs are funded through a surcharge on electrical generation. However, the study does estimate the costs incurred with the interim on-site storage of the fuel pending shipment by the DOE to an off-site disposal facility.

2.1.1 Period 1 - Preparations

In anticipation of the cessation of plant operations, detailed preparations are undertaken to provide a smooth transition from plant operations to site decommissioning. Through implementation of a staffing transition plan, the organization required to manage the intended decommissioning activities is assembled from available plant staff and outside resources. Preparations include the planning for permanent defueling of the reactor, revision of technical specifications applicable to the operating conditions and requirements, a characterization of the facility and major components, and the development of the PSDAR.

Engineering and Planning

The PSDAR, required within two years of the notice to cease operations, provides a description of the licensee's planned decommissioning activities, a timetable, and the associated financial requirements of the intended decommissioning program. Upon receipt of the PSDAR, the NRC will make the document available to the public for comment in a local hearing to be held in the vicinity of the reactor site. Ninety days

following submittal and NRC receipt of the PSDAR, the licensee may begin to perform major decommissioning activities under a modified 10 CFR §50.59 procedure, i.e., without specific NRC approval. Major activities are defined as any activity that results in permanent removal of major radioactive components, permanently modifies the structure of the containment, or results in dismantling components (for shipment) containing GTCC, as defined by 10 CFR §61. Major components are further defined as comprising the reactor vessel and internals, large bore reactor coolant system piping, steam generators, and other large components that are radioactive. The NRC includes the following additional criteria for use of the §50.59 process in decommissioning. The proposed activity must not:

- foreclose release of the site for possible unrestricted use,
- significantly increase decommissioning costs,
- cause any significant environmental impact, or
- violate the terms of the licensee's existing license.

Existing operational technical specifications are reviewed and modified to reflect plant conditions and the safety concerns associated with permanent cessation of operations. The environmental impact associated with the planned decommissioning activities is also considered. Typically, a licensee will not be allowed to proceed if the consequences of a particular decommissioning activity are greater than that bounded by previously evaluated environmental assessments or impact statements. In this instance, the licensee would have to submit a license amendment for the specific activity and update the environmental report.

The decommissioning program outlined in the PSDAR will be designed to accomplish the required tasks within the ALARA guidelines (as defined in 10 CFR §20) for protection of personnel from exposure to radiation hazards. It will also address the continued protection of the health and safety of the public and the environment during the dismantling activity. Consequently, with the development of the PSDAR, activity specifications, cost-benefit and safety analyses, and work packages and procedures, would be assembled to support the proposed decontamination and dismantling activities.

Site Preparations

Following final plant shutdown, and in preparation for actual decommissioning activities, the following activities are initiated:

- Characterization of the site and surrounding environs. This includes radiation surveys of work areas, major components (including the reactor vessel and its internals), internal piping, and primary shield cores.
- Isolation of the spent fuel storage pools and fuel handling systems, such that decommissioning operations can commence on the balance of the plant. The pools will remain operational for approximately five and one half years following the cessation of operations before the inventory resident in the core at shutdown can be transferred to the DOE or to the ISFSI for interim storage.
- Specification of transport and disposal requirements for activated materials and/or hazardous materials, including shielding and waste stabilization.
- Development of procedures for occupational exposure control, control and release of liquid and gaseous effluent, processing of radwaste (including dry-active waste, resins, filter media, metallic and non-metallic components generated in decommissioning), site security and emergency programs, and industrial safety.

2.1.2 Period 2 - Decommissioning Operations

This period includes the physical decommissioning activities associated with the removal and disposal of contaminated and activated components and structures, including the amendment of the 10 CFR §50 operating license(s) to release the remediated property for unrestricted use. Significant decommissioning activities in this phase include:

- Construction of temporary facilities and/or modification of existing facilities to support dismantling activities. This may include a centralized processing area to facilitate equipment removal and component preparations for off-site disposal.
- Reconfiguration and modification of site structures and facilities as needed to support decommissioning operations. This may include the upgrading of roads (on- and off-site) to facilitate hauling and transport. Modifications may be required to the containment structure to facilitate access of large/heavy equipment. Modifications

may also be required to the refueling area of the building to support the segmentation of the reactor vessel internals and component extraction.

- Design and fabrication of temporary and permanent shielding to support removal and transportation activities, construction of contamination control envelopes, and the procurement of specialty tooling.
- Procurement (lease or purchase) of shipping canisters, shielded cask liners, and industrial packages.
- Decontamination of components and piping systems as required to control (minimize) worker exposure.
- Removal of piping and components no longer essential to support decommissioning operations.
- Removal of control rod drive housings and the head service structure from reactor vessel head.
- Removal and segmentation of the upper internals assemblies. Segmentation will maximize the loading of the shielded transport casks, i.e., by weight and activity. The operations are conducted under water using remotely operated tooling and contamination controls.
- Disassembly and segmentation of the remaining reactor internals, including the core shroud and lower core support assembly. Some material is expected to exceed Class C disposal requirements. As such, the segments will be packaged in modified fuel storage canisters for geologic disposal.
- Segmentation of the reactor vessel. A shielded platform is installed for segmentation as cutting operations are performed in-air using remotely operated equipment within a contamination control envelope. The water level is maintained just below the cut to minimize the working area dose rates. Segments are transferred in-air to containers that are stored under water, for example, in an isolated area of the refueling canal.
- Removal of the activated portions of the concrete biological shield and accessible contaminated concrete surfaces. If dictated by the steam generator and pressurizer removal scenarios, those portions of the associated cubicles necessary for access and component extraction are removed.
- Removal of the steam generators and pressurizer for material recovery and controlled disposal. The generators will be moved to an

on-site processing center, the steam domes removed and the internal components segregated for recycling. The lower shell and tube bundle will be packaged for direct disposal. These components can serve as their own burial containers provided that all penetrations are properly sealed and the internal contaminants are stabilized, e.g., with grout. Steel shielding will be added, as necessary, to those external areas of the package to meet transportation limits and regulations.

At least two years prior to the anticipated date of the completion of the remediation process, an LTP is required. Submitted as a supplement to the Final Safety Analysis Report (FSAR) or its equivalent, the plan must include: a site characterization, description of the remaining dismantling activities, plans for site remediation, procedures for the final radiation survey, designation of the end use of the site, an updated cost estimate to complete the decommissioning, and any associated environmental concerns. The NRC will notice the receipt of the plan, make the plan available for public comment, and schedule a local hearing. LTP approval will be subject to any conditions and limitations as deemed appropriate by the NRC. The licensee may then commence with the final remediation of site facilities and services, including:

- Removal of remaining plant systems and associated components as they become nonessential to the decommissioning program or worker health and safety (e.g., waste collection and treatment systems, electrical power and ventilation systems).
- Removal of the steel liners from refueling canal, disposing of the activated and contaminated sections as radioactive waste. Removal of any activated/ contaminated concrete.
- Surveys of the decontaminated areas of the containment structure.
- Remediation and removal of the contaminated equipment and material from the auxiliary and fuel buildings and any other contaminated facility. Radiation and contamination controls will be utilized until residual levels indicate that the structures and equipment can be released for unrestricted access and conventional demolition. This activity may necessitate the dismantling and disposition of most of the systems and components (both clean and contaminated) located within these buildings. This activity facilitates surface decontamination and subsequent verification surveys required prior to obtaining release for demolition.

- Routing of material removed in the decontamination and dismantling to a central processing area. Material certified to be free of contamination is released for unrestricted disposition, e.g., as scrap, recycle, or general disposal. Contaminated material is characterized and segregated for additional off-site processing (disassembly, chemical cleaning, volume reduction, and waste treatment), and/or packaged for controlled disposal at a low-level radioactive waste disposal facility.

Incorporated into the LTP is the Final Survey Plan. This plan identifies the radiological surveys to be performed once the decontamination activities are completed and is developed using the guidance provided in the "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)."[16] This document incorporates the statistical approaches to survey design and data interpretation used by the EPA. It also identifies commercially available instrumentation and procedures for conducting radiological surveys. Use of this guidance ensures that the surveys are conducted in a manner that provides a high degree of confidence that applicable NRC criteria are satisfied. Once the survey is complete, the results are provided to the NRC in a format that can be verified. The NRC then reviews and evaluates the information, performs an independent confirmation of radiological site conditions, and makes a determination on the requested change to the operating license (that would release the property, exclusive of the ISFSI, for unrestricted use).

The NRC will amend the operating license(s) if it determines that site remediation has been performed in accordance with the LTP, and that the terminal radiation survey and associated documentation demonstrate that the facility is suitable for release.

2.1.3 Period 3 - Site Restoration

Following completion of decommissioning operations, site restoration activities will begin. Efficient removal of the contaminated materials and verification that residual radionuclide concentrations are below the NRC limits will result in substantial damage to many of the structures. Although performed in a controlled, safe manner, blasting, coring, drilling, scarification (surface removal), and the other decontamination activities will substantially degrade power block structures including the reactor, reactor, reactor auxiliary and fuel handling buildings. Under certain circumstances, verifying that subsurface radionuclide concentrations meet NRC site release requirements will require removal of grade slabs and lower floors, potentially weakening footings and

structural supports. This removal activity will be necessary for those facilities and plant areas where historical records, when available, indicate the potential for radionuclides having been present in the soil, where system failures have been recorded, or where it is required to confirm that subsurface process and drain lines were not breached over the operating life of the station.

Prompt dismantling of site structures is clearly the most appropriate and cost-effective option. It is unreasonable to anticipate that these structures would be repaired and preserved after the radiological contamination is removed. The cost to dismantle site structures with a work force already mobilized on site is more efficient than if the process were deferred. Site facilities quickly degrade without maintenance, adding additional expense and creating potential hazards to the public as well as to future workers. Abandonment creates a breeding ground for vermin infestation as well as other biological hazards.

This cost study presumes that non-essential structures and site facilities are dismantled as a continuation of the decommissioning activity. Foundations and exterior walls are removed to a nominal depth of three feet below grade. The three-foot depth allows for the placement of gravel for drainage, as well as topsoil, so that vegetation can be established for erosion control. Site areas affected by the dismantling activities are restored and the plant area graded as required to prevent ponding and inhibit the refloating of subsurface materials.

Non-contaminated concrete rubble produced by demolition activities is processed to remove reinforcing steel and miscellaneous embedments. The processed material is then used on site to backfill foundation voids. Excess non-contaminated materials are trucked to an off-site area for disposal as construction debris.

2.1.4 ISFSI Operations and Decommissioning

The ISFSI will continue to operate under a general license (10 CFR §50) following the amendment of the operating license(s) to release the adjacent property. Assuming the DOE starts accepting fuel from the Turkey Point spent fuel storage pools in 2031, transfer of spent fuel from the ISFSI is anticipated to begin in 2039, and continue through the year 2072.

At the conclusion of the spent fuel transfer process, the ISFSI will be decommissioned. The NRC will terminate the §50 license when it

determines that the remediation of the ISFSI has been performed in accordance with an ISFSI license termination plan and that the final radiation survey and associated documentation demonstrate that the facility is suitable for release. Once the requirements are satisfied, the NRC can terminate the license for the ISFSI.

Spent fuel is stored on the ISFSI in multi-purpose canisters, with a concrete overpack. For purposes of this cost analysis, it is assumed that once the inner canisters containing the spent fuel assemblies have been removed, any required decontamination performed on the storage overpack (some minor activation is assumed), and the license for the facility terminated, the concrete overpacks can be dismantled using conventional techniques for the demolition of reinforced concrete. The concrete storage pad is then removed and the area regraded.

2.2 SAFSTOR

The NRC defines SAFSTOR as "the alternative in which the nuclear facility is placed and maintained in a condition that allows the nuclear facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use." The facility is left intact (during the dormancy period), with structures maintained in a sound condition. Systems that are not required to support the spent fuel pools or site surveillance and security are drained, de-energized, and secured. Minimal cleaning/removal of loose contamination and/or fixation and sealing of remaining contamination are performed. Access to contaminated areas is secured to provide controlled access for inspection and maintenance.

The engineering and planning requirements are similar to those for the DECON alternative, although they are limited in scope with no large scale dismantling activities anticipated. Site preparations are also similar to those for the DECON alternative. However, with the exception of the required radiation surveys and site characterizations, the mobilization and preparation of site facilities is less extensive.

2.2.1 Period 1 - Preparations

Preparations for long-term storage include the planning for permanent defueling of the reactor, revision of technical specifications appropriate to the operating conditions and requirements, a characterization of the facility and major components, and the development of the PSDAR.

The process of placing the station in safe-storage includes, but is not limited to, the following activities:

- Isolating of the spent fuel storage services and fuel handling systems so that safe-storage operations may commence on the balance of the plant. This activity may be carried out by plant personnel in accordance with existing operating technical specifications. Activities are scheduled around the fuel handling systems to the greatest extent possible.
- Transferring of the spent fuel from the storage pools to the DOE or to the ISFSI for interim storage, following the minimum required cooling period in the spent fuel pools.
- Draining and de-energizing of the non-contaminated systems not required to support continued site operations or maintenance.
- Disposing of contaminated filter elements and resin beds not required for processing wastes from layup activities for future operations.
- Draining of the reactor vessel, with the internals left in place and the vessel head secured.
- Draining and de-energizing non-essential, contaminated systems with decontamination as required for future maintenance and inspection.
- Preparing lighting and alarm systems whose continued use is required; de-energizing portions of fire protection, electric power, and HVAC systems whose continued use is not required.
- Cleaning of the loose surface contamination from building access pathways.
- Performing an interim radiation survey of the plant, posting warning signs where appropriate.
- Erecting physical barriers and/or securing all access to radioactive or contaminated areas, except as required for inspection and maintenance.
- Installing security and surveillance monitoring equipment and relocating security fence around secured structures, as required.

2.2.2 Period 2 - Dormancy

The second phase identified by the NRC in its rule addresses licensed activities during a storage period and is applicable to the dormancy phases of the deferred decommissioning alternatives. Dormancy

activities include a 24-hour security force, preventive and corrective maintenance on security systems, area lighting, general building maintenance, heating and ventilation of buildings, routine radiological inspections of contaminated structures, maintenance of structural integrity, and a site environmental and radiation monitoring program. Resident maintenance personnel perform equipment maintenance, inspection activities, routine services to maintain safe conditions, adequate lighting, heating, and ventilation, and periodic preventive maintenance on essential site services.

An environmental surveillance program is carried out during the dormancy period to ensure that releases of radioactive material to the environment are prevented and/or detected and controlled. Appropriate emergency procedures are established and initiated for potential releases that exceed prescribed limits. The environmental surveillance program constitutes an abbreviated version of the program in effect during normal plant operations.

Security during the dormancy period is conducted primarily to prevent unauthorized entry and to protect the public from the consequences of its own actions. The security fence, sensors, alarms, and other surveillance equipment provide security. Fire and radiation alarms are also monitored and maintained.

Consistent with the DECON alternative, the spent fuel storage pools are emptied within five and one half years of the cessation of operations. The transfer of the spent fuel to the DOE continues throughout the dormancy period until completed in 2072. Once emptied, the ISFSI is secured for storage and decommissioned along with the power block structures in Period 4.

After a period of storage (such that license termination is accomplished within 60 years of final shutdown), it is required that the licensee submit an application to terminate the license, along with an LTP (described in Section 2.1.2), thereby initiating the third phase.

2.2.3 Periods 3 and 4 - Delayed Decommissioning

Prior to the commencement of decommissioning operations, preparations are undertaken to reactivate site services and prepare for decommissioning. Preparations include engineering and planning, a detailed site characterization, and the assembly of a decommissioning management organization. Final planning for activities and the writing

of activity specifications and detailed procedures are also initiated at this time.
Much of the work in developing a termination plan is relevant to the development of the detailed engineering plans and procedures. The activities associated with this phase and the follow-on decontamination and dismantling processes are detailed in Sections 2.1.1 and 2.1.2. The primary difference between the sequences anticipated for the DECON and this deferred scenario is the absence, in the latter, of any constraint on the availability of the fuel storage facilities for decommissioning.

The additional decay time is not expected to significantly affect the quantities of radioactive wastes generated from system and structure removal operations. Given the levels of radioactivity and spectrum of radionuclides expected from sixty years of plant operation, no plant process system identified as being contaminated upon final shutdown will become releasable due to the decay period alone, i.e., there is no significant reduction in the waste generated from the decommissioning activities. However, due to the lower activity levels, a greater percentage of the waste volume can be designated for off-site processing and recovery.

The delay in decommissioning also yields lower working area radiation levels. As such, the estimates for this delayed scenario incorporate reduced ALARA controls for the SAFSTOR's lower occupational exposure potential.

Although the initial radiation levels due to ^{60}Co will decrease during the dormancy period, the internal components of the reactor vessel will still exhibit sufficiently high radiation dose rates to require remote sectioning under water due to the presence of long-lived radionuclides such as ^{94}Nb, ^{59}Ni, and ^{63}Ni. Therefore, the dismantling procedures described for the DECON alternative would still be employed during this scenario. Portions of the biological shield wall will still be radioactive due to the presence of activated trace elements with long half-lives (^{152}Eu and ^{154}Eu). Decontamination will require controlled removal and disposal. It is assumed that radioactive corrosion products on inner surfaces of piping and components will not have decayed to levels that will permit unrestricted use or allow conventional removal. These systems and components will be surveyed as they are removed and disposed of in accordance with the existing radioactive release criteria.

2.2.4 Period 5 - Site Restoration

Following completion of decommissioning operations, site-restoration activities can begin. Dismantling, as a continuation of the decommissioning process, is clearly the most appropriate and cost-effective option, as described in Section 2.1.3. The basis for the dismantling cost in this scenario is consistent with that described for DECON, presuming the removal of structures and site facilities to a nominal depth of three feet below grade and the limited restoration of the site.

3. COST ESTIMATE

The cost estimates prepared for decommissioning Turkey Point consider the unique features of the site, including the NSSS, power generation systems, support services, site buildings, and ancillary facilities. The basis of the estimates, including the sources of information relied upon, the estimating methodology employed, site-specific considerations, and other pertinent assumptions, is described in this section.

3.1 BASIS OF ESTIMATE

The estimates were developed using the site-specific, technical information from the 2005 analysis. This information was reviewed for the current analysis and updated as deemed appropriate. The site-specific considerations and assumptions used in the previous evaluation were also revisited. Modifications were incorporated where new information was available or experience from ongoing decommissioning programs provided viable alternatives or improved processes.

3.2 METHODOLOGY

The methodology used to develop the estimates follows the basic approach originally presented in the AIF/NESP-036 study report, "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates,"[17] and the DOE "Decommissioning Handbook."[18] These documents present a unit factor method for estimating decommissioning activity costs, which simplifies the estimating calculations. Unit factors for concrete removal ($/cubic yard), steel removal ($/ton), and cutting costs ($/inch) are developed using local labor rates. The activity-dependent costs are estimated with the item quantities (cubic yards and tons), developed from plant drawings and inventory documents. Removal rates and material costs for the conventional disposition of components and structures rely upon information available in the industry publication, "Building Construction Cost Data," published by R.S. Means.[19]

The unit factor method provides a demonstrable basis for establishing reliable cost estimates. The detail provided in the unit factors, including activity duration, labor costs (by craft), and equipment and consumable costs, ensures that essential elements have not been omitted. Appendix A presents the detailed development of a typical unit factor. Appendix B provides the values contained within one set of factors developed for this analysis.

This analysis reflects lessons learned from TLG's involvement in the Shippingport Station Decommissioning Project, completed in 1989, as well as the decommissioning of the Cintichem reactor, hot cells, and associated facilities, completed in 1997. In addition, the planning and engineering for the Pathfinder, Shoreham, Rancho Seco, Trojan, Yankee Rowe, Big Rock Point, Maine Yankee, Humboldt Bay-3, Oyster Creek, Connecticut Yankee, and San Onofre-1 nuclear units have provided additional insight into the process, the regulatory aspects, and the technical challenges of decommissioning commercial nuclear units.

Work Difficulty Factors

TLG has historically applied work difficulty adjustment factors (WDFs) to account for the inefficiencies in working in a power plant environment. WDFs are assigned to each unique set of unit factors, commensurate with the inefficiencies associated with working in confined, hazardous environments. The ranges used for the WDFs are as follows:

• Access Factor	10% to 20%
• Respiratory Protection Factor	10% to 50%
• Radiation/ALARA Factor	10% to 37%
• Protective Clothing Factor	10% to 30%
• Work Break Factor	8.33%

The factors and their associated range of values were developed in conjunction with the AIF/NESP-036 study. The application of the factors is discussed in more detail in that publication.

Scheduling Program Durations

The unit factors, adjusted by the WDFs as described above, are applied against the inventory of materials to be removed in the radiological controlled areas. The resulting man-hours, or crew-hours, are used in the development of the decommissioning program schedule, using resource loading and event sequencing considerations. The scheduling of conventional removal and dismantling activities is based upon productivity information available from the "Building Construction Cost Data" publication.

An activity duration critical path is used to determine the total decommissioning program schedule. The schedule is relied upon in calculating the carrying costs, which include program management, administration, field

engineering, equipment rental, and support services such as quality control and security. This systematic approach for assembling decommissioning estimates ensures a high degree of confidence in the reliability of the resulting costs.

3.3 IMPACT OF DECOMMISSIONING MULTIPLE REACTOR UNITS

In estimating the near simultaneous decommissioning of two co-located reactor units there can be opportunities to achieve economies of scale, by sharing costs between units, and coordinating the sequence of work activities. There will also be schedule constraints, particularly where there are requirements for specialty equipment and staff, or practical limitations on when final status surveys can take place. For purposes of the estimates, Units 3 and 4 are assumed to be essentially identical. Common facilities have been assigned to Unit 4. A summary of the principal impacts are listed below.

- The sequence of work generally follows the principal that the work is done at Unit 3 first, followed by similar work at Unit 4. This permits the experience gained at Unit 3 to be applied by the workforce at the second unit. It should be noted however, that the estimates do not consider productivity improvements at the second unit, since there is little documented experience with decommissioning two units simultaneously. The work associated with developing activity specifications and procedures can, however, be considered essentially identical between the two units, therefore the second unit costs are assumed to be a fraction of the first unit (e.g., ~ 43% in DECON).
- Segmenting the reactor vessel and internals will require the use of special equipment. The decommissioning project will be scheduled such that Unit 4's reactor internals and vessel are segmented after the activities at Unit 3 have been completed, permitting the sharing of the cutting equipment.
- Some program management and support costs, particularly costs associated with the more senior positions, can be avoided with two reactors undergoing decommissioning simultaneously. As a result, the estimates are based on a "lead" unit that includes these senior positions, and a "second" unit that excludes these positions. The designation as lead is based on the unit undertaking the most complex tasks (for instance vessel segmentation) or performing tasks for the first time.
- The final radiological survey schedule is also affected by a two-unit decommissioning schedule. It would be considered impractical to try to complete the final status survey of Unit 3, while Unit 4 still has ongoing radiological remediation work and waste handling in process. As such, the transfer of the spent fuel from the storage pools and subsequent

decontamination of the fuel building is coordinated so as to synchronize the final status survey for the station.

- The final demolition of buildings at Units 3 and 4 are considered to take place concurrently.
- The first unit to enter decommissioning incurs the majority of site characterization costs.
- Shared systems and structures are generally assigned to Unit 4.
- Station costs such as emergency response fees, regulatory agency fees, corporate overhead, and insurance are generally allocated on an equal basis between the two units.
- Dormancy costs (to maintain the units in safe-storage) in the SAFSTOR scenario are allocated on an equal basis between the two units.

3.4 FINANCIAL COMPONENTS OF THE COST MODEL

TLG's proprietary decommissioning cost model, DECCER, produces a number of distinct cost elements. These direct expenditures, however, do not comprise the total cost to accomplish the project goal, i.e., license termination and site restoration.

Inherent in any cost estimate that does not rely on historical data is the inability to specify the precise source of costs imposed by factors such as tool breakage, accidents, illnesses, weather delays, and labor stoppages. In the DECCER cost model, contingency fulfills this role. Contingency is added to each line item to account for costs that are difficult or impossible to develop analytically. Such costs are historically inevitable over the duration of a job of this magnitude; therefore, this cost analysis includes funds to cover these types of expenses.

3.4.1 Contingency

The activity- and period-dependent costs are combined to develop the total decommissioning cost. A contingency is then applied on a line-item basis, using one or more of the contingency types listed in the AIF/NESP-036 study. "Contingencies" are defined in the American Association of Cost Engineers "Project and Cost Engineers' Handbook"[20] as "specific provision for unforeseeable elements of cost within the defined project scope; particularly important where previous experience relating estimates and actual costs has shown that unforeseeable events which will increase costs are likely to occur." The cost elements in this analysis are based upon ideal conditions and

maximum efficiency; therefore, consistent with industry practice, contingency is included. In the AIF/NESP-036 study, the types of unforeseeable events that are likely to occur in decommissioning are discussed and guidelines are provided for percentage contingency in each category. It should be noted that contingency, as used in this analysis, does not account for price escalation and inflation in the cost of decommissioning over the remaining operating life of the station.

Contingency funds are an integral part of the total cost to complete the decommissioning process. Exclusion of this component puts at risk a successful completion of the intended tasks and, potentially, subsequent related activities. For this study, TLG examined the major activity-related problems (decontamination, segmentation, equipment handling, packaging, transport, and waste disposal) that necessitate a contingency. Individual activity contingencies ranged from 10% to 75%, depending on the degree of difficulty judged to be appropriate from TLG's actual decommissioning experience. The contingency values used in this study are as follows:

• Decontamination	50%
• Contaminated Component Removal	25%
• Contaminated Component Packaging	10%
• Contaminated Component Transport	15%
• Low-Level Radioactive Waste Disposal	25%
• Reactor Segmentation	75%
• NSSS Component Removal	25%
• Reactor Waste Packaging	25%
• Reactor Waste Transport	25%
• Reactor Vessel Component Disposal	50%
• GTCC Disposal	15%
• Non-Radioactive Component Removal	15%
• Heavy Equipment and Tooling	15%
• Supplies	25%
• Engineering	15%
• Energy	15%
• Characterization and Termination Surveys	30%
• Construction	15%
• Taxes and Fees	10%
• Insurance	10%
• Staffing	15%

The contingency values are applied to the appropriate components of the estimates on a line item basis. A composite value is then reported at the end of each detailed estimate (as provided in Appendix C and D). For example, the composite contingency value reported for the decommissioning activity for the DECON alternative in Appendix C is approximately 17.4% and for the SAFSTOR alternative in Appendix D is approximately 16.2%.

3.4.2 Financial Risk

In addition to the routine uncertainties addressed by contingency, another cost element that is sometimes necessary to consider when bounding decommissioning costs relates to uncertainty, or risk. Examples can include changes in work scope, pricing, job performance, and other variations that could conceivably, but not necessarily, occur. Consideration is sometimes necessary to generate a level of confidence in the estimate, within a range of probabilities. TLG considers these types of costs under the broad term "financial risk." Included within the category of financial risk are:

- Transition activities and costs: ancillary expenses associated with eliminating 50% to 80% of the site labor force shortly after the cessation of plant operations, added cost for worker separation packages throughout the decommissioning program, national or company-mandated retraining, and retention incentives for key personnel.
- Delays in approval of the decommissioning plan due to intervention, public participation in local community meetings, legal challenges, and national and local hearings.
- Changes in the project work scope from the baseline estimate, involving the discovery of unexpected levels of contaminants, contamination in places not previously expected, contaminated soil previously undiscovered (either radioactive or hazardous material contamination), variations in plant inventory or configuration not indicated by the as-built drawings.
- Regulatory changes, for example, affecting worker health and safety, site release criteria, waste transportation, and disposal.
- Policy decisions altering national commitments (e.g., in the ability to accommodate certain waste forms for disposition), or in the timetable for such, for example, the start and rate of acceptance of spent fuel by the DOE.

- Pricing changes for basic inputs such as labor, energy, materials, and disposal. Items subject to widespread price competition (such as materials) may not show significant variation; however, others such as waste disposal could exhibit large pricing uncertainties, particularly in markets where limited access to services is available.

This cost study does not add any additional costs to the estimate for financial risk, since there is insufficient historical data from which to project future liabilities. Consequently, the areas of uncertainty or risk are revisited periodically and addressed through repeated revisions or updates of the base estimates.

3.5 SITE-SPECIFIC CONSIDERATIONS

There are a number of site-specific considerations that affect the method for dismantling and removal of equipment from the site and the degree of restoration required. The cost impact of the considerations identified below is included in this cost study.

3.5.1 Spent Fuel Management

The cost to dispose the spent fuel generated from plant operations is not reflected within the estimates to decommission Turkey Point. Ultimate disposition of the spent fuel is within the province of the DOE's Waste Management System, as defined by the Nuclear Waste Policy Act. As such, the disposal cost is financed by a 1 mill/kWhr surcharge paid into the DOE's waste fund during operations. However, the NRC requires licensees to establish a program to manage and provide funding for the management of all irradiated fuel at the reactor site until title of the fuel is transferred to the Secretary of Energy. This funding requirement is fulfilled through inclusion of certain high-level waste cost elements within the estimates, as described below.

Completion of the decommissioning process is highly dependent upon the DOE's ability to remove spent fuel from the site. The timing for removal of spent fuel from the site is based upon the DOE's most recently published annual acceptance rates of 400 MTU/year for year 1, 3,800 MTU total for years 2 through 4 and 3,000 MTU/year for year 5 and beyond. The DOE contracts provide mechanisms for altering the oldest fuel first allocation scheme, including emergency deliveries, exchanges of allocations amongst utilities and the option of providing priority acceptance from permanently shutdown nuclear reactors. Because it is unclear how these mechanisms may operate once DOE

begins accepting spent fuel from commercial reactors, this study assumes that DOE will accept spent fuel in an oldest fuel first order.

ISFSI

An ISFSI, which is operated under the plant's general license, has been constructed to support management of the spent fuel during operations. The facility is assumed to be available to support spent fuel management once the units cease operation, until the DOE is able to removal all spent fuel from the site.

The ISFSI will continue to operate throughout decommissioning, and beyond the termination of the operating license in the DECON decommissioning alternative, until such time that the transfer of spent fuel to the DOE can be completed. Assuming, conservatively, that DOE begins to remove spent fuel from the site in 2031, the process is expected to be completed by the year 2072. The scenario is similar for the SAFSTOR alternative; however, based upon the expected completion date for fuel transfer, the ISFSI will be emptied prior to the commencement of decommissioning operations.

Post-shutdown and maintenance costs for the spent fuel pools and the ISFSI are also included and address the cost for staffing the facility, as well as security, insurance, and licensing fees. Costs are provided for the final disposition of the facilities once the transfer is complete.

Canister Design

A Transnuclear NUHOMS®-32PT system (with a 32 fuel assembly capacity) is assumed for future acquisitions. For fuel transferred directly from the pools to the DOE, the DOE is assumed to provide Transport, Aging and Disposal (TAD) canisters with a 32 assembly capacity. DOE has not provided details about the TAD canisters other than assembly capacity.

Canister Loading and Transfer

The estimates include the cost for the labor and equipment to transfer and load each spent fuel canister into the DOE transport cask or to the ISFSI from the wet storage pools. Since the DOE has not published details about its cask system, this rough estimate is necessary. However, use of this estimate should not be used to infer that TLG has any detailed information on the cask system DOE will ultimately provide.

Operations and Maintenance

The estimates include the cost of operating and maintaining the spent fuel pools and the ISFSI, respectively. Pool operations are expected to continue approximately five and one half years after the cessation of operations. ISFSI operating costs are based upon a 39 year period of operations following the shutdown of Unit 4.

ISFSI Design Considerations

A multi-purpose (storage and transport) dry shielded storage canister (DSC) with a horizontal storage module (HSM) is used as a basis for the cost analyses. The HSMs are assumed to have some level of neutron-induced activation as a result of the long-term storage of the fuel, i.e., to levels exceeding free-release limits. The cost of the disposition of this material, as well as the demolition of the ISFSI facility, is included in the estimates.

GTCC

The dismantling of the reactor internals may generate radioactive waste considered unsuitable for shallow land disposal (i.e., low-level radioactive waste with concentrations of radionuclides that exceed the limits established by the NRC for Class C radioactive waste (GTCC)). The Low-Level Radioactive Waste Policy Amendments Act of 1985 assigned the federal government the responsibility for the disposal of this material. The Act also stated that the beneficiaries of the activities resulting in the generation of such radioactive waste bear all reasonable costs of disposing of such waste. Although the DOE is responsible for disposing of GTCC waste, any costs for that service have not been determined. For purposes of this estimate, the GTCC radioactive waste is assumed to be packaged and disposed of as high-level waste, at a cost equivalent to that envisioned for the spent fuel.

For purposes of this study, GTCC is packaged in the same canisters used to store spent fuel. Disposal costs are based upon a cost equivalent to that envisioned for the spent fuel. It is not anticipated that the DOE would accept this waste prior to completing the transfer of spent fuel. Therefore, until such time the DOE is ready to accept GTCC waste, it is reasonable to assume that this material would remain in storage at the Turkey Point site (for the DECON alternative). In the SAFSTOR alternative, the GTCC material is shipped directly to a DOE facility as it

is removed, since spent the fuel will have been removed from the site prior to the start of decommissioning.

3.5.2 Reactor Vessel and Internal Components

The reactor pressure vessel and internal components are segmented for disposal in shielded, reusable transportation casks. Segmentation is performed in the refueling canal, where a turntable and remote cutter are installed. The vessel is segmented in place, using a mast-mounted cutter supported off the lower head and directed from a shielded work platform installed overhead in the reactor cavity. Transportation cask specifications and transportation regulations dictate the segmentation and packaging methodology.

Intact disposal of reactor vessel shells has been successfully demonstrated at several of the sites that have been decommissioned. Access to navigable waterways has allowed these large packages to be transported, in most instances, to the Barnwell disposal site in South Carolina with minimal overland travel.

Intact disposal of the reactor vessel and internal components can provide additional savings in cost and worker exposure by eliminating the complex segmentation requirements, isolation of the GTCC material, and transport/storage of the resulting waste packages. Portland General Electric (PGE) was able to dispose of the Trojan reactor as an intact package (including the internals). However, its location on the Columbia River simplified the transportation analysis since:

- the reactor package could be secured to the transport vehicle for the entire journey, i.e., the package was not lifted during transport,
- there were no man-made or natural terrain features between the plant site and the disposal location that could produce a large drop, and
- transport speeds were very low, limited by the overland transport vehicle and the river barge.

As a member of the Northwest Compact, PGE had a site available for disposal of the package - the US Ecology facility in Washington State. The characteristics of this arid site proved favorable in demonstrating compliance with land disposal regulations.

It is not known whether intact disposal (of the vessel shell or the complete vessel and internals) will be available when the St. Lucie plant ceases operation. Future viability of this option will depend upon the ultimate location of the disposal site, as well as the disposal site licensee's ability to accept highly radioactive packages and effectively isolate them from the environment. Consequently, this study assumes that the reactor vessel will require segmentation, as a bounding condition.

3.5.3 Primary System Components

In the DECON alternative, the reactor coolant system components are assumed to be decontaminated using chemical agents prior to the start of dismantling operations. This type of decontamination can be expected to have a significant ALARA impact, since in this scenario the removal work is done within the first few years of shutdown. A decontamination factor (average reduction) of 10 is assumed for the process. Disposal of the decontamination solution effluent is included within the estimate as a "process chemical waste" charge. In the SAFSTOR alternative, radionuclide decay is expected to provide the same benefit and, therefore, a chemical decontamination is not included.

The following discussion deals with the removal and disposition of the steam generators, but the techniques involved are also applicable to other large components, such as heat exchangers, component coolers, and the pressurizer. The steam generators' size and weight, as well as their location within the reactor building, will ultimately determine the removal strategy.

A trolley crane is set up for the removal of the generators. It can also be used to move portions of the steam generator cubicle walls and floor slabs from the reactor building to a location where they can be decontaminated and transported to the material handling area. Interferences within the work area, such as grating, piping, and other components are removed to create sufficient laydown space for processing these large components.

The generators are rigged for removal, disconnected from the surrounding piping and supports, and maneuvered into the open area where they are lowered onto a dolly. Each generator is rotated into the horizontal position for extraction from the containment and placed onto a multi-wheeled vehicle for transport to an on-site processing and storage area.

The generators are disassembled on-site with the steam domes and lightly contaminated subassemblies designated for off-site recycling. For cost estimating purposes, the more highly contaminated lower assembly containing the tube sheet and tube bundle are packaged for direct disposal, although additional processing may be an option. The interior volume is filled with low-density cellular concrete for stabilization of the internal contamination. Each component is then loaded onto a barge for transport to a railhead. The steam generators are then transferred to a dedicated train for transport to the disposal facility.

The lower assemblies of six retired steam generators currently stored at the site will be removed from their storage facility and disposed of along with the installed generators.

Reactor coolant piping is cut from the reactor vessel once the water level in the vessel (used for personnel shielding during dismantling and cutting operations in and around the vessel) is dropped below the nozzle zone. The piping is boxed and transported by shielded van. The reactor coolant pumps and motors are lifted out intact, packaged, and transported for processing and/or disposal.

3.5.4 Main Turbine and Condenser

The main turbine is dismantled using conventional maintenance procedures. The turbine rotors and shafts are removed to a laydown area. The lower turbine casings are removed from their anchors by controlled demolition. The main condensers are also disassembled and moved to a laydown area. Material is then prepared for transportation to an off-site recycling facility where it is surveyed and designated for either decontamination or volume reduction, conventional disposal, or controlled disposal. Components are packaged and readied for transport in accordance with the intended disposition.

3.5.5 Transportation Methods

Contaminated piping, components, and structural material other than the highly-activated reactor vessel and internal components will qualify as LSA-I, II or III or Surface Contaminated Object, SCO-I or II, as described in Title 49 of the Code of Federal Regulations.[21] The contaminated material will be packaged in Industrial Packages (IP-1, IP-2, or IP-3, as defined in 49 CFR 173.411) for transport unless demonstrated to qualify as their own shipping containers. The reactor vessel and internal components are expected to be transported in

accordance with 10 CFR Part 71, as Type B. It is conceivable that the reactor, due to its limited specific activity, could qualify as LSA II or III. However, the high radiation levels on the outer surface would require that additional shielding be incorporated within the packaging so as to attenuate the dose to levels acceptable for transport.

Any fuel cladding failure that occurred during the lifetime of the plant is assumed to have released fission products at sufficiently low levels that the buildup of quantities of long-lived isotopes (e.g., ^{137}Cs, ^{90}Sr, or transuranics) has been prevented from reaching levels exceeding those that permit the major reactor components to be shipped under current transportation regulations and disposal requirements.

Transport of the highly-activated metal, produced in the segmentation of the reactor vessel and internal components, will be by shielded truck cask. Cask shipments may exceed 95,000 pounds, including vessel segment(s), supplementary shielding, cask tie-downs, and tractor-trailer. The maximum level of activity per shipment assumed permissible was based upon the license limits of the available shielded transport casks. The segmentation scheme for the vessel and internal segments is designed to meet these limits.

The transport of large intact components (e.g., large heat exchangers and other oversized components) will be by a combination of truck, barge, rail, and/or multi-wheeled transporter.

Transportation costs for material requiring controlled disposal are based upon the mileage to EnergySolutions' facility in Clive, Utah. Transportation costs for off-site waste processing are based upon the mileage to Oak Ridge, Tennessee. Truck transport costs are estimated using published tariffs from Tri-State Motor Transit.[22]

3.5.6 Low-Level Radioactive Waste Disposal

To the greatest extent practical, metallic material generated in the decontamination and dismantling processes is processed to reduce the total cost of controlled disposal. Material meeting the regulatory and/or site release criterion, is released as scrap, requiring no further cost consideration. Conditioning (preparing the material to meet the waste acceptance criteria of the disposal site) and recovery of the waste stream is performed off site at a licensed processing center. Any material leaving the site is subject to a survey and release charge, at a minimum.

The mass of radioactive waste generated during the various decommissioning activities at the site is shown on a line-item basis in the detailed Appendices C and D, and summarized in Section 5. The quantified waste summaries shown in these tables are consistent with 10 CFR Part 61 classifications. Commercially available steel containers are presumed to be used for the disposal of piping, small components, and concrete. Larger components can serve as their own containers, with proper closure of all openings, access ways, and penetrations. The volumes are calculated based on the exterior package dimensions for containerized material or a specific calculation for components serving as their own waste containers.

The more highly activated reactor components will be shipped in reusable, shielded truck casks with disposable liners. In calculating disposal costs, the burial fees are applied against the liner volume, as well as the special handling requirements of the payload. Packaging efficiencies are lower for the highly-activated materials (greater than Type A quantity waste), where high concentrations of gamma-emitting radionuclides limit the capacity of the shipping canisters.

Disposal fees are based upon estimated charges, with surcharges added for the highly-activated components, for example, generated in the segmentation of the reactor vessel. The cost to dispose of the lowest level and majority of the material generated from the decontamination and dismantling activities is based upon FPL's current cost for disposal at the EnergySolutions facility in Clive, Utah. Disposal costs for the higher activity waste (Class B and C) were based upon the last published rate schedule for non-compact waste for the Barnwell facility (as a proxy), adjusted for escalation of the Atlantic Compact rates.

3.5.7 Site Conditions Following Decommissioning

The NRC will terminate the site license if it determines that site remediation has been performed in accordance with the license termination plan, and that the terminal radiation survey and associated documentation demonstrate that the facility is suitable for release. The NRC's involvement in the decommissioning process will end at this point. Building codes and environmental regulations will dictate the next step in the decommissioning process, as well as the owner's own future plans for the site.

Non-essential structures or buildings severely damaged in decontamination process are removed to a nominal depth of three feet

below grade. Concrete rubble generated from demolition activities is processed and made available as clean fill for the power block foundations. Excess construction debris is trucked off site as an alternative to onsite disposal. The excavations will be regraded such that the power block area will have a final contour consistent with adjacent surroundings.

The existing electrical switchyard and access roads will remain in support of the electrical transmission and distribution system. The site access road will be left intact.

3.6 ASSUMPTIONS

The following are the major assumptions made in the development of the estimates for decommissioning the site.

3.6.1 Estimating Basis

The study follows the principles of ALARA through the use of work duration adjustment factors. These factors address the impact of activities such as radiological protection instruction, mock-up training, and the use of respiratory protection and protective clothing. The factors lengthen a task's duration, increasing costs and lengthening the overall schedule. ALARA planning is considered in the costs for engineering and planning, and in the development of activity specifications and detailed procedures. Changes to worker exposure limits may impact the decommissioning cost and project schedule.

3.6.2 Labor Costs

The craft labor required to decontaminate and dismantle the nuclear units will be acquired through standard site contracting practices. The current cost of labor at the site is used as an estimating basis. Costs for site administration, operations, construction, and maintenance personnel are based upon average salary information provided by FPL.

FPL will hire a Decommissioning Operations Contractor (DOC) to manage the decommissioning. The licensee will provide site security, radiological health and safety, quality assurance and overall site administration during the decommissioning and demolition phases. Contract personnel will provide engineering services, e.g., for preparing the activity specifications, work procedures, activation, and structural analyses, under the direction of the owner.

Reductions in the operating organization are handled through normal company practices. No costs have been included for this activity.

Security, while reduced from operating levels, is maintained throughout the decommissioning for access control, material control, and to safeguard the spent fuel.

3.6.3 Design Conditions

Any fuel cladding failure that occurred during the lifetime of the plant is assumed to have released fission products at sufficiently low levels that the buildup of quantities of long-lived isotopes (e.g., ^{137}Cs, ^{90}Sr, or transuranics) has been prevented from reaching levels exceeding those that permit the major NSSS components to be shipped under current transportation regulations and disposal requirements.

The curie contents of the vessel and internals at final shutdown are derived from those listed in NUREG/CR-3474.[23] Actual estimates are derived from the curie/gram values contained therein and adjusted for the different mass of the Turkey Point components, projected operating life, and different periods of decay. Additional short-lived isotopes were derived from NUREG/CR-0130[24] and NUREG/CR-0672,[25] and benchmarked to the long-lived values from NUREG/CR-3474.

The control elements are disposed of along with the spent fuel, i.e., there is no additional cost provided for their disposal.

This study assumes that contamination (activation) of the containment building structure is confined to the biological shield. It should be noted that more extensive activation (at very low levels) of the interior structures within containment has been detected at several reactors and the owners have elected to dispose of the affected material at a controlled facility rather than reuse the material as fill on site or send it to a landfill. The ultimate disposition of the material removed from the reactor building will depend upon the site release criteria selected, as well as the designated end use for the site.

Contaminated Soil

The estimates include an allowance for the remediation of contaminated soil from the reactor closure head replacement (approximately 14,310 cubic feet). Remediation and disposal of 59,300 cubic feet of contaminated soil/grass like material is also included.

Asbestos and Hazardous Waste

The estimates include an allowance for the remediation of asbestos insulation and fire retardant material at Units 3 and 4 and disposal of mixed/hazardous waste left over from plant operations.

3.6.4 General

Transition Activities

Existing warehouses are cleared of non-essential material and remain for use by FPL and its subcontractors. The plant's operating staff performs the following activities at no additional cost or credit to the project during the transition period:

- Drain and collect fuel oils, lubricating oils, and transformer oils for recycle and/or sale.
- Drain and collect acids, caustics, and other chemical stores for recycle and/or sale.
- Process operating waste inventories; the disposal of operating wastes during this initial period is not considered a decommissioning expense.

Scrap and Salvage

The existing plant equipment is considered obsolete and suitable for scrap as deadweight quantities only. FPL will make economically reasonable efforts to salvage equipment following final plant shutdown. However, dismantling techniques assumed by TLG for equipment in this analysis are not consistent with removal techniques required for salvage (resale) of equipment. Experience has indicated that some buyers wanted equipment stripped down to very specific requirements before they would consider purchase. This required expensive rework after the equipment had been removed from its installed location. Since placing a salvage value on this machinery and equipment would be speculative, and the value would be small in comparison to the overall decommissioning expenses, this analysis does not attempt to quantify the value that an owner may realize based upon those efforts.

It is assumed, for purposes of this analysis, that any value received from the sale of scrap generated in the dismantling process would be more than offset by the on-site processing costs. The dismantling techniques

assumed in the decommissioning estimates do not include the additional cost for size reduction and preparation to meet "furnace ready" conditions. For example, the recovery of copper from electrical cabling may require the removal and disposition of any contaminated insulation, an added expense. With a volatile market, the potential profit margin in scrap recovery is highly speculative, regardless of the ability to free release this material. This assumption is an implicit recognition of scrap value in the disposal of clean metallic waste at no additional cost to the project.

Furniture, tools, mobile equipment such as forklifts, trucks, bulldozers, and other property is removed at no cost or credit to the decommissioning project. Disposition may include relocation to other facilities. Spare parts are also made available for alternative use.

Energy

For estimating purposes, the plant is assumed to be de-energized, with the exception of those facilities associated with spent fuel storage. Replacement power costs are used to calculate the cost of energy consumed during decommissioning for tooling, lighting, ventilation, and essential services.

Insurance

Costs for continuing coverage (nuclear liability and property insurance) following cessation of plant operations and during decommissioning are included and based upon current operating premiums. Reductions in premiums, throughout the decommissioning process, are based upon the guidance and the limits for coverage defined in the NRC's proposed rulemaking "Financial Protection Requirements for Permanently Shutdown Nuclear Power Reactors."[26] The NRC's financial protection requirements are based on various reactor (and spent fuel) configurations.

Taxes

Property taxes assessed during decommissioning are considered a decommissioning cost. From the time Unit 3 ceases operation to the end of year 2033 (the year in which Unit 4 ceases operation), taxes for the site are assumed to be assessed on the land value only (assuming no significant value for the site structures). After 2033, the tax charged to decommissioning is reduced to the portion of the tax applicable to only

the protected area and ISFSI. This assessment (split 50/50 between the units) continues to be applied until the site is released for unrestricted use.

Site Modifications

The perimeter fence and in-plant security barriers will be moved, as appropriate, to conform to the Site Security Plan in force during the various stages of the project.

Site Restoration

The Intake and Discharge canals remain in place. Circulating water structures are removed and the canal bank restored. Structures to be removed include but are not limited to the containment, fuel handling, auxiliary, control, radwaste solidification, diesel generator, and turbine buildings.

3.7 COST ESTIMATE SUMMARY

Schedules of expenditures are provided in Tables 3.1 through 3.4 for the DECON and SAFSTOR alternatives. The tables delineate the cost contributors by year of expenditures as well as cost contributor (e.g., labor, materials, and waste disposal).

Additional tables in Appendices C and D provide detailed cost elements. The cost elements are also assigned to one of three subcategories: "License Termination," "Spent Fuel Management," and "Site Restoration." The subcategory "License Termination" is used to accumulate costs that are consistent with "decommissioning" as defined by the NRC in its financial assurance regulations (i.e., 10 CFR §50.75). The cost reported for this subcategory is generally sufficient to terminate the plant's operating license, recognizing that there may be some additional cost impact from spent fuel management.

The "Spent Fuel Management" subcategory contains costs anticipated to be incurred once the nuclear units cease operation for the off-loading of the pools either directly to the DOE or to the ISFSI for interim storage, and the eventual transfer of dry shielded canisters from the ISFSI to the DOE. Costs are also included for the operation of the ISFSI until such time that the transfer of all fuel from this facility to an off-site location (e.g., geologic repository) is complete.

"Site Restoration" is used to capture costs associated with the dismantling and demolition of buildings and facilities demonstrated to be free from contamination. This includes structures never exposed to radioactive materials, as well as those facilities that have been decontaminated to appropriate levels. Structures are removed to a depth of three feet and backfilled to conform to local grade.

As discussed in Section 3.4.1, it is not anticipated that the DOE will accept the GTCC waste prior to completing the transfer of spent fuel. Therefore, the cost of GTCC disposal is shown in the final year of ISFSI operation (for the DECON alternative). While designated for disposal at the geologic repository along with the spent fuel, GTCC waste is still classified as low-level radioactive waste and, as such, included as a "License Termination" expense.

Decommissioning costs are reported in 2010 dollars. Costs are not inflated, escalated, or discounted over the period of expenditure (or projected lifetime of the plant). The schedules are based upon the detailed activity costs reported in Appendices C and D, along with the timeline presented in Section 4.

The "Burial" column contains costs for the processing of low-level radioactive waste, as well as for the controlled disposal of material that cannot be recovered (released for unrestricted use). Since the following tables are often used in escalation analyses, costs associated with the disposition of GTCC have been reassigned to the "Other" column, commensurate with contractual payments for a one-time disposal service, although the cost is still reported in the "LLRW Disposal Costs" column in Appendices C and D and as a "Waste Disposal" cost in the summary tables (i.e., on pages xvii, xviii, 6-4 and 6-5). "Off-site Waste Processing," separately reported in the summary tables, has been included in the "Burial" column as well.

TABLE 3.1
TURKEY POINT NUCLEAR PLANT, UNIT 3
DECON ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2032	22,870	1,451	4	13	4,070	28,408
2033	60,261	10,638	593	8,439	19,606	99,537
2034	57,044	21,286	8,395	27,396	8,230	122,350
2035	43,120	18,897	4,367	14,331	6,735	87,449
2036	32,879	16,984	883	3,645	6,620	61,010
2037	32,789	16,937	881	3,635	6,602	60,843
2038	12,725	3,574	513	2,700	5,184	24,697
2039	10,914	1,392	4	13	5,976	18,299
2040	12,522	5,021	1	3	2,400	19,946
2041	11,812	5,519	0	0	1,535	18,866
2042	2,390	379	0	0	1,020	3,789
2043	1,986	159	0	0	998	3,143
2044	1,992	159	0	0	1,001	3,152
2045	1,986	159	0	0	998	3,143
2046	1,986	159	0	0	998	3,143
2047	1,986	159	0	0	998	3,143
2048	1,992	159	0	0	1,001	3,152
2049	1,986	159	0	0	998	3,143
2050	1,986	159	0	0	998	3,143
2051	1,986	159	0	0	998	3,143
2052	1,992	159	0	0	1,001	3,152
2053	1,986	159	0	0	998	3,143
2054	1,986	159	0	0	998	3,143
2055	1,986	159	0	0	998	3,143
2056	1,992	159	0	0	1,001	3,152
2057	1,986	159	0	0	998	3,143
2058	1,986	159	0	0	998	3,143
2059	1,986	159	0	0	998	3,143
2060	1,992	159	0	0	1,001	3,152
2061	1,986	159	0	0	998	3,143
2062	1,986	159	0	0	998	3,143

TABLE 3.1 (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 3
DECON ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2063	1,986	159	0	0	998	3,143
2064	1,992	159	0	0	1,001	3,152
2065	1,986	159	0	0	998	3,143
2066	1,986	159	0	0	998	3,143
2067	1,986	159	0	0	998	3,143
2068	1,992	159	0	0	1,001	3,152
2069	1,986	159	0	0	998	3,143
2070	1,986	159	0	0	998	3,143
2071	1,986	159	0	0	998	3,143
2072	1,988	484	0	0	12,206	14,679
2073	845	690	37	42	1,000	2,615
Total	359,799	107,863	15,678	60,216	110,148	653,704

TABLE 3.1a
TURKEY POINT NUCLEAR PLANT, UNIT 3
DECON ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2032	22,351	743	4	13	3,346	26,456
2033	58,541	8,818	593	8,439	18,015	94,405
2034	53,504	18,636	8,395	27,396	6,840	114,770
2035	39,132	10,617	4,367	14,331	5,356	73,803
2036	28,574	4,248	883	3,645	5,237	42,588
2037	28,496	4,237	881	3,635	5,223	42,472
2038	12,429	2,693	513	2,700	4,644	22,978
2039	10,575	375	4	13	5,476	16,443
2040	2,338	77	1	3	1,255	3,673
2041	113	0	0	0	291	404
2042	5	0	0	0	12	17
2043	0	0	0	0	0	0
2044	0	0	0	0	0	0
2045	0	0	0	0	0	0
2046	0	0	0	0	0	0
2047	0	0	0	0	0	0
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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

TABLE 3.1a (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 3
DECON ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
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	0	330	0	0	11,204	11,534
2073	0	0	0	0	0	0
Total	256,056	50,773	15,640	60,174	66,900	449,544

TABLE 3.1b
TURKEY POINT NUCLEAR PLANT, UNIT 3
DECON ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2032	236	708	0	0	724	1,668
2033	607	1,820	0	0	1,591	4,018
2034	861	2,583	0	0	1,389	4,833
2035	2,749	8,247	0	0	1,378	12,375
2036	4,244	12,733	0	0	1,382	18,360
2037	4,233	12,698	0	0	1,378	18,310
2038	294	881	0	0	541	1,716
2039	339	1,017	0	0	500	1,856
2040	1,743	202	0	0	933	2,877
2041	1,949	42	0	0	998	2,990
2042	1,985	154	0	0	998	3,137
2043	1,986	159	0	0	998	3,143
2044	1,992	159	0	0	1,001	3,152
2045	1,986	159	0	0	998	3,143
2046	1,986	159	0	0	998	3,143
2047	1,986	159	0	0	998	3,143
2048	1,992	159	0	0	1,001	3,152
2049	1,986	159	0	0	998	3,143
2050	1,986	159	0	0	998	3,143
2051	1,986	159	0	0	998	3,143
2052	1,992	159	0	0	1,001	3,152
2053	1,986	159	0	0	998	3,143
2054	1,986	159	0	0	998	3,143
2055	1,986	159	0	0	998	3,143
2056	1,992	159	0	0	1,001	3,152
2057	1,986	159	0	0	998	3,143
2058	1,986	159	0	0	998	3,143
2059	1,986	159	0	0	998	3,143
2060	1,992	159	0	0	1,001	3,152
2061	1,986	159	0	0	998	3,143
2062	1,986	159	0	0	998	3,143

TABLE 3.1b (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 3
DECON ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2063	1,986	159	0	0	998	3,143
2064	1,992	159	0	0	1,001	3,152
2065	1,986	159	0	0	998	3,143
2066	1,986	159	0	0	998	3,143
2067	1,986	159	0	0	998	3,143
2068	1,992	159	0	0	1,001	3,152
2069	1,986	159	0	0	998	3,143
2070	1,986	159	0	0	998	3,143
2071	1,986	159	0	0	998	3,143
2072	1,988	154	0	0	1,002	3,145
2073	845	690	37	42	1,000	2,615
Total	79,713	46,541	37	43	42,779	169,113

TABLE 3.1c
TURKEY POINT NUCLEAR PLANT, UNIT 3
DECON ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2032	284	0	0	0	0	284
2033	1,114	0	0	0	0	1,114
2034	2,679	68	0	0	0	2,747
2035	1,239	33	0	0	0	1,271
2036	60	2	0	0	0	62
2037	60	2	0	0	0	62
2038	3	0	0	0	0	3
2039	0	0	0	0	0	0
2040	8,441	4,742	0	0	213	13,396
2041	9,750	5,477	0	0	246	15,473
2042	401	225	0	0	10	636
2043	0	0	0	0	0	0
2044	0	0	0	0	0	0
2045	0	0	0	0	0	0
2046	0	0	0	0	0	0
2047	0	0	0	0	0	0
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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

TABLE 3.1c (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 3
DECON ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
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	0	0	0	0	0	0
2073	0	0	0	0	0	0
Total	24,030	10,548	0	0	469	35,047

TABLE 3.2
TURKEY POINT NUCLEAR PLANT, UNIT 4
DECON ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2033	26,581	1,783	6	19	6,305	34,695
2034	43,091	9,277	1,248	11,295	16,665	81,576
2035	58,405	19,307	8,988	28,894	6,663	122,257
2036	56,581	28,001	3,977	13,973	6,489	109,020
2037	55,375	32,504	1,297	5,985	6,370	101,531
2038	50,009	26,198	1,184	5,607	6,352	89,350
2039	22,688	3,195	312	1,672	7,634	35,501
2040	14,294	6,607	1	3	2,489	23,394
2041	13,859	7,344	0	0	1,537	22,739
2042	2,474	454	0	0	1,020	3,948
2043	1,986	159	0	0	998	3,143
2044	1,992	159	0	0	1,001	3,152
2045	1,986	159	0	0	998	3,143
2046	1,986	159	0	0	998	3,143
2047	1,986	159	0	0	998	3,143
2048	1,992	159	0	0	1,001	3,152
2049	1,986	159	0	0	998	3,143
2050	1,986	159	0	0	998	3,143
2051	1,986	159	0	0	998	3,143
2052	1,992	159	0	0	1,001	3,152
2053	1,986	159	0	0	998	3,143
2054	1,986	159	0	0	998	3,143
2055	1,986	159	0	0	998	3,143
2056	1,992	159	0	0	1,001	3,152
2057	1,986	159	0	0	998	3,143
2058	1,986	159	0	0	998	3,143
2059	1,986	159	0	0	998	3,143
2060	1,992	159	0	0	1,001	3,152
2061	1,986	159	0	0	998	3,143
2062	1,986	159	0	0	998	3,143
2063	1,986	159	0	0	998	3,143

TABLE 3.2 (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 4
DECON ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2064	1,992	159	0	0	1,001	3,152
2065	1,986	159	0	0	998	3,143
2066	1,986	159	0	0	998	3,143
2067	1,986	159	0	0	998	3,143
2068	1,992	159	0	0	1,001	3,152
2069	1,986	159	0	0	998	3,143
2070	1,986	159	0	0	998	3,143
2071	1,986	159	0	0	998	3,143
2072	1,988	484	0	0	12,206	14,679
2073	845	690	37	42	1,000	2,615
Total	403,829	140,449	17,050	67,490	103,695	732,513

TABLE 3.2a
TURKEY POINT NUCLEAR PLANT, UNIT 4
DECON ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2033	26,181	1,165	6	19	5,146	32,516
2034	42,298	9,040	1,248	11,295	15,088	78,968
2035	54,231	19,203	8,988	28,894	5,285	116,600
2036	49,088	10,219	3,977	13,973	5,107	82,364
2037	46,150	5,403	1,297	5,985	4,991	63,827
2038	42,861	5,197	1,184	5,607	5,178	60,027
2039	22,324	2,100	312	1,672	7,134	33,542
2040	2,282	84	1	3	1,342	3,712
2041	48	0	0	0	291	339
2042	2	0	0	0	12	14
2043	0	0	0	0	0	0
2044	0	0	0	0	0	0
2045	0	0	0	0	0	0
2046	0	0	0	0	0	0
2047	0	0	0	0	0	0
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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

TABLE 3.2a (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 4
DECON ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
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	0	330	0	0	11,204	11,534
2073	0	0	0	0	0	0
Total	285,465	52,741	17,012	67,448	60,778	483,444

TABLE 3.2b
TURKEY POINT NUCLEAR PLANT, UNIT 4
DECON ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2033	206	619	0	0	1,160	1,984
2034	77	230	0	0	1,577	1,884
2035	0	0	0	0	1,378	1,378
2036	5,914	17,741	0	0	1,382	25,036
2037	9,031	27,093	0	0	1,378	37,503
2038	6,999	20,996	0	0	1,174	29,168
2039	365	1,095	0	0	500	1,960
2040	1,744	204	0	0	933	2,881
2041	1,950	45	0	0	998	2,993
2042	1,985	154	0	0	998	3,137
2043	1,986	159	0	0	998	3,143
2044	1,992	159	0	0	1,001	3,152
2045	1,986	159	0	0	998	3,143
2046	1,986	159	0	0	998	3,143
2047	1,986	159	0	0	998	3,143
2048	1,992	159	0	0	1,001	3,152
2049	1,986	159	0	0	998	3,143
2050	1,986	159	0	0	998	3,143
2051	1,986	159	0	0	998	3,143
2052	1,992	159	0	0	1,001	3,152
2053	1,986	159	0	0	998	3,143
2054	1,986	159	0	0	998	3,143
2055	1,986	159	0	0	998	3,143
2056	1,992	159	0	0	1,001	3,152
2057	1,986	159	0	0	998	3,143
2058	1,986	159	0	0	998	3,143
2059	1,986	159	0	0	998	3,143
2060	1,992	159	0	0	1,001	3,152
2061	1,986	159	0	0	998	3,143
2062	1,986	159	0	0	998	3,143
2063	1,986	159	0	0	998	3,143

TABLE 3.2b (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 4
DECON ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2064	1,992	159	0	0	1,001	3,152
2065	1,986	159	0	0	998	3,143
2066	1,986	159	0	0	998	3,143
2067	1,986	159	0	0	998	3,143
2068	1,992	159	0	0	1,001	3,152
2069	1,986	159	0	0	998	3,143
2070	1,986	159	0	0	998	3,143
2071	1,986	159	0	0	998	3,143
2072	1,988	154	0	0	1,002	3,145
2073	845	690	37	42	1,000	2,615
Total	88,742	73,627	37	43	42,445	204,893

TABLE 3.2c
TURKEY POINT NUCLEAR PLANT, UNIT 4
DECON ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2033	195	0	0	0	0	195
2034	716	7	0	0	0	723
2035	4,174	104	0	0	0	4,278
2036	1,579	41	0	0	0	1,620
2037	194	7	0	0	0	201
2038	149	5	0	0	0	154
2039	0	0	0	0	0	0
2040	10,268	6,319	0	0	214	16,801
2041	11,861	7,299	0	0	248	19,407
2042	487	300	0	0	10	798
2043	0	0	0	0	0	0
2044	0	0	0	0	0	0
2045	0	0	0	0	0	0
2046	0	0	0	0	0	0
2047	0	0	0	0	0	0
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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

TABLE 3.2c (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 4
DECON ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
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	0	0	0	0	0	0
2073	0	0	0	0	0	0
Total	29,623	14,081	0	0	472	44,176

TABLE 3.3
TURKEY POINT NUCLEAR PLANT, UNIT 3
SAFSTOR ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2032	17,655	1,229	4	13	4,070	22,971
2033	39,512	6,033	862	5,660	17,731	69,797
2034	8,276	9,478	136	1,375	6,983	26,248
2035	6,489	9,494	3	8	4,443	20,437
2036	6,507	9,520	3	8	4,455	20,493
2037	6,489	9,494	3	8	4,443	20,437
2038	3,137	866	1	4	3,301	7,310
2039	2,963	418	1	4	3,242	6,629
2040	2,972	420	1	4	3,251	6,647
2041	2,963	418	1	4	3,242	6,629
2042	2,963	418	1	4	3,242	6,629
2043	2,963	418	1	4	3,242	6,629
2044	2,972	420	1	4	3,251	6,647
2045	2,963	418	1	4	3,242	6,629
2046	2,963	418	1	4	3,242	6,629
2047	2,963	418	1	4	3,242	6,629
2048	2,972	420	1	4	3,251	6,647
2049	2,963	418	1	4	3,242	6,629
2050	2,963	418	1	4	3,242	6,629
2051	2,963	418	1	4	3,242	6,629
2052	2,972	420	1	4	3,251	6,647
2053	2,963	418	1	4	3,242	6,629
2054	2,963	418	1	4	3,242	6,629
2055	2,963	418	1	4	3,242	6,629
2056	2,972	420	1	4	3,251	6,647
2057	2,963	418	1	4	3,242	6,629
2058	2,963	418	1	4	3,242	6,629
2059	2,963	418	1	4	3,242	6,629
2060	2,972	420	1	4	3,251	6,647
2061	2,963	418	1	4	3,242	6,629
2062	2,963	418	1	4	3,242	6,629
2063	2,963	418	1	4	3,242	6,629
2064	2,972	420	1	4	3,251	6,647

TABLE 3.3 (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 3
SAFSTOR ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2065	2,963	418	1	4	3,242	6,629
2066	2,963	418	1	4	3,242	6,629
2067	2,963	418	1	4	3,242	6,629
2068	2,972	420	1	4	3,251	6,647
2069	2,963	418	1	4	3,242	6,629
2070	2,963	418	1	4	3,242	6,629
2071	2,963	418	1	4	3,242	6,629
2072	2,968	419	1	4	3,249	6,642
2073	1,724	230	1	4	2,696	4,655
2074	1,724	230	1	4	2,696	4,655
2075	1,724	230	1	4	2,696	4,655
2076	1,728	231	1	4	2,703	4,667
2077	1,724	230	1	4	2,696	4,655
2078	1,724	230	1	4	2,696	4,655
2079	1,724	230	1	4	2,696	4,655
2080	1,728	231	1	4	2,703	4,667
2081	1,724	230	1	4	2,696	4,655
2082	1,724	230	1	4	2,696	4,655
2083	1,724	230	1	4	2,696	4,655
2084	1,728	231	1	4	2,703	4,667
2085	8,122	467	2	7	3,101	11,699
2086	40,344	2,278	7	23	5,999	48,651
2087	48,854	15,042	6,105	17,600	14,104	101,705
2088	35,299	11,506	4,607	13,994	10,513	75,918
2089	24,687	4,128	564	2,975	5,760	38,113
2090	24,687	4,128	564	2,975	5,760	38,113
2091	6,640	631	65	341	3,232	10,910
2092	12,919	2,957	3	10	3,711	19,600
2093	10,334	5,764	0	0	262	16,360
2094	4,671	2,606	0	0	119	7,396
Total	426,148	112,616	12,986	45,194	240,661	837,605

TABLE 3.3a
TURKEY POINT NUCLEAR PLANT, UNIT 3
SAFSTOR ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2032	17,419	521	4	13	3,346	21,303
2033	38,905	4,213	862	5,660	16,140	65,780
2034	2,950	660	136	1,375	5,266	10,387
2035	910	308	3	8	2,719	3,948
2036	913	309	3	8	2,726	3,959
2037	910	308	3	8	2,719	3,948
2038	1,684	237	1	4	2,718	4,645
2039	1,724	233	1	4	2,718	4,681
2040	1,728	234	1	4	2,726	4,694
2041	1,724	233	1	4	2,718	4,681
2042	1,724	233	1	4	2,718	4,681
2043	1,724	233	1	4	2,718	4,681
2044	1,728	234	1	4	2,726	4,694
2045	1,724	233	1	4	2,718	4,681
2046	1,724	233	1	4	2,718	4,681
2047	1,724	233	1	4	2,718	4,681
2048	1,728	234	1	4	2,726	4,694
2049	1,724	233	1	4	2,718	4,681
2050	1,724	233	1	4	2,718	4,681
2051	1,724	233	1	4	2,718	4,681
2052	1,728	234	1	4	2,726	4,694
2053	1,724	233	1	4	2,718	4,681
2054	1,724	233	1	4	2,718	4,681
2055	1,724	233	1	4	2,718	4,681
2056	1,728	234	1	4	2,726	4,694
2057	1,724	233	1	4	2,718	4,681
2058	1,724	233	1	4	2,718	4,681
2059	1,724	233	1	4	2,718	4,681
2060	1,728	234	1	4	2,726	4,694
2061	1,724	233	1	4	2,718	4,681
2062	1,724	233	1	4	2,718	4,681
2063	1,724	233	1	4	2,718	4,681
2064	1,728	234	1	4	2,726	4,694

TABLE 3.3a (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 3
SAFSTOR ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2065	1,724	233	1	4	2,718	4,681
2066	1,724	233	1	4	2,718	4,681
2067	1,724	233	1	4	2,718	4,681
2068	1,728	234	1	4	2,726	4,694
2069	1,724	233	1	4	2,718	4,681
2070	1,724	233	1	4	2,718	4,681
2071	1,724	233	1	4	2,718	4,681
2072	1,728	234	1	4	2,726	4,694
2073	1,724	230	1	4	2,696	4,655
2074	1,724	230	1	4	2,696	4,655
2075	1,724	230	1	4	2,696	4,655
2076	1,728	231	1	4	2,703	4,667
2077	1,724	230	1	4	2,696	4,655
2078	1,724	230	1	4	2,696	4,655
2079	1,724	230	1	4	2,696	4,655
2080	1,728	231	1	4	2,703	4,667
2081	1,724	230	1	4	2,696	4,655
2082	1,724	230	1	4	2,696	4,655
2083	1,724	230	1	4	2,696	4,655
2084	1,728	231	1	4	2,703	4,667
2085	8,005	467	2	7	3,101	11,582
2086	39,501	2,278	7	23	5,999	47,808
2087	46,080	14,986	6,105	17,600	14,104	98,875
2088	33,659	11,440	4,599	13,986	10,341	74,025
2089	24,544	4,078	549	2,959	5,434	37,564
2090	24,544	4,078	549	2,959	5,434	37,564
2091	6,624	626	64	339	3,196	10,849
2092	8,215	303	3	10	3,590	12,121
2093	113	0	0	0	0	113
2094	51	0	0	0	0	51
Total	334,371	55,516	12,947	45,152	211,700	659,685

TABLE 3.3b
TURKEY POINT NUCLEAR PLANT, UNIT 3
SAFSTOR ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2032	236	708	0	0	724	1,668
2033	607	1,820	0	0	1,591	4,018
2034	5,326	8,818	0	0	1,717	15,862
2035	5,579	9,185	0	0	1,724	16,489
2036	5,595	9,211	0	0	1,729	16,534
2037	5,579	9,185	0	0	1,724	16,489
2038	1,454	629	0	0	583	2,665
2039	1,240	185	0	0	523	1,948
2040	1,243	185	0	0	525	1,954
2041	1,240	185	0	0	523	1,948
2042	1,240	185	0	0	523	1,948
2043	1,240	185	0	0	523	1,948
2044	1,243	185	0	0	525	1,954
2045	1,240	185	0	0	523	1,948
2046	1,240	185	0	0	523	1,948
2047	1,240	185	0	0	523	1,948
2048	1,243	185	0	0	525	1,954
2049	1,240	185	0	0	523	1,948
2050	1,240	185	0	0	523	1,948
2051	1,240	185	0	0	523	1,948
2052	1,243	185	0	0	525	1,954
2053	1,240	185	0	0	523	1,948
2054	1,240	185	0	0	523	1,948
2055	1,240	185	0	0	523	1,948
2056	1,243	185	0	0	525	1,954
2057	1,240	185	0	0	523	1,948
2058	1,240	185	0	0	523	1,948
2059	1,240	185	0	0	523	1,948
2060	1,243	185	0	0	525	1,954
2061	1,240	185	0	0	523	1,948
2062	1,240	185	0	0	523	1,948
2063	1,240	185	0	0	523	1,948
2064	1,243	185	0	0	525	1,954

TABLE 3.3b (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 3
SAFSTOR ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2065	1,240	185	0	0	523	1,948
2066	1,240	185	0	0	523	1,948
2067	1,240	185	0	0	523	1,948
2068	1,243	185	0	0	525	1,954
2069	1,240	185	0	0	523	1,948
2070	1,240	185	0	0	523	1,948
2071	1,240	185	0	0	523	1,948
2072	1,240	185	0	0	523	1,948
2073	0	0	0	0	0	0
2074	0	0	0	0	0	0
2075	0	0	0	0	0	0
2076	0	0	0	0	0	0
2077	0	0	0	0	0	0
2078	0	0	0	0	0	0
2079	0	0	0	0	0	0
2080	0	0	0	0	0	0
2081	0	0	0	0	0	0
2082	0	0	0	0	0	0
2083	0	0	0	0	0	0
2084	0	0	0	0	0	0
2085	0	0	0	0	0	0
2086	0	0	0	0	0	0
2087	0	0	0	0	0	0
2088	41	25	8	9	172	254
2089	77	48	15	16	325	481
2090	77	48	15	16	325	481
2091	9	5	2	2	37	54
2092	58	134	0	0	7	198
2093	126	290	0	0	15	431
2094	57	131	0	0	7	195
Total	67,000	46,531	39	43	28,488	142,100

TABLE 3.3c
TURKEY POINT NUCLEAR PLANT, UNIT 3
SAFSTOR ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2032	0	0	0	0	0	0
2033	0	0	0	0	0	0
2034	0	0	0	0	0	0
2035	0	0	0	0	0	0
2036	0	0	0	0	0	0
2037	0	0	0	0	0	0
2038	0	0	0	0	0	0
2039	0	0	0	0	0	0
2040	0	0	0	0	0	0
2041	0	0	0	0	0	0
2042	0	0	0	0	0	0
2043	0	0	0	0	0	0
2044	0	0	0	0	0	0
2045	0	0	0	0	0	0
2046	0	0	0	0	0	0
2047	0	0	0	0	0	0
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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

TABLE 3.3c (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 3
SAFSTOR ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
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	0	0	0	0	0	0
2073	0	0	0	0	0	0
2074	0	0	0	0	0	0
2075	0	0	0	0	0	0
2076	0	0	0	0	0	0
2077	0	0	0	0	0	0
2078	0	0	0	0	0	0
2079	0	0	0	0	0	0
2080	0	0	0	0	0	0
2081	0	0	0	0	0	0
2082	0	0	0	0	0	0
2083	0	0	0	0	0	0
2084	0	0	0	0	0	0
2085	117	0	0	0	0	117
2086	843	0	0	0	0	843
2087	2,774	56	0	0	0	2,830
2088	1,599	41	0	0	0	1,639
2089	66	2	0	0	0	68
2090	66	2	0	0	0	68
2091	7	0	0	0	0	8
2092	4,647	2,520	0	0	114	7,280
2093	10,095	5,474	0	0	248	15,817
2094	4,564	2,475	0	0	112	7,150
Total	24,778	10,569	0	0	474	35,820

TABLE 3.4
TURKEY POINT NUCLEAR PLANT, UNIT 4
SAFSTOR ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2033	26,221	1,434	6	19	6,305	33,985
2034	36,426	7,840	1,017	7,049	14,952	67,284
2035	15,099	13,056	3	10	4,422	32,589
2036	15,140	13,092	3	10	4,434	32,678
2037	15,099	13,056	3	10	4,422	32,589
2038	12,412	10,317	3	8	4,152	26,892
2039	3,140	863	1	4	3,221	7,229
2040	3,148	866	1	4	3,230	7,249
2041	3,140	863	1	4	3,221	7,229
2042	3,140	863	1	4	3,221	7,229
2043	3,140	863	1	4	3,221	7,229
2044	3,148	866	1	4	3,230	7,249
2045	3,140	863	1	4	3,221	7,229
2046	3,140	863	1	4	3,221	7,229
2047	3,140	863	1	4	3,221	7,229
2048	3,148	866	1	4	3,230	7,249
2049	3,140	863	1	4	3,221	7,229
2050	3,140	863	1	4	3,221	7,229
2051	3,140	863	1	4	3,221	7,229
2052	3,148	866	1	4	3,230	7,249
2053	3,140	863	1	4	3,221	7,229
2054	3,140	863	1	4	3,221	7,229
2055	3,140	863	1	4	3,221	7,229
2056	3,148	866	1	4	3,230	7,249
2057	3,140	863	1	4	3,221	7,229
2058	3,140	863	1	4	3,221	7,229
2059	3,140	863	1	4	3,221	7,229
2060	3,148	866	1	4	3,230	7,249
2061	3,140	863	1	4	3,221	7,229
2062	3,140	863	1	4	3,221	7,229
2063	3,140	863	1	4	3,221	7,229
2064	3,148	866	1	4	3,230	7,249
2065	3,140	863	1	4	3,221	7,229

TABLE 3.4 (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 4
SAFSTOR ALTERNATIVE
SCHEDULE OF TOTAL ANNUAL EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2066	3,140	863	1	4	3,221	7,229
2067	3,140	863	1	4	3,221	7,229
2068	3,148	866	1	4	3,230	7,249
2069	3,140	863	1	4	3,221	7,229
2070	3,140	863	1	4	3,221	7,229
2071	3,140	863	1	4	3,221	7,229
2072	3,144	864	1	4	3,228	7,242
2073	1,701	240	1	4	2,688	4,635
2074	1,701	240	1	4	2,688	4,635
2075	1,701	240	1	4	2,688	4,635
2076	1,706	241	1	4	2,695	4,647
2077	1,701	240	1	4	2,688	4,635
2078	1,701	240	1	4	2,688	4,635
2079	1,701	240	1	4	2,688	4,635
2080	1,706	241	1	4	2,695	4,647
2081	1,701	240	1	4	2,688	4,635
2082	1,701	240	1	4	2,688	4,635
2083	1,701	240	1	4	2,688	4,635
2084	1,706	241	1	4	2,695	4,647
2085	1,701	240	1	4	2,688	4,635
2086	14,298	970	4	13	3,954	19,239
2087	29,785	5,817	508	1,511	5,607	43,227
2088	49,791	19,300	8,736	25,966	15,816	119,609
2089	40,452	7,017	1,855	7,812	7,006	64,143
2090	38,889	4,939	691	4,741	5,517	54,776
2091	33,859	4,026	546	3,744	5,884	48,060
2092	13,859	3,821	3	10	4,058	21,751
2093	12,374	7,581	0	0	264	20,218
2094	5,594	3,427	0	0	119	9,140
Total	488,245	148,187	13,438	51,098	231,474	932,442

TABLE 3.4a
TURKEY POINT NUCLEAR PLANT, UNIT 4
SAFSTOR ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2033	26,015	815	6	19	5,146	32,001
2034	33,377	4,787	1,017	7,049	13,331	59,561
2035	1,701	337	3	10	2,698	4,748
2036	1,706	338	3	10	2,705	4,761
2037	1,701	337	3	10	2,698	4,748
2038	1,701	316	3	8	2,698	4,726
2039	1,701	244	1	4	2,698	4,648
2040	1,706	245	1	4	2,705	4,661
2041	1,701	244	1	4	2,698	4,648
2042	1,701	244	1	4	2,698	4,648
2043	1,701	244	1	4	2,698	4,648
2044	1,706	245	1	4	2,705	4,661
2045	1,701	244	1	4	2,698	4,648
2046	1,701	244	1	4	2,698	4,648
2047	1,701	244	1	4	2,698	4,648
2048	1,706	245	1	4	2,705	4,661
2049	1,701	244	1	4	2,698	4,648
2050	1,701	244	1	4	2,698	4,648
2051	1,701	244	1	4	2,698	4,648
2052	1,706	245	1	4	2,705	4,661
2053	1,701	244	1	4	2,698	4,648
2054	1,701	244	1	4	2,698	4,648
2055	1,701	244	1	4	2,698	4,648
2056	1,706	245	1	4	2,705	4,661
2057	1,701	244	1	4	2,698	4,648
2058	1,701	244	1	4	2,698	4,648
2059	1,701	244	1	4	2,698	4,648
2060	1,706	245	1	4	2,705	4,661
2061	1,701	244	1	4	2,698	4,648
2062	1,701	244	1	4	2,698	4,648
2063	1,701	244	1	4	2,698	4,648
2064	1,706	245	1	4	2,705	4,661
2065	1,701	244	1	4	2,698	4,648

TABLE 3.4a (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 4
SAFSTOR ALTERNATIVE
LICENSE TERMINATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2066	1,701	244	1	4	2,698	4,648
2067	1,701	244	1	4	2,698	4,648
2068	1,706	245	1	4	2,705	4,661
2069	1,701	244	1	4	2,698	4,648
2070	1,701	244	1	4	2,698	4,648
2071	1,701	244	1	4	2,698	4,648
2072	1,706	245	1	4	2,705	4,661
2073	1,701	240	1	4	2,688	4,635
2074	1,701	240	1	4	2,688	4,635
2075	1,701	240	1	4	2,688	4,635
2076	1,706	241	1	4	2,695	4,647
2077	1,701	240	1	4	2,688	4,635
2078	1,701	240	1	4	2,688	4,635
2079	1,701	240	1	4	2,688	4,635
2080	1,706	241	1	4	2,695	4,647
2081	1,701	240	1	4	2,688	4,635
2082	1,701	240	1	4	2,688	4,635
2083	1,701	240	1	4	2,688	4,635
2084	1,706	241	1	4	2,695	4,647
2085	1,701	240	1	4	2,688	4,635
2086	14,139	970	4	13	3,954	19,080
2087	29,029	5,810	508	1,511	5,607	42,465
2088	45,193	19,189	8,736	25,966	15,816	114,899
2089	39,448	6,951	1,843	7,799	6,728	62,770
2090	38,494	4,881	677	4,725	5,192	53,968
2091	33,548	3,981	535	3,732	5,628	47,423
2092	8,185	332	3	10	3,937	12,467
2093	48	0	0	0	0	48
2094	22	0	0	0	0	22
Total	354,314	60,469	13,401	51,055	202,890	682,128

TABLE 3.4b
TURKEY POINT NUCLEAR PLANT, UNIT 4
SAFSTOR ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2033	206	619	0	0	1,160	1,984
2034	3,050	3,053	0	0	1,621	7,723
2035	13,397	12,719	0	0	1,724	27,841
2036	13,434	12,754	0	0	1,729	27,917
2037	13,397	12,719	0	0	1,724	27,841
2038	10,711	10,001	0	0	1,454	22,166
2039	1,439	619	0	0	523	2,581
2040	1,442	621	0	0	525	2,588
2041	1,439	619	0	0	523	2,581
2042	1,439	619	0	0	523	2,581
2043	1,439	619	0	0	523	2,581
2044	1,442	621	0	0	525	2,588
2045	1,439	619	0	0	523	2,581
2046	1,439	619	0	0	523	2,581
2047	1,439	619	0	0	523	2,581
2048	1,442	621	0	0	525	2,588
2049	1,439	619	0	0	523	2,581
2050	1,439	619	0	0	523	2,581
2051	1,439	619	0	0	523	2,581
2052	1,442	621	0	0	525	2,588
2053	1,439	619	0	0	523	2,581
2054	1,439	619	0	0	523	2,581
2055	1,439	619	0	0	523	2,581
2056	1,442	621	0	0	525	2,588
2057	1,439	619	0	0	523	2,581
2058	1,439	619	0	0	523	2,581
2059	1,439	619	0	0	523	2,581
2060	1,442	621	0	0	525	2,588
2061	1,439	619	0	0	523	2,581
2062	1,439	619	0	0	523	2,581
2063	1,439	619	0	0	523	2,581
2064	1,442	621	0	0	525	2,588
2065	1,439	619	0	0	523	2,581

TABLE 3.4b (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 4
SAFSTOR ALTERNATIVE
SPENT FUEL MANAGEMENT EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2066	1,439	619	0	0	523	2,581
2067	1,439	619	0	0	523	2,581
2068	1,442	621	0	0	525	2,588
2069	1,439	619	0	0	523	2,581
2070	1,439	619	0	0	523	2,581
2071	1,439	619	0	0	523	2,581
2072	1,439	619	0	0	523	2,581
2073	0	0	0	0	0	0
2074	0	0	0	0	0	0
2075	0	0	0	0	0	0
2076	0	0	0	0	0	0
2077	0	0	0	0	0	0
2078	0	0	0	0	0	0
2079	0	0	0	0	0	0
2080	0	0	0	0	0	0
2081	0	0	0	0	0	0
2082	0	0	0	0	0	0
2083	0	0	0	0	0	0
2084	0	0	0	0	0	0
2085	0	0	0	0	0	0
2086	0	0	0	0	0	0
2087	0	0	0	0	0	0
2088	0	0	0	0	0	0
2089	65	41	12	14	278	410
2090	77	48	14	16	325	480
2091	60	38	11	13	256	379
2092	58	134	0	0	7	198
2093	126	290	0	0	15	431
2094	57	131	0	0	7	195
Total	103,580	73,619	37	43	28,108	205,386

TABLE 3.4c
TURKEY POINT NUCLEAR PLANT, UNIT 4
SAFSTOR ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
2033	0	0	0	0	0	0
2034	0	0	0	0	0	0
2035	0	0	0	0	0	0
2036	0	0	0	0	0	0
2037	0	0	0	0	0	0
2038	0	0	0	0	0	0
2039	0	0	0	0	0	0
2040	0	0	0	0	0	0
2041	0	0	0	0	0	0
2042	0	0	0	0	0	0
2043	0	0	0	0	0	0
2044	0	0	0	0	0	0
2045	0	0	0	0	0	0
2046	0	0	0	0	0	0
2047	0	0	0	0	0	0
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
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

TABLE 3.4c (continued)
TURKEY POINT NUCLEAR PLANT, UNIT 4
SAFSTOR ALTERNATIVE
SITE RESTORATION EXPENDITURES
(thousands, 2010 dollars)

Year	Labor	Equipment & Materials	Transport	Burial	Other	Total
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	0	0	0	0	0	0
2073	0	0	0	0	0	0
2074	0	0	0	0	0	0
2075	0	0	0	0	0	0
2076	0	0	0	0	0	0
2077	0	0	0	0	0	0
2078	0	0	0	0	0	0
2079	0	0	0	0	0	0
2080	0	0	0	0	0	0
2081	0	0	0	0	0	0
2082	0	0	0	0	0	0
2083	0	0	0	0	0	0
2084	0	0	0	0	0	0
2085	0	0	0	0	0	0
2086	159	0	0	0	0	159
2087	756	6	0	0	0	762
2088	4,598	111	0	0	0	4,709
2089	938	24	0	0	0	962
2090	319	9	0	0	0	328
2091	251	7	0	0	0	259
2092	5,615	3,355	0	0	115	9,085
2093	12,200	7,290	0	0	249	19,739
2094	5,515	3,296	0	0	113	8,923
Total	30,351	14,099	0	0	477	44,927

3.8 COST RECOVERY

As discussed earlier, FPL filed a lawsuit in 2004 claiming damages for DOE's failure to perform as originally prescribed in the standard disposal contract.

On March 31, 2009, FPL executed a Settlement Agreement with the DOE and the Department of Justice (DoJ). In the Agreement, FPL settled the lawsuit in exchange for payments. The payments are intended to cover those costs incurred for managing and storing the spent fuel that it would not have incurred but for DOE's delay in performance.

While the DOE is responsible for the costs incurred until it fulfills its obligation, certain assumptions are needed to assess the financial impact on the previously identified decommissioning cost scenarios. The assumptions and methodology employed to quantify the expected level of compensation are as follows:

1. DOE Acceptance Obligations are defined based on the 1995 Acceptance Priority Ranking & Annual Capacity Report Table 1 acceptance rate from Year 1 to Year 10, with a continued steady state acceptance rate of 900 metric tons of uranium (MTU) per year until December 31, 2014 and 2,100 MTU/year thereafter as per the Settlement Agreement.

2. At the time the aggregate MTUs actually accepted by the DOE equals the aggregate MTUs allocated to FPL under the 1995 Acceptance Priority Ranking & Annual Capacity Report, the DOE's compensation obligation ceases.

3. The pickup of commercial fuel is assumed to begin in the year 2030. The first fuel from St. Lucie is expected to be transferred to the DOE in 2032, again assuming commercial fuel is accepted on an oldest fuel first basis.* basis.*
   The rate of transfer was based upon an annual acceptance capacity at the geologic repository of 3,000 metric tons.

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* DOE's contracts with utilities order the acceptance of spent fuel from utilities based upon the oldest fuel receiving the highest priority. While DOE's acceptance priority ranking is based on the date that spent nuclear fuel was permanently discharged, with the oldest spent nuclear fuel, on an industry-wide basis, given the higher priority, the generator has the right to determine which spent nuclear fuel is delivered, provided that it is in compliance with the Standard Contract. DOE contracts also provide mechanisms for altering the oldest fuel first allocation scheme, including emergency deliveries, exchanges of allocations amongst utilities and the option of providing priority acceptance from permanently shutdown nuclear reactors.

The pickup schedule reflected in the 1995 Acceptance Priority Ranking & Annual Capacity Report is based upon an earlier start date (1998), but a lower rate of acceptance than that considered in the Turkey Point decommissioning analysis. As shown in Table 3.5, the two different pickup rates would achieve the same level of performance (equivalent number of Turkey Point spent fuel assemblies received by the DOE) in the year 2059 (approximately thirteen years before the ISFSI would be decommissioned). Under the terms of the Settlement Agreement, if the DOE follows the pickup rate, its compensation obligation would terminate when this milestone is reached. Under this scenario, the DOE would provide no compensation after 2059.

4. This analysis addresses only those costs identified as spent fuel management costs in the decommissioning cost analysis (as delineated in the detailed cost tables in Appendix C and D). While the estimates do assign costs to spent fuel management during the active decommissioning period, the cost elements are generally limited in scope to the direct costs associated with purchasing DSCs and HSMs, loading and packaging the spent fuel into the canisters for long-term storage at the plant's ISFSI (or into TADs for direct transfer to the DOE). No attempt was made, for this analysis, to identify any additional ISFSI related costs during this time period that may also be eligible for reimbursement by DOE under the Agreement.

As shown on the graph at the bottom of Table 3.5, it is projected that the DOE will meet its obligation for cumulative acceptance of spent fuel in the year 2059, based upon the assumptions delineated in the decommissioning cost analysis. Costs incurred for spent fuel management prior to this time (conservatively, December 31, 2058) can be expected to be reimbursed. Costs incurred after that time would not be eligible. Each year, the claim requesting the prior year's costs is submitted for payment on or before April 30.

The activities (at a minimum), identified in the decommissioning cost study and expected to be eligible for reimbursement (depending upon the timing of the activities) are identified below.

I. Active Decommissioning (until the Operating Licenses are terminated)

- Spent Fuel Capital and Transfer
- ISFSI Operating Costs
- Emergency Planning Fees (once the spent fuel pool is emptied)

II. Site Restoration (with concurrent ISFSI Operations)

- Spent Fuel Capital and Transfer
- Insurance
- Energy
- NRC ISFSI Fees
- Emergency Planning Fees
- ISFSI Operating Costs
- Security Staff (allocation)
- Plant Staff (allocation)

III. Post-Decommissioning ISFSI Operations

- Spent Fuel Transfer
- Insurance
- Property Taxes
- NRC ISFSI Fees
- Emergency Planning Fees
- ISFSI Operating Costs
- Security Staff
- Plant Staff

The costs eligible for reimbursement would still be incurred over the life of decommissioning project. However, they will be recovered on an ongoing basis (i.e., the year after expenditure). Tables 3.6 and 3.7 identify the income stream that can be expected to offset spent fuel management expenses for the decommissioning scenarios. Under the current assumptions, costs incurred in the year 2059 and beyond would not be eligible for reimbursement.

Table 3.8 identifies cost to decommission the ISFSI. While the costs are incurred after 2059, they may also be reimbursable since ISFSI construction was in response to delays in the timely removal of spent fuel from the site.

TABLE 3.5
TURKEY POINT NUCLEAR PLANT
SPENT FUEL MANAGEMENT

	Fuel Assembly Inventory		Spent Fuel Acceptance	
Year	Assemblies in Pool	Assemblies at ISFSI	Turkey Point Projections (based upon 2004 APR)	DOE Obligations (based on 1995 APR and Settlement Agreement)
2030	2,110	2,112	-	1,935
2031	2,146	2,112	46	2,008
2032	2,295	2,112	128	2,081
2033	2,324	2,112	306	2,154
2034	2,196	2,112	552	2,227
2035	1,972	2,112	671	2,300
2036	1,812	2,112	843	2,373
2037	1,263	2,597	904	2,446
2038	-	3,796	957	2,519
2039	-	3,668	1,077	2,592
2040	-	3,636	1,134	2,665
2041	-	3,604	1,186	2,738
2042	-	3,508	1,349	2,811
2043	-	3,476	1,413	2,884
2044	-	3,348	1,528	2,957
2045	-	3,252	1,625	3,030
2046	-	3,156	1,750	3,103
2047	-	3,060	1,862	3,176
2048	-	2,964	2,041	3,249
2049	-	2,836	2,220	3,322
2050	-	2,708	2,399	3,395
2051	-	2,580	2,578	3,468
2052	-	2,452	2,757	3,541
2053	-	2,324	2,936	3,614
2054	-	2,196	3,115	3,687
2055	-	2,068	3,294	3,760
2056	-	1,940	3,473	3,833
2057	-	1,812	3,652	3,906
2058	-	1,684	3,831	3,979
2059	-	1,556	4,010	4,052
2060	-	1,455	4,189	4,125

TABLE 3.5 (continued)
TURKEY POINT NUCLEAR PLANT
SPENT FUEL MANAGEMENT

	Fuel Assembly Inventory		Spent Fuel Acceptance	
Year	Assemblies in Pool	Assemblies at ISFSI	Turkey Point Projections (based upon 2004 APR)	DOE Obligations (based on 1995 APR and Settlement Agreement)
2061	-	1,327	4,368	4,198
2062	-	1,199	4,547	4,271
2063	-	1,071	4,726	4,344
2064	-	943	4,905	4,417
2065	-	815	5,084	4,490
2066	-	687	5,263	4,563
2067	-	559	5,442	4,636
2068	-	431	5,621	4,709
2069	-	303	5,800	4,782
2070	-	175	5,979	4,855
2071	-	47	6,158	4,928
2072	-	-	6,337	5,001

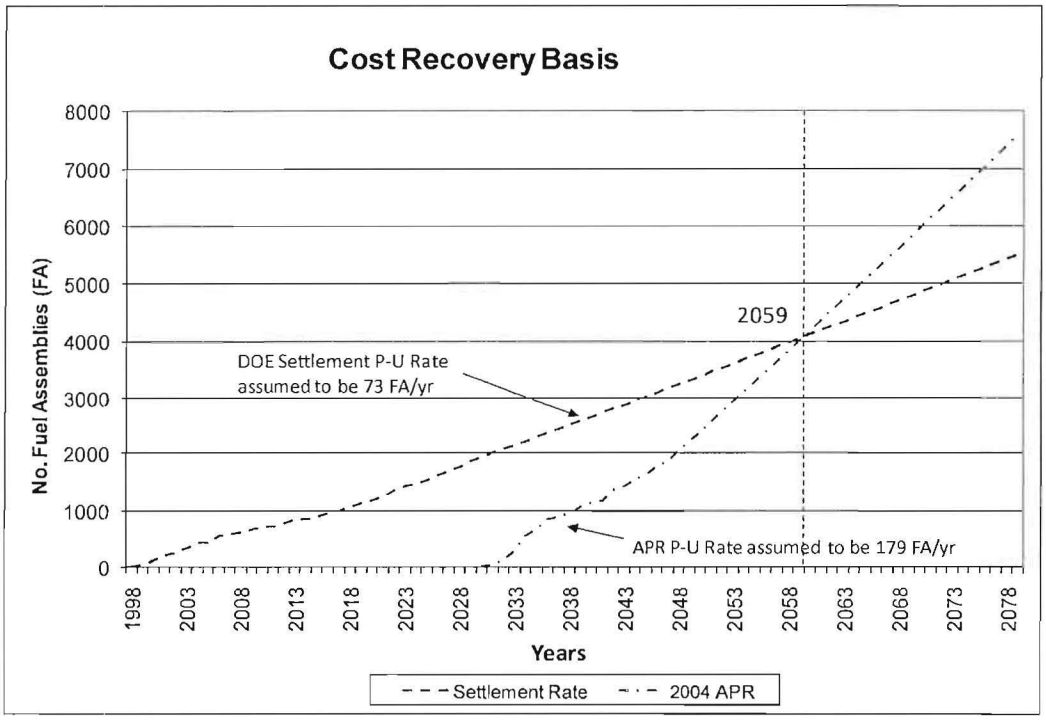


TABLE 3.6
TURKEY POINT NUCLEAR PLANT, UNIT 3
DECON ALTERNATIVE
COSTS RECOVERED FOR SPENT FUEL MANAGEMENT
(thousands, 2010 dollars)

Year*	Labor	Equipment & Materials	Transport	Burial	Other	Total
2032						
2033	236	708	0	0	23	967
2034	607	1,820	0	0	51	2,477
2035	861	2,583	0	0	51	3,494
2036	2,749	8,247	0	0	51	11,047
2037	4,244	12,733	0	0	51	17,029
2038	4,233	12,698	0	0	51	16,982
2039	294	881	0	0	479	1,654
2040	339	1,017	0	0	500	1,856
2041	1,743	202	0	0	933	2,877
2042	1,949	42	0	0	998	2,990
2043	1,985	154	0	0	998	3,137
2044	1,986	159	0	0	998	3,143
2045	1,992	159	0	0	1,001	3,152
2046	1,986	159	0	0	998	3,143
2047	1,986	159	0	0	998	3,143
2048	1,986	159	0	0	998	3,143
2049	1,992	159	0	0	1,001	3,152
2050	1,986	159	0	0	998	3,143
2051	1,986	159	0	0	998	3,143
2052	1,986	159	0	0	998	3,143
2053	1,992	159	0	0	1,001	3,152
2054	1,986	159	0	0	998	3,143
2055	1,986	159	0	0	998	3,143
2056	1,986	159	0	0	998	3,143
2057	1,992	159	0	0	1,001	3,152
2058	1,986	159	0	0	998	3,143
2059	1,986	159	0	0	998	3,143
Total	51,041	43,630	0	0	20,167	114,838

* Costs expended in prior year

TABLE 3.7
TURKEY POINT NUCLEAR PLANT, UNIT 4
DECON ALTERNATIVE
COSTS RECOVERED FOR SPENT FUEL MANAGEMENT
(thousands, 2010 dollars)

Year*	Labor	Equipment & Materials	Transport	Burial	Other	Total
2033						
2034	206	619	0	0	37	862
2035	77	230	0	0	51	358
2036	0	0	0	0	51	51
2037	5,914	17,741	0	0	51	23,705
2038	9,031	27,093	0	0	51	36,176
2039	6,999	20,996	0	0	156	28,150
2040	365	1,095	0	0	500	1,960
2041	1,744	204	0	0	933	2,881
2042	1,950	45	0	0	998	2,993
2043	1,985	154	0	0	998	3,137
2044	1,986	159	0	0	998	3,143
2045	1,992	159	0	0	1,001	3,152
2046	1,986	159	0	0	998	3,143
2047	1,986	159	0	0	998	3,143
2048	1,986	159	0	0	998	3,143
2049	1,992	159	0	0	1,001	3,152
2050	1,986	159	0	0	998	3,143
2051	1,986	159	0	0	998	3,143
2052	1,986	159	0	0	998	3,143
2053	1,992	159	0	0	1,001	3,152
2054	1,986	159	0	0	998	3,143
2055	1,986	159	0	0	998	3,143
2056	1,986	159	0	0	998	3,143
2057	1,992	159	0	0	1,001	3,152
2058	1,986	159	0	0	998	3,143
2059	1,986	159	0	0	998	3,143
Total	60,071	70,718	0	0	19,806	150,595

* Costs expended in prior year

TABLE 3.8
TURKEY POINT NUCLEAR PLANT
ISFSI DECOMMISSIONING
COSTS RECOVERED FOR SPENT FUEL MANAGEMENT
(thousands, 2010 dollars)

Year [1]	Labor	Equipment & Materials	Transport	Burial	Other	Total [2]
2072						
2073	8	2	1	1	16	28
2074	1,691	1,380	74	84	2,001	5,230
Total	1,699	1,382	74	85	2,017	5,258

Notes:
1. Costs are expended in prior year
2. Costs are divided evenly between the units in the cost estimates and schedules of expenditure

4. SCHEDULE ESTIMATE

The schedules for the decommissioning scenarios considered in this study follow the sequences presented in the AIF/NESP-036 study, with minor changes to reflect recent experience and site-specific constraints. In addition, the scheduling has been revised to reflect the spent fuel management plan described in Section 3.5.1.

A schedule or sequence of activities for the DECON alternative is presented in Figure 4.1. The scheduling sequence is based on the fuel being removed from the spent fuel pools within five and one half years. The key activities listed in the schedule do not reflect a one-to-one correspondence with those activities in the cost tables, but reflect dividing some activities for clarity and combining others for convenience. The schedule was prepared using the "Microsoft Project Professional 2007" computer software.[27]

4.1 SCHEDULE ESTIMATE ASSUMPTIONS

The schedule reflects the results of a precedence network developed for the site decommissioning activities, i.e., a PERT (Program Evaluation and Review Technique) Software Package. The work activity durations used in the precedence network reflect the actual man-hour estimates from the cost table, adjusted by stretching certain activities over their slack range and shifting the start and end dates of others. The following assumptions were made in the development of the decommissioning schedule:

- The fuel handling area is isolated until such time that all spent fuel has been discharged from the spent fuel pools to the DOE or to the ISFSI for interim storage. Decontamination and dismantling of the storage pools is initiated once the transfer of spent fuel is complete (DECON alternative).
- All work (except vessel and internals removal) is performed during an 8-hour workday, 5 days per week, with no overtime. There are eleven paid holidays per year.
- Reactor and internals removal activities are performed by using separate crews for different activities working on different shifts, with a corresponding backshift charge for the second shift.
- Multiple crews work parallel activities to the maximum extent possible, consistent with optimum efficiency, adequate access for cutting, removal and laydown space, and with the stringent safety measures necessary during demolition of heavy components and structures.

- For plant systems removal, the systems with the longest removal durations in areas on the critical path are considered to determine the duration of the activity.

4.2 PROJECT SCHEDULE

The period-dependent costs presented in the detailed cost tables are based upon the durations developed in the schedules for decommissioning. Durations are established between several milestones in each project period; these durations are used to establish a critical path for the entire project. In turn, the critical path duration for each period is used as the basis for determining the period-dependent costs. A second critical path is shown for the spent fuel storage period, which determines the release of the fuel storage area for final decontamination.

Project timelines are provided in Figures 4.2 and 4.3, with milestone dates based on the 2032 and 2033 shutdown dates for Units 3 and 4, respectively. The fuel pools are emptied approximately five and one half years after shutdown, while ISFSI operations continue until the DOE can complete the transfer of assemblies to its geologic repository. Deferred decommissioning in the SAFSTOR alternative is assumed to commence so that the operating license is terminated within a 60-year period from the cessation of plant operations.

FIGURE 4.1
ACTIVITY SCHEDULE



FIGURE 4.1 (continued)
ACTIVITY SCHEDULE

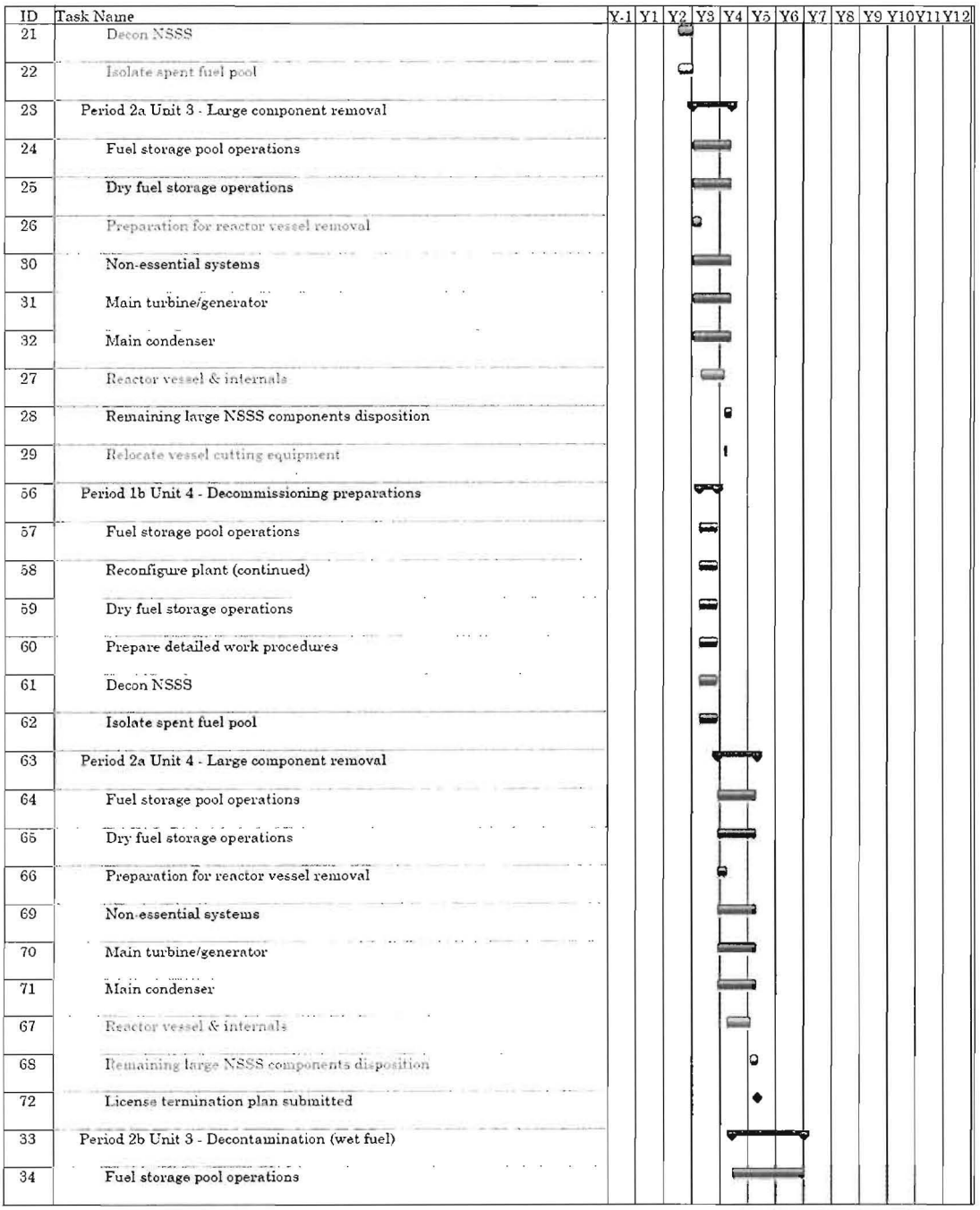


FIGURE 4.1 (continued)
ACTIVITY SCHEDULE

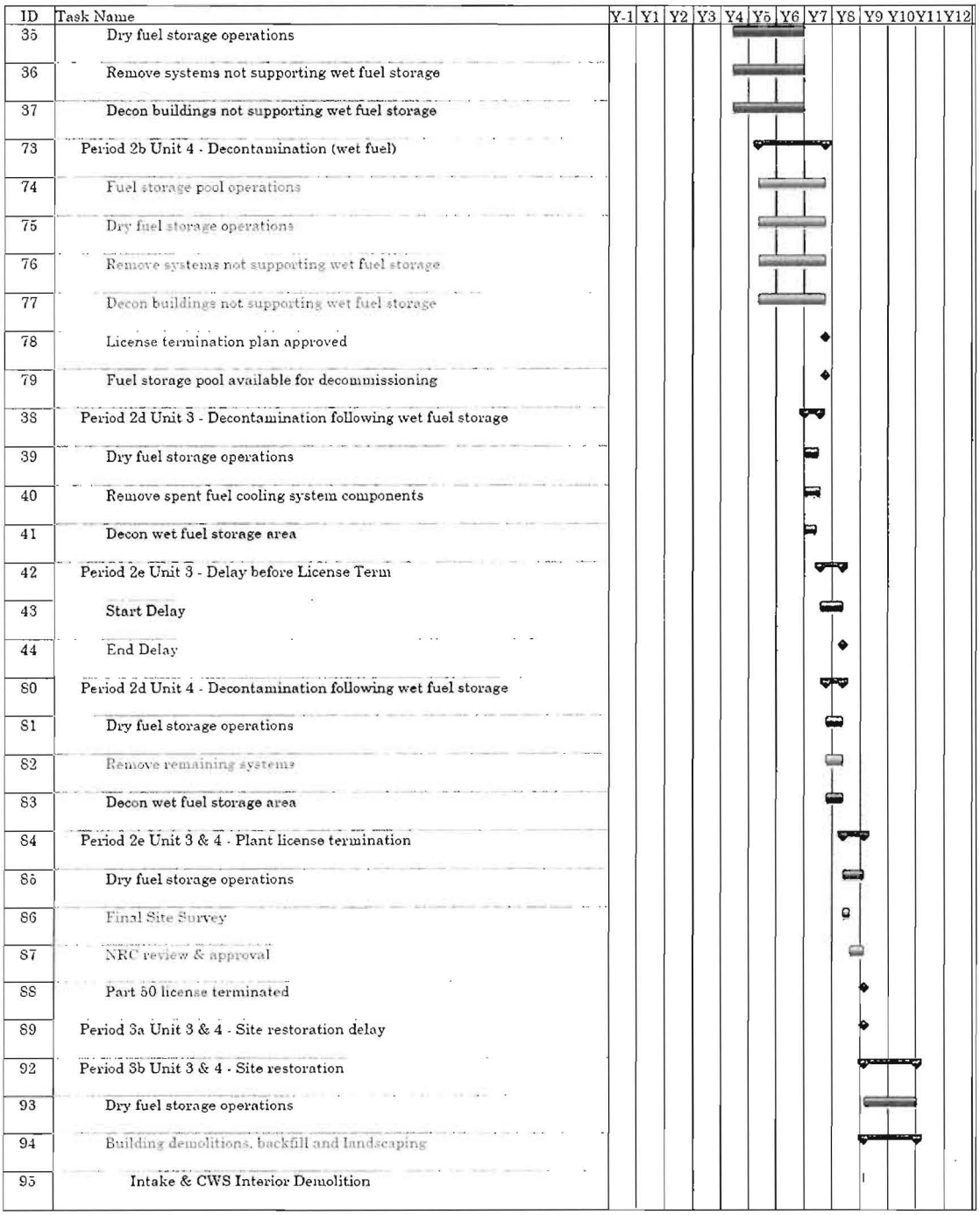


FIGURE 4.1 (continued)
ACTIVITY SCHEDULE

ID	Task Name	Y-1	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12
98	TB3 Interior Demolition													
99	TB3 Pedestal Demolition													
104	Radwaste Interior Demolition													
107	Control Bldg Interior Demolition													
110	FHB3 Interior Demolition													
113	FHB4 Interior Demolition													
116	AB Interior Demolition													
119	RB3 Interior Demolition													
122	RB4 Interior Demolition													
96	Intake & CWS Exterior Demolition													
97	Intake & CWS Backfill													
105	Radwaste Exterior Demolition													
100	TB3 Backfill													
108	Control Bldg Exterior Demolition													
111	FHB3 Exterior Demolition													
114	FHB4 Exterior Demolition													
109	Control Bldg Backfill													
101	TB4 Interior Demolition													
106	Radwaste Backfill													
102	TB4 Pedestal Demolition													
112	FHB3 Backfill													
115	FHB4 Backfill													
117	AB Exterior Demolition													
103	TB4 Backfill													
118	AB Backfill													
120	RB3 Exterior Demolition													
121	RB3 Backfill													
123	RB4 Exterior Demolition													
124	RB4 Backfill													
125	Landscape Site													

FIGURE 4.2
DECOMMISSIONING TIMELINE
DECON
(not to scale)

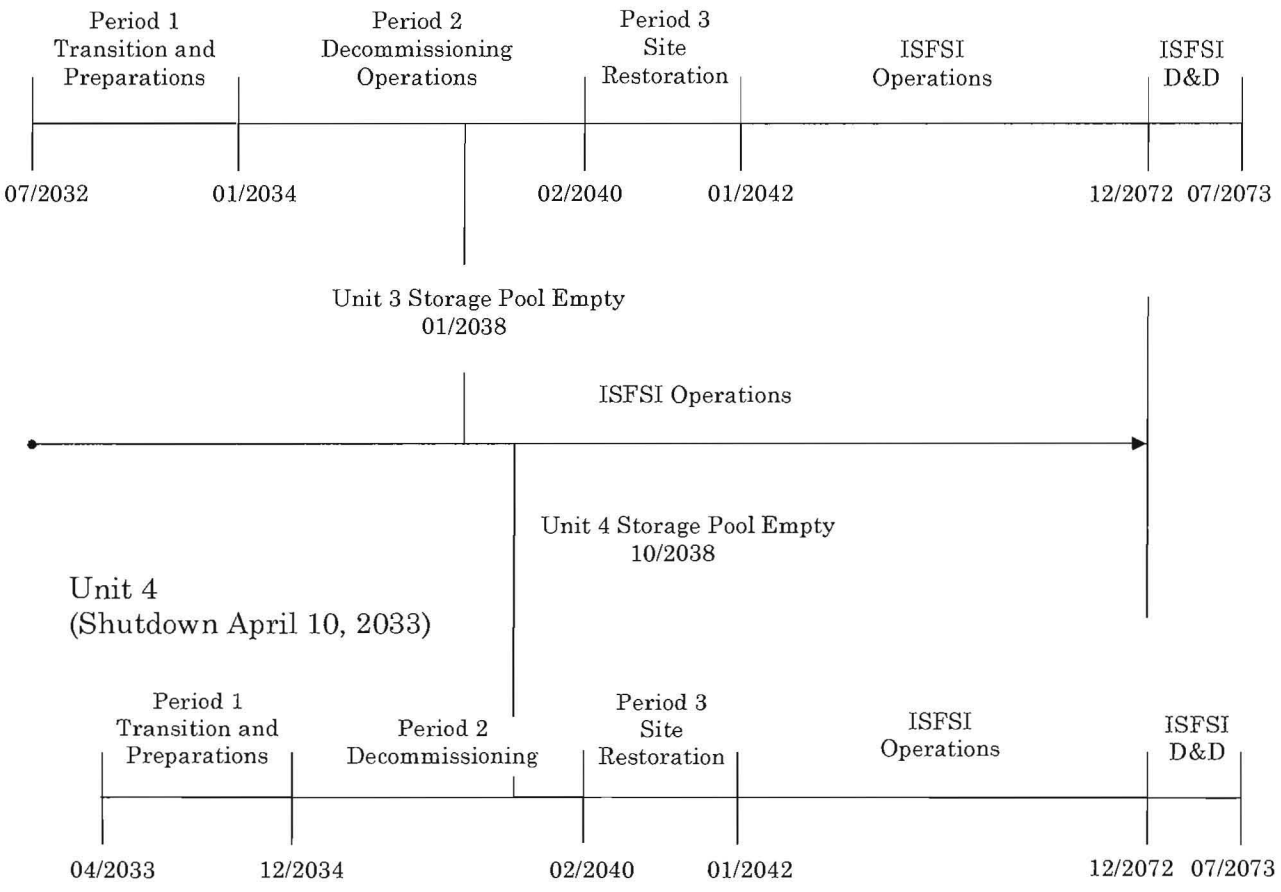
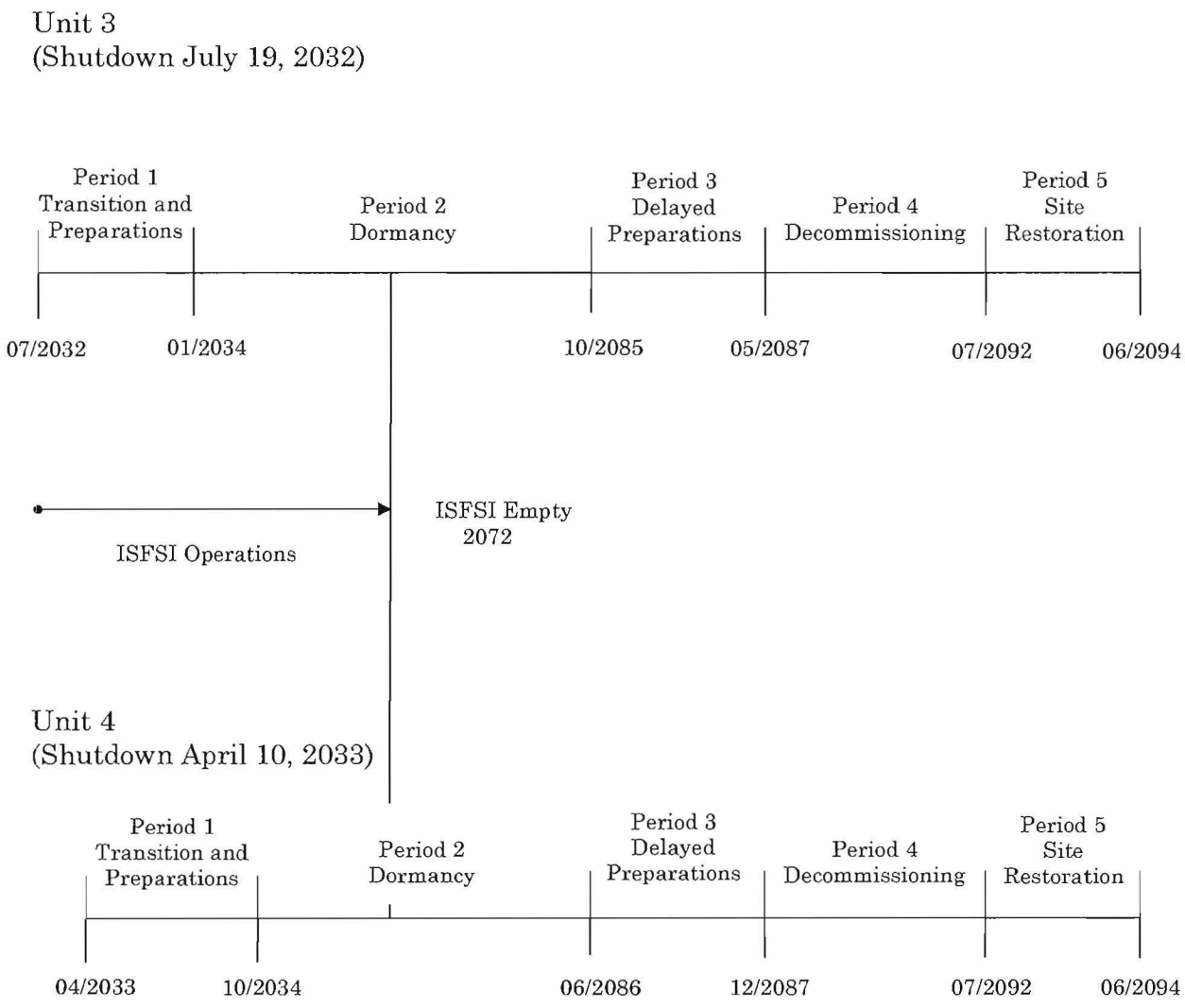


FIGURE 4.3
DECOMMISSIONING TIMELINE
SAFSTOR
(not to scale)



5. RADIOACTIVE WASTES

The objectives of the decommissioning process are the removal of all radioactive material from the site that would restrict its future use and the termination of the NRC license. This currently requires the remediation of all radioactive material at the site in excess of applicable legal limits. Under the Atomic Energy Act,[28] the NRC is responsible for protecting the public from sources of ionizing radiation. Title 10 of the Code of Federal Regulations delineates the production, utilization, and disposal of radioactive materials and processes. In particular, Part 71 defines radioactive material as it pertains to transportation and Part 61 specifies its disposition.

Most of the materials being transported for controlled burial are categorized as Low Specific Activity (LSA) or Surface Contaminated Object (SCO) materials containing Type A quantities, as defined in 49 CFR Parts 173-178. Shipping containers are required to be Industrial Packages (IP-1, IP-2 or IP-3, as defined in 10 CFR §173.411). For this study, commercially available steel containers are presumed to be used for the disposal of piping, small components, and concrete. Larger components can serve as their own containers, with proper closure of all openings, access ways, and penetrations.

The volumes of radioactive waste generated during the various decommissioning activities at the site are shown on a line-item basis in Appendices C and D, and summarized in Tables 5.1 and 5.2. The quantified waste volume summaries shown in these tables are consistent with 10 CFR Part 61 classifications. The volumes are calculated based on the exterior dimensions for containerized material and on the displaced volume of components serving as their own waste containers.

The reactor vessel and internals are categorized as large quantity shipments and, accordingly, will be shipped in reusable, shielded truck casks with disposable liners. In calculating disposal costs, the burial fees are applied against the liner volume, as well as the special handling requirements of the payload. Packaging efficiencies are lower for the highly-activated materials (greater than Type A quantity waste), where high concentrations of gamma-emitting radionuclides limit the capacity of the shipping canisters.

No process system containing/handling radioactive substances at shutdown is presumed to meet material release criteria by decay alone (i.e., systems radioactive at shutdown will still be radioactive over the time period during which the decommissioning is accomplished, due to the presence of long-lived radionuclides). While the dose rates decrease with time, radionuclides such as ^{137}Cs will still control the disposition requirements.

The waste material produced in the decontamination and dismantling of the nuclear plants is primarily generated during Period 2 of DECON and Period 4 of SAFSTOR. Material that is considered potentially contaminated when removed from the radiological controlled area is sent to processing facilities in Tennessee for conditioning and disposal. Heavily contaminated components and activated materials are routed for controlled disposal. The disposal volumes reported in the tables reflect the savings resulting from reprocessing and recycling.

For purposes of constructing the estimates, FPL's current cost for disposal at the EnergySolutions facility was used. Separate rates were used for containerized waste and large components, including the steam generators and reactor coolant pump motors. Demolition debris including miscellaneous steel, scaffolding, and concrete was disposed of at a bulk rate. The decommissioning waste stream also included resins and dry active waste.

Since EnergySolutions is not currently able to receive the more highly radioactive components generated in the decontamination and dismantling of the reactor, disposal costs for the Class B and C material were based upon the last published rate schedule for non-compact waste for the Barnwell facility (as a proxy), adjusted for escalation of the Atlantic Compact rates. Additional surcharges were included for activity, dose rate, and/or handling added as appropriate for the particular package.

TABLE 5.1
DECON ALTERNATIVE
DECOMMISSIONING WASTE SUMMARY

Waste Class	Waste Form	Cost Basis	Class [1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (at near-surface disposal facility)	Containerized and Bulk Debris	EnergySolutions	A	202,374	18,451,645
		Barnwell	B	2,346	258,919
		Barnwell	C	1,952	243,314
	Seaweed Remediation	EnergySolutions	A	59,300	1,186,000
Greater than Class C (geologic repository)	Modified DSCs	Spent Fuel Equivalent	GTCC	975	200,265
Total [2]				266,946	20,340,142
Processed/Conditioned (at off-site recycling center)		Recycling Vendors	A	252,302	10,431,973

[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

[2] Columns may not add due to rounding.

TABLE 5.2
SAFSTOR ALTERNATIVE
DECOMMISSIONING WASTE SUMMARY

Waste Class	Waste Form	Cost Basis	Class [1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (at near-surface disposal facility)	Containerized and Bulk Debris	EnergySolutions	A	152,607	13,231,085
		Barnwell	B	751	91,087
		Barnwell	C	1,972	241,934
	Seaweed Remediation	EnergySolutions	A	59,300	1,186,000
Greater than Class C (geologic repository)	Modified DSCs	Spent Fuel Equivalent	GTCC	975	200,265
Total [2]				215,606	14,950,371
Processed/Conditioned (at off-site recycling center)		Recycling Vendors	A	306,304	13,135,395

[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

[2] Columns may not add due to rounding.

6. RESULTS

The analysis to estimate the costs to decommission Turkey Point relied upon the site-specific, technical information developed for a previous analysis prepared in 2005, updated to reflect current assumptions pertaining to the disposition of the nuclear station and relevant industry experience in undertaking such projects. While not an engineering study, the estimates provide FPL with sufficient information to assess their financial obligations, as they pertain to the eventual decommissioning of the nuclear station.

The estimates described in this report are based on numerous fundamental assumptions, including a 60-year operating life, regulatory requirements, project contingencies, low-level radioactive waste disposal practices, high-level radioactive waste management options, and site restoration requirements. The decommissioning scenarios assume continued operation of the station's spent fuel pools for a minimum of five and one half years following the cessation of operations for continued cooling of the assemblies.

The cost projected to promptly decommission the station, manage the spent fuel, and restore the site, is estimated to be $1,386.2 million. The majority of this cost (approximately 67.3%) is associated with the physical decontamination and dismantling of the nuclear plant so that the operating license can be terminated. Another 27.0% is associated with the management, interim storage, and eventual transfer of the spent fuel. The remaining 5.7% is for the demolition of the designated structures and limited restoration of the site.

The cost projected for deferred decommissioning (SAFSTOR) is estimated to be $1,770.0 million. The majority of this cost (approximately 75.8%) is associated with placing the plant in storage, ongoing caretaking of the plant during dormancy, and the eventual physical decontamination and dismantling of the nuclear plant so that the operating license can be terminated. Another 19.6% is associated with the management, interim storage, and eventual transfer of the spent fuel. The remaining 4.6% is for the demolition of the designated structures and limited restoration of the site.

The primary cost contributors, identified in Tables 6.1 and 6.2, are either labor-related or associated with the management and disposition of the radioactive waste. Program management is the largest single contributor to the overall cost. The magnitude of the expense is a function of both the size of the organization required to manage the decommissioning, as well as the duration of the program. It is assumed, for purposes of this analysis, that FPL will hire a Decommissioning Operations Contractor (DOC) to manage the decommissioning. The owner will

provide site security, radiological health and safety, quality assurance and overall site administration during the decommissioning and demolition phases. Contract personnel will provide engineering services, e.g., for preparing the activity specifications, work procedures, activation, and structural analyses, under the direction of the owner. The size and composition of the management organization varies with the decommissioning phase and associated site activities. However, once the operating licenses are terminated, the staff is substantially reduced for the conventional demolition and restoration of the site, and the long-term care of the spent fuel (for the DECON alternative).

As described in this report, the spent fuel pools will remain operational for a minimum of five and one half years following the cessation of operations. The pools will be isolated and an independent spent fuel island created. This will allow decommissioning operations to proceed in and around the pool area. Over the five and one half-year period, the spent fuel will be packaged into transportable canisters for loading into a DOE-provided transport cask or relocation to the ISFSI.

The cost for waste disposal includes only those costs associated with the controlled disposition of the low-level radioactive waste generated from decontamination and dismantling activities, including plant equipment and components, structural material, filters, resins and dry-active waste. As described in Section 5, disposition of the majority of the low-level radioactive material requiring controlled disposal is at the EnergySolutions' facility. Highly activated components, requiring additional isolation from the environment (GTCC), are packaged for geologic disposal. The cost of geologic disposal is based upon a cost equivalent for spent fuel.

A significant portion of the metallic waste is designated for additional processing and treatment at an off-site facility. Processing reduces the volume of material requiring controlled disposal through such techniques and processes as survey and sorting, decontamination, and volume reduction. The material that cannot be unconditionally released is packaged for controlled disposal at one of the currently operating facilities. The cost identified in the summary tables for processing is all-inclusive, incorporating the ultimate disposition of the material.

Removal costs reflect the labor-intensive nature of the decommissioning process, as well as the management controls required to ensure a safe and successful program. Decontamination and packaging costs also have a large labor component that is based upon prevailing wages. Non-radiological demolition is a natural extension of the decommissioning process. With a work force mobilized to support decommissioning operations, non-radiological demolition can be an integrated activity and a logical expansion of the work being performed in the process of terminating the operating license. Prompt demolition reduces future liabilities and

can be more cost effective than deferral, due to the deterioration of the facilities (and therefore the working conditions) with time.

The reported cost for transport includes the tariffs and surcharges associated with moving large components and/or overweight shielded casks overland, as well as the general expense, e.g., labor and fuel, of transporting material to the destinations identified in this report. For purposes of this analysis, material is primarily moved overland by truck.

Decontamination is used to reduce the plant's radiation fields and minimize worker exposure. Slightly contaminated material or material located within a contaminated area is sent to an off-site processing center, i.e., this analysis does not assume that contaminated plant components and equipment can be decontaminated for uncontrolled release in-situ. Centralized processing centers have proven to be a more economical means of handling the large volumes of material produced in the dismantling of a nuclear plant.

License termination survey costs are associated with the labor intensive and complex activity of verifying that contamination has been removed from the site to the levels specified by the regulating agency. This process involves a systematic survey of all remaining plant surface areas and surrounding environs, sampling, isotopic analysis, and documentation of the findings. The status of any plant components and materials not removed in the decommissioning process will also require confirmation and will add to the expense of surveying the facilities alone.

The remaining costs include allocations for heavy equipment and temporary services, as well as for other expenses such as regulatory fees and the premiums for nuclear insurance. While site operating costs are greatly reduced following the final cessation of plant operations, certain administrative functions do need to be maintained either at a basic functional or regulatory level.

TABLE 6.1
DECON ALTERNATIVE
DECOMMISSIONING COST ELEMENTS
(thousands of 2010 dollars)

Cost Element	Total	Percentage
Decontamination	20,913	1.5
Removal	149,685	10.8
Packaging	33,709	2.4
Transportation	32,737	2.4
Waste Disposal	116,586	8.4
Off-site Waste Processing	33,548	2.4
Program Management [1]	627,925	45.3
Spent Fuel Pool Isolation	19,129	1.4
Spent Fuel Management (Direct Costs) [2]	219,653	15.8
Insurance and Regulatory Fees	45,902	3.3
Energy	29,101	2.1
Characterization and Licensing Surveys	17,988	1.3
Property Taxes	277	0.0
Miscellaneous Equipment	13,139	0.9
Fixed Overhead	18,429	1.3
INPO, NEI Fees	6,907	0.5
Florida LLRW Inspection Fee	591	0.0
Total [3]	1,386,216	100.0

Cost Element	Total	Percentage
License Termination	932,988	67.3
Spent Fuel Management [4]	374,006	27.0
Site Restoration	79,223	5.7
Total [3]	1,386,216	100.0

[1] Includes engineering costs
[2] Excludes program management costs (staffing) but includes costs for dry shielded storage canisters and horizontal storage modules, spent fuel loading/transfer/spent fuel pool O&M and EP fees
[3] Columns may not add due to rounding
[4] Includes period-dependent costs such as Program Management costs

TABLE 6.2
SAFSTOR ALTERNATIVE
DECOMMISSIONING COST ELEMENTS
(thousands of 2010 dollars)

Cost Element	Total	Percentage
Decontamination	16,971	1.0
Removal	152,319	8.6
Packaging	24,829	1.4
Transportation	26,434	1.5
Waste Disposal	80,977	4.6
Off-site Waste Processing	37,742	2.1
Program Management [1]	782,118	44.2
Spent Fuel Pool Isolation	19,129	1.1
Spent Fuel Management (Direct Costs) [2]	210,584	11.9
Insurance and Regulatory Fees	116,589	6.6
Energy	58,729	3.3
Characterization and Licensing Surveys	20,772	1.2
Property Taxes	348	0.0
Miscellaneous Equipment	33,658	1.9
Fixed Overhead	152,072	8.6
INPO,NEI Fees	36,319	2.1
Florida LLRW Inspection Fee	458	0.0
Total [3]	1,770,047	100.0

Cost Element	Total	Percentage
License Termination	1,341,814	75.8
Spent Fuel Management [4]	347,486	19.6
Site Restoration	80,748	4.6
Total [3]	1,770,047	100.0

[1] Includes engineering costs
[2] Excludes program management costs (staffing) but includes costs for dry shielded storage canisters and horizontal storage modules, spent fuel loading/transfer/spent fuel pool O&M and EP fees
[3] Columns may not add due to rounding
[4] Includes period-dependent costs such as Program Management costs

7. REFERENCES

1. "Decommissioning Cost Analysis for the Turkey Point Nuclear Plant, Units 3 and 4," Document F02-1512-003, Rev. 0, TLG Services, Inc., October 2005

2. U.S. Code of Federal Regulations, Title 10, Parts 30, 40, 50, 51, 70 and 72, "General Requirements for Decommissioning Nuclear Facilities," Nuclear Regulatory Commission, Federal Register Volume 53, Number 123 (p 24018 et seq.), June 27, 1988

3. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors," October 2003

4. U.S. Code of Federal Regulations, Title 10, Part 20, Subpart E, "Radiological Criteria for License Termination"

5. U.S. Code of Federal Regulations, Title 10, Parts 20 and 50, "Entombment Options for Power Reactors," Advanced Notice of Proposed Rulemaking, Federal Register Volume 66, Number 200, October 16, 2001

6. U.S. Code of Federal Regulations, Title 10, Parts 2, 50 and 51, "Decommissioning of Nuclear Power Reactors," Nuclear Regulatory Commission, Federal Register Volume 61 (p 39278 et seq.), July 29, 1996.

7. "Nuclear Waste Policy Act of 1982 and Amendments," U.S. Department of Energy's Office of Civilian Radioactive Management, 1982

8. U.S. Code of Federal Regulations, Title 10, Part 50, "Domestic Licensing of Production and Utilization Facilities," Subpart 54 (bb), "Conditions of Licenses"

9. "Low Level Radioactive Waste Policy Act," Public Law 96-573, 1980

10. "Low-Level Radioactive Waste Policy Amendments Act of 1985," Public Law 99-240, 1986

11. Waste is classified in accordance with U.S. Code of Federal Regulations, Title 10, Part 61.55

12. U.S. Code of Federal Regulations, Title 10, Part 20, Subpart E, "Radiological Criteria for License Termination," Federal Register, Volume 62, Number 139 (p 39058 et seq.), July 21, 1997

7. REFERENCES
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13. "Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination," EPA Memorandum OSWER No. 9200.4-18, August 22, 1997.

14. U.S. Code of Federal Regulations, Title 40, Part 141.16, "Maximum contaminant levels for beta particle and photon radioactivity from man-made radionuclides in community water systems"

15. "Memorandum of Understanding Between the Environmental Protection Agency and the Nuclear Regulatory Commission: Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites," OSWER 9295.8-06a, October 9, 2002

16. "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)," NUREG/CR-1575, Rev. 1, EPA 402-R-97-016, Rev. 1, August 2000

17. T.S. LaGuardia et al., "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986

18. W.J. Manion and T.S. LaGuardia, "Decommissioning Handbook," U.S. Department of Energy, DOE/EV/10128-1, November 1980

19. "Building Construction Cost Data 2010," Robert Snow Means Company, Inc., Kingston, Massachusetts

20. Project and Cost Engineers' Handbook, Second Edition, p. 239, American Association of Cost Engineers, Marcel Dekker, Inc., New York, New York, 1984

21. U.S. Department of Transportation, Title 49 of the Code of Federal Regulations, "Transportation," Parts 173 through 178

22. Tri-State Motor Transit Company, published tariffs, Interstate Commerce Commission (ICC), Docket No. MC-427719 Rules Tariff, March 2004, Radioactive Materials Tariff, March 2010

23. J.C. Evans et al., "Long-Lived Activation Products in Reactor Materials" NUREG/CR-3474, Pacific Northwest Laboratory for the Nuclear Regulatory Commission, August 1984

7. REFERENCES
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24. R.I. Smith, G.J. Konzek, W.E. Kennedy, Jr., "Technology, Safety and Costs of Decommissioning a Reference Pressurized Water Reactor Power Station," NUREG/CR-0130 and addenda, Pacific Northwest Laboratory for the Nuclear Regulatory Commission, June 1978

25. H.D. Oak, et al., "Technology, Safety and Costs of Decommissioning a Reference Boiling Water Reactor Power Station," NUREG/CR-0672 and addenda, Pacific Northwest Laboratory for the Nuclear Regulatory Commission, June 1980

26. "Financial Protection Requirements for Permanently Shutdown Nuclear Power Reactors," 10 CFR Parts 50 and 140, Federal Register Notice, Vol. 62, No. 210, October 30, 1997

27. "Microsoft Project Professional 2007," Microsoft Corporation, Redmond, WA.

28. "Atomic Energy Act of 1954," (68 Stat. 919)

APPENDIX A

UNIT COST FACTOR DEVELOPMENT

APPENDIX A
UNIT COST FACTOR DEVELOPMENT

Example: Unit Factor for Removal of Contaminated Heat Exchanger < 3,000 lbs.

1. SCOPE

Heat exchangers weighing < 3,000 lbs. will be removed in one piece using a crane or small hoist. They will be disconnected from the inlet and outlet piping. The heat exchanger will be sent to the waste processing area.

2. CALCULATIONS

Act ID	Activity Description	Activity Duration (minutes)	Critical Duration (minutes)*
a	Remove insulation	60	(b)
b	Mount pipe cutters	60	60
c	Install contamination controls	20	(b)
d	Disconnect inlet and outlet lines	60	60
e	Cap openings	20	(d)
f	Rig for removal	30	30
g	Unbolt from mounts	30	30
h	Remove contamination controls	15	15
i	Remove, wrap, send to waste processing area	60	60
	Totals (Activity/Critical)	355	255

Duration adjustment(s):	
+ Respiratory protection adjustment (50% of critical duration)	128
+ Radiation/ALARA adjustment (37% of critical duration)	95
Adjusted work duration	478
+ Protective clothing adjustment (30% of adjusted duration)	143
Productive work duration	621
+ Work break adjustment (8.33 % of productive duration)	52
Total work duration (minutes)	673

***** Total duration = 11.217 hr *****

* alpha designators indicate activities that can be performed in parallel

APPENDIX A
(continued)

3. LABOR REQUIRED

Crew	Number	Duration (hours)	Rate ($/hr)	Cost
Laborers	3.00	11.217	$32.61	$1,097.36
Craftsmen	2.00	11.217	$51.38	$1,152.66
Foreman	1.00	11.217	$55.88	$626.81
General Foreman	0.25	11.217	$58.59	$164.30
Fire Watch	0.05	11.217	$32.61	$18.29
Health Physics Technician	1.00	11.217	$42.76	$479.64
Total Labor Cost				$3,539.06

4. EQUIPMENT & CONSUMABLES COSTS

Equipment Costs	none
Consumables/Materials Costs	
-Blotting paper 50 @ $0.57 sq ft [1]	$28.50
-Plastic tarp 50 @ $0.42/sq ft [2]	$21.00
-Gas torch consumables 1 @ $9.93/hr x 1 hr [3]	$9.93
Subtotal cost of equipment and materials	$59.43
Overhead & profit on equipment and materials @ 17.00 %	$10.10
Total costs, equipment & material	$69.53

TOTAL COST:

Removal of contaminated **heat exchanger <3000 pounds:**	**$3,608.59**
Total labor cost:	$3,539.06
Total equipment/material costs:	$69.53
Total craft labor man-hours required per unit:	81.88

** denotes business sensitive information

5. NOTES AND REFERENCES

- Work difficulty factors were developed in conjunction with the Atomic Industrial Forum's (now NEI) program to standardize nuclear decommissioning cost estimates and are delineated in Volume 1, Chapter 5 of the "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986.

- References for equipment & consumables costs:

    1. www.mcmaster.com online catalog, McMaster Carr Spill Control (7428T13)
    2. R.S. Means (2010) Division 01 56, Section 13.60-0600, page 20
    3. R.S. Means (2010) Division 01 54 33, Section 40-6360, page 658

- Material and consumable costs were adjusted using the regional indices for Miami, Florida.

APPENDIX B

UNIT COST FACTOR LISTING
(DECON: Power Block Structures Only)

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Removal of clean instrument and sampling tubing, $/linear foot	0.39
Removal of clean pipe 0.25 to 2 inches diameter, $/linear foot	3.98
Removal of clean pipe >2 to 4 inches diameter, $/linear foot	5.85
Removal of clean pipe >4 to 8 inches diameter, $/linear foot	11.85
Removal of clean pipe >8 to 14 inches diameter, $/linear foot	22.43
Removal of clean pipe >14 to 20 inches diameter, $/linear foot	29.14
Removal of clean pipe >20 to 36 inches diameter, $/linear foot	42.88
Removal of clean pipe >36 inches diameter, $/linear foot	50.95
Removal of clean valve >2 to 4 inches	78.48
Removal of clean valve >4 to 8 inches	118.51
Removal of clean valve >8 to 14 inches	224.30
Removal of clean valve >14 to 20 inches	291.37
Removal of clean valve >20 to 36 inches	428.75
Removal of clean valve >36 inches	509.51
Removal of clean pipe hanger for small bore piping	25.37
Removal of clean pipe hanger for large bore piping	88.85
Removal of clean pump, <300 pound	199.32
Removal of clean pump, 300-1000 pound	564.39
Removal of clean pump, 1000-10,000 pound	2,217.34
Removal of clean pump, >10,000 pound	4,286.09
Removal of clean pump motor, 300-1000 pound	237.19
Removal of clean pump motor, 1000-10,000 pound	923.27
Removal of clean pump motor, >10,000 pound	2,077.38
Removal of clean heat exchanger <3000 pound	1,193.44
Removal of clean heat exchanger >3000 pound	3,001.15
Removal of clean feedwater heater/deaerator	8,440.61
Removal of clean moisture separator/reheater	17,327.81
Removal of clean tank, <300 gallons	256.46
Removal of clean tank, 300-3000 gallon	809.79
Removal of clean tank, >3000 gallons, $/square foot surface area	6.91

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Removal of clean electrical equipment, <300 pound	108.88
Removal of clean electrical equipment, 300-1000 pound	386.17
Removal of clean electrical equipment, 1000-10,000 pound	772.33
Removal of clean electrical equipment, >10,000 pound	1,860.36
Removal of clean electrical transformer < 30 tons	1,292.00
Removal of clean electrical transformer > 30 tons	3,720.72
Removal of clean standby diesel generator, <100 kW	1,319.65
Removal of clean standby diesel generator, 100 kW to 1 MW	2,945.58
Removal of clean standby diesel generator, >1 MW	6,097.91
Removal of clean electrical cable tray, $/linear foot	10.17
Removal of clean electrical conduit, $/linear foot	4.44
Removal of clean mechanical equipment, <300 pound	108.88
Removal of clean mechanical equipment, 300-1000 pound	386.17
Removal of clean mechanical equipment, 1000-10,000 pound	772.33
Removal of clean mechanical equipment, >10,000 pound	1,860.36
Removal of clean HVAC equipment, <300 pound	131.67
Removal of clean HVAC equipment, 300-1000 pound	464.01
Removal of clean HVAC equipment, 1000-10,000 pound	924.76
Removal of clean HVAC equipment, >10,000 pound	1,860.36
Removal of clean HVAC ductwork, $/pound	0.41
Removal of contaminated instrument and sampling tubing, $/linear foot	1.23
Removal of contaminated pipe 0.25 to 2 inches diameter, $/linear foot	18.53
Removal of contaminated pipe >2 to 4 inches diameter, $/linear foot	30.96
Removal of contaminated pipe >4 to 8 inches diameter, $/linear foot	49.94
Removal of contaminated pipe >8 to 14 inches diameter, $/linear foot	95.60
Removal of contaminated pipe >14 to 20 inches diameter, $/linear foot	114.11
Removal of contaminated pipe >20 to 36 inches diameter, $/linear foot	156.54
Removal of contaminated pipe >36 inches diameter, $/linear foot	184.37
Removal of contaminated valve >2 to 4 inches	371.80
Removal of contaminated valve >4 to 8 inches	445.20

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Removal of contaminated valve >8 to 14 inches	898.12
Removal of contaminated valve >14 to 20 inches	1,136.48
Removal of contaminated valve >20 to 36 inches	1,507.52
Removal of contaminated valve >36 inches	1,785.82
Removal of contaminated pipe hanger for small bore piping	118.21
Removal of contaminated pipe hanger for large bore piping	388.42
Removal of contaminated pump, <300 pound	795.38
Removal of contaminated pump, 300-1000 pound	1,861.23
Removal of contaminated pump, 1000-10,000 pound	5,946.93
Removal of contaminated pump, >10,000 pound	14,477.65
Removal of contaminated pump motor, 300-1000 pound	812.76
Removal of contaminated pump motor, 1000-10,000 pound	2,443.36
Removal of contaminated pump motor, >10,000 pound	5,485.82
Removal of contaminated heat exchanger <3000 pound	3,608.59
Removal of contaminated heat exchanger >3000 pound	10,511.35
Removal of contaminated tank, <300 gallons	1,328.60
Removal of contaminated tank, >300 gallons, $/square foot	25.75
Removal of contaminated electrical equipment, <300 pound	609.19
Removal of contaminated electrical equipment, 300-1000 pound	1,508.69
Removal of contaminated electrical equipment, 1000-10,000 pound	2,906.91
Removal of contaminated electrical equipment, >10,000 pound	5,777.38
Removal of contaminated electrical cable tray, $/linear foot	29.34
Removal of contaminated electrical conduit, $/linear foot	14.98
Removal of contaminated mechanical equipment, <300 pound	677.33
Removal of contaminated mechanical equipment, 300-1000 pound	1,664.64
Removal of contaminated mechanical equipment, 1000-10,000 pound	3,202.10
Removal of contaminated mechanical equipment, >10,000 pound	5,777.38
Removal of contaminated HVAC equipment, <300 pound	677.33
Removal of contaminated HVAC equipment, 300-1000 pound	1,664.64
Removal of contaminated HVAC equipment, 1000-10,000 pound	3,202.10

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Removal of contaminated HVAC equipment, >10,000 pound	5,777.38
Removal of contaminated HVAC ductwork, $/pound	1.81
Removal/plasma arc cut of contaminated thin metal components, $/linear in.	3.28
Additional decontamination of surface by washing, $/square foot	6.72
Additional decontamination of surfaces by hydrolasing, $/square foot	31.07
Decontamination rig hook up and flush, $/ 250 foot length	5,679.71
Chemical flush of components/systems, $/gallon	16.64
Removal of clean standard reinforced concrete, $/cubic yard	123.23
Removal of grade slab concrete, $/cubic yard	161.31
Removal of clean concrete floors, $/cubic yard	328.89
Removal of sections of clean concrete floors, $/cubic yard	966.87
Removal of clean heavily rein concrete w/#9 rebar, $/cubic yard	218.77
Removal of contaminated heavily rein concrete w/#9 rebar, $/cubic yard	1,882.32
Removal of clean heavily rein concrete w/#18 rebar, $/cubic yard	276.61
Removal of contaminated heavily rein concrete w/#18 rebar, $/cubic yard	2,487.60
Removal heavily rein concrete w/#18 rebar & steel embedments, $/cy	414.09
Removal of below-grade suspended floors, $/cubic yard	328.89
Removal of clean monolithic concrete structures, $/cubic yard	801.26
Removal of contaminated monolithic concrete structures, $/cubic yard	1,869.15
Removal of clean foundation concrete, $/cubic yard	629.83
Removal of contaminated foundation concrete, $/cubic yard	1,741.46
Explosive demolition of bulk concrete, $/cubic yard	28.25
Removal of clean hollow masonry block wall, $/cubic yard	81.20
Removal of contaminated hollow masonry block wall, $/cubic yard	272.20
Removal of clean solid masonry block wall, $/cubic yard	81.20
Removal of contaminated solid masonry block wall, $/cubic yard	272.20
Backfill of below-grade voids, $/cubic yard	23.19
Removal of subterranean tunnels/voids, $/linear foot	96.95
Placement of concrete for below-grade voids, $/cubic yard	136.14
Excavation of clean material, $/cubic yard	2.89

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Excavation of contaminated material, $/cubic yard	37.68
Removal of clean concrete rubble (tipping fee included), $/cubic yard	22.34
Removal of contaminated concrete rubble, $/cubic yard	23.51
Removal of building by volume, $/cubic foot	0.28
Removal of clean building metal siding, $/square foot	0.92
Removal of contaminated building metal siding, $/square foot	3.27
Removal of standard asphalt roofing, $/square foot	1.81
Removal of transite panels, $/square foot	1.88
Scarifying contaminated concrete surfaces (drill & spall), $/square foot	11.43
Scabbling contaminated concrete floors, $/square foot	6.66
Scabbling contaminated concrete walls, $/square foot	17.32
Scabbling contaminated ceilings, $/square foot	59.15
Scabbling structural steel, $/square foot	5.52
Removal of clean overhead crane/monorail < 10 ton capacity	554.56
Removal of contaminated overhead crane/monorail < 10 ton capacity	1,557.77
Removal of clean overhead crane/monorail >10-50 ton capacity	1,330.95
Removal of contaminated overhead crane/monorail >10-50 ton capacity	3,738.02
Removal of polar crane > 50 ton capacity	5,621.00
Removal of gantry crane > 50 ton capacity	23,254.48
Removal of structural steel, $/pound	0.19
Removal of clean steel floor grating, $/square foot	4.11
Removal of contaminated steel floor grating, $/square foot	11.80
Removal of clean free standing steel liner, $/square foot	10.37
Removal of contaminated free standing steel liner, $/square foot	30.05
Removal of clean concrete-anchored steel liner, $/square foot	5.18
Removal of contaminated concrete-anchored steel liner, $/square foot	35.00
Placement of scaffolding in clean areas, $/square foot	16.61
Placement of scaffolding in contaminated areas, $/square foot	24.76
Landscaping with topsoil, $/acre	19,889.44
Cost of CPC B-88 LSA box & preparation for use	2,174.29

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Cost of CPC B-25 LSA box & preparation for use	1,788.17
Cost of CPC B-12V 12 gauge LSA box & preparation for use	1,608.67
Cost of CPC B-144 LSA box & preparation for use	9,644.44
Cost of LSA drum & preparation for use	170.52
Cost of cask liner for CNSI 8 120A cask (resins)	7,701.17
Cost of cask liner for CNSI 8 120A cask (filters)	8,221.99
Decontamination of surfaces with vacuuming, $/square foot	0.66

APPENDIX C

DETAILED COST ANALYSIS

DECON

Tables

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Table C-1
Turkey Point Nuclear Plant, Unit 3
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	156	23	179	179	-	-	-	-	-	-	-	-	-	1,300
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	240	36	276	276	-	-	-	-	-	-	-	-	-	2,000
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	552	83	635	635	-	-	-	-	-	-	-	-	-	4,600
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
1a.1.10	End product description	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	156	23	179	179	-	-	-	-	-	-	-	-	-	1,300
1a.1.12	Define major work sequence	-	-	-	-	-	-	900	135	1,035	1,035	-	-	-	-	-	-	-	-	-	7,500
1a.1.13	Perform SER and EA	-	-	-	-	-	-	372	56	428	428	-	-	-	-	-	-	-	-	-	3,100
1a.1.14	Perform Site-Specific Cost Study	-	-	-	-	-	-	600	90	690	690	-	-	-	-	-	-	-	-	-	5,000
1a.1.15	Prepare/submit License Termination Plan	-	-	-	-	-	-	492	74	565	565	-	-	-	-	-	-	-	-	-	4,095
1a.1.16	Receive NRC approval of termination plan									a											
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	590	89	679	611	-	68	-	-	-	-	-	-	-	4,920
1a.1.17.2	Plant systems	-	-	-	-	-	-	500	75	575	518	-	58	-	-	-	-	-	-	-	4,167
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	60	9	69	69	-	-	-	-	-	-	-	-	-	500
1a.1.17.4	Reactor internals	-	-	-	-	-	-	852	128	980	980	-	-	-	-	-	-	-	-	-	7,100
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	780	117	897	897	-	-	-	-	-	-	-	-	-	6,500
1a.1.17.6	Biological shield	-	-	-	-	-	-	60	9	69	69	-	-	-	-	-	-	-	-	-	500
1a.1.17.7	Steam generators	-	-	-	-	-	-	374	56	431	431	-	-	-	-	-	-	-	-	-	3,120
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	192	29	221	110	-	110	-	-	-	-	-	-	-	1,600
1a.1.17.9	Main Turbine	-	-	-	-	-	-	48	7	55	-	-	55	-	-	-	-	-	-	-	400
1a.1.17.10	Main Condensers	-	-	-	-	-	-	48	7	55	-	-	55	-	-	-	-	-	-	-	400
1a.1.17.11	Plant structures & buildings	-	-	-	-	-	-	374	56	431	215	-	215	-	-	-	-	-	-	-	3,120
1a.1.17.12	Waste management	-	-	-	-	-	-	552	83	635	635	-	-	-	-	-	-	-	-	-	4,600
1a.1.17.13	Facility & site closeout	-	-	-	-	-	-	108	16	124	62	-	62	-	-	-	-	-	-	-	900
1a.1.17	Total	-	-	-	-	-	-	4,539	681	5,220	4,597	-	624	-	-	-	-	-	-	-	37,827
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	288	43	331	331	-	-	-	-	-	-	-	-	-	2,400
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	2,800	420	3,220	3,220	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	168	25	193	193	-	-	-	-	-	-	-	-	-	1,400
1a.1.21	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,200	330	2,530	2,530	-	-	-	-	-	-	-	-	-	-
1a.1.22	Procure casks/liners & containers	-	-	-	-	-	-	148	22	170	170	-	-	-	-	-	-	-	-	-	1,230
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	13,850	2,078	15,928	15,304	-	624	-	-	-	-	-	-	-	73,753
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,805	271	2,076	-	2,076	-	-	-	-	-	-	-	-	-
1a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
1a.3.3	Fixed Overhead	-	-	-	-	-	-	1,108	166	1,274	1,274	-	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	2,914	437	3,351	1,275	2,076	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,526	153	1,678	1,678	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	59	6	65	65	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	358	-	-	-	-	-	89	447	447	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	522	-	-	-	-	-	78	601	601	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	10	8	-	22	-	8	47	47	-	-	-	493	-	-	-	9,854	16	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	2,123	318	2,441	2,441	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	738	74	812	812	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	602	60	662	-	662	-	-	-	-	-	-	-	-	-
1a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	764	115	878	-	878	-	-	-	-	-	-	-	-	-
1a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-

Table C-1
Turkey Point Nuclear Plant, Unit 3
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1a Period-Dependent Costs (continued)																					
1a.4.11	INPO Fees	-	-	-	-	-	-	722	72	794	794	-	-	-	-	-	-	-	-	-	-
1a.4.12	NEI Fees	-	-	-	-	-	-	265	26	291	291	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	3,045	457	3,501	3,501	-	-	-	-	-	-	-	-	-	77,025
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	26,881	4,032	30,913	30,913	-	-	-	-	-	-	-	-	-	423,400
1a.4	Subtotal Period 1a Period-Dependent Costs	-	880	10	8	-	22	36,768	5,495	43,183	41,592	1,591	-	-	493	-	-	-	9,854	16	500,425
1a.0	TOTAL PERIOD 1a COST	-	880	10	8	-	22	53,533	8,010	62,463	58,172	3,667	624	-	493	-	-	-	9,854	16	574,178
PERIOD 1b - Decommissioning Preparations																					
Period 1b Direct Decommissioning Activities																					
Detailed Work Procedures																					
1b.1.1.1	Plant systems	-	-	-	-	-	-	568	85	653	588	-	65	-	-	-	-	-	-	-	4,733
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.3	Reactor internals	-	-	-	-	-	-	300	45	345	345	-	-	-	-	-	-	-	-	-	2,500
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	162	24	186	47	-	140	-	-	-	-	-	-	-	1,350
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.7	Incore instrumentation	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	436	65	501	501	-	-	-	-	-	-	-	-	-	3,630
1b.1.1.9	Facility closeout	-	-	-	-	-	-	144	22	166	83	-	83	-	-	-	-	-	-	-	1,200
1b.1.1.10	Missile shields	-	-	-	-	-	-	54	8	62	62	-	-	-	-	-	-	-	-	-	450
1b.1.1.11	Biological shield	-	-	-	-	-	-	144	22	166	166	-	-	-	-	-	-	-	-	-	1,200
1b.1.1.12	Steam generators	-	-	-	-	-	-	552	83	635	635	-	-	-	-	-	-	-	-	-	4,600
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	120	18	138	69	-	69	-	-	-	-	-	-	-	1,000
1b.1.1.14	Main Turbine	-	-	-	-	-	-	187	28	215	-	-	215	-	-	-	-	-	-	-	1,560
1b.1.1.15	Main Condensers	-	-	-	-	-	-	187	28	215	-	-	215	-	-	-	-	-	-	-	1,560
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	328	49	377	339	-	38	-	-	-	-	-	-	-	2,730
1b.1.1.17	Reactor building	-	-	-	-	-	-	328	49	377	339	-	38	-	-	-	-	-	-	-	2,730
1b.1.1	Total	-	-	-	-	-	-	3,989	598	4,588	3,725	-	863	-	-	-	-	-	-	-	33,243
1b.1.2	Decon primary loop	495	-	-	-	-	-	-	248	743	743	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	495	-	-	-	-	-	3,989	846	5,330	4,467	-	863	-	-	-	-	-	-	1,067	33,243
Period 1b Additional Costs																					
1b.2.1	Site Characterization	-	-	-	-	-	-	5,083	1,525	6,607	6,607	-	-	-	-	-	-	-	-	30,500	10,852
1b.2.2	Spent Fuel Pool Isolation	-	-	-	-	-	-	9,980	1,497	11,477	11,477	-	-	-	-	-	-	-	-	-	-
1b.2.3	Mixed/Hazardous Waste	-	-	535	144	5,335	-	-	875	6,889	6,889	-	-	23,332	-	-	-	-	1,232,428	4,905	-
1b.2.4	Asbestos Removal Program	-	603	25	55	-	127	8	194	1,012	1,012	-	-	-	2,207	-	-	-	49,898	7,001	-
1b.2	Subtotal Period 1b Additional Costs	-	603	560	199	5,335	127	15,071	4,092	25,986	25,986	-	-	23,332	2,207	-	-	-	1,282,326	42,406	10,852
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	879	-	-	-	-	-	-	132	1,011	1,011	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,628	244	1,872	1,872	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process decommissioning water waste	29	-	13	85	-	72	-	47	246	246	-	-	-	199	-	-	-	11,925	39	-
1b.3.4	Process decommissioning chemical flush waste	1	-	40	281	-	2,389	-	644	3,355	3,355	-	-	-	-	646	-	-	68,816	121	-
1b.3.5	Small tool allowance	-	9	-	-	-	-	-	1	10	10	-	-	-	-	-	-	-	-	-	-
1b.3.6	Pipe cutting equipment	-	1,100	-	-	-	-	-	165	1,265	1,265	-	-	-	-	-	-	-	-	-	-
1b.3.7	Decon rig	1,400	-	-	-	-	-	-	210	1,610	1,610	-	-	-	-	-	-	-	-	-	-
1b.3.8	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,254	188	1,443	-	1,443	-	-	-	-	-	-	-	-	-
1b.3.9	Florida LLRW Inspection Fee	-	-	-	-	-	-	7	1	7	7	-	-	-	-	-	-	-	-	-	-
1b.3.10	Fixed Overhead	-	-	-	-	-	-	562	84	646	646	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	2,309	1,109	53	367	-	2,461	3,451	1,716	11,465	10,022	1,443	-	-	199	646	-	-	80,740	160	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	27	-	-	-	-	-	-	7	34	34	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	367	37	403	403	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	27	3	30	30	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	260	-	-	-	-	-	65	325	325	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	265	-	-	-	-	-	40	304	304	-	-	-	-	-	-	-	-	-	-

Table C-1
Turkey Point Nuclear Plant, Unit 3
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1b Period-Dependent Costs (continued)																					
1b.4.6	Disposal of DAW generated	-	-	6	5	-	14	-	5	29	29	-	-	-	303	-	-	-	6,050	10	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	2,152	323	2,475	2,475	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	374	37	412	412	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	305	30	335	-	335	-	-	-	-	-	-	-	-	-
1b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	387	58	445	-	445	-	-	-	-	-	-	-	-	-
1b.4.11	ISFSI Operating Costs	-	-	-	-	-	-	22	3	26	-	26	-	-	-	-	-	-	-	-	-
1b.4.12	NEI Fees	-	-	-	-	-	-	134	13	147	147	-	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	3,200	480	3,679	3,679	-	-	-	-	-	-	-	-	-	79,814
1b.4.14	DOC Staff Cost	-	-	-	-	-	-	5,037	756	5,793	5,793	-	-	-	-	-	-	-	-	-	64,486
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	13,703	2,055	15,758	15,758	-	-	-	-	-	-	-	-	-	215,657
1b.4	Subtotal Period 1b Period-Dependent Costs	27	525	6	5	-	14	25,707	3,912	30,196	29,389	807	-	-	303	-	-	-	6,050	10	359,957
1b.0	TOTAL PERIOD 1b COST	2,831	2,236	619	570	5,335	2,602	48,218	10,565	72,977	69,865	2,249	863	23,332	2,708	646	-	-	1,369,117	43,642	404,052
PERIOD 1 TOTALS		2,831	3,116	629	577	5,335	2,624	101,751	18,575	135,439	128,037	5,917	1,486	23,332	3,201	646	-	-	1,378,971	43,658	978,230
PERIOD 2a - Large Component Removal																					
Period 2a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
2a.1.1.1	Reactor Coolant Piping	53	41	8	16	-	124	-	71	312	312	-	-	-	425	-	-	-	48,604	1,954	-
2a.1.1.2	Pressurizer Relief Tank	22	19	5	11	-	75	-	37	168	168	-	-	-	265	-	-	-	29,424	863	-
2a.1.1.3	Reactor Coolant Pumps & Motors	42	65	68	127	-	657	-	227	1,185	1,185	-	-	-	2,396	-	-	-	555,300	2,733	100
2a.1.1.4	Pressurizer	34	51	344	91	-	805	-	279	1,605	1,605	-	-	-	2,937	-	-	-	227,375	2,018	938
2a.1.1.5	Steam Generators	225	3,084	1,732	3,564	1,871	3,530	-	2,754	16,760	16,760	-	-	26,258	12,879	-	-	-	2,271,299	11,704	1,750
2a.1.1.6	Retired Steam Generator Units	-	-	112	3,416	-	3,421	-	1,379	8,329	8,329	-	-	-	12,483	-	-	-	1,364,708	-	1,125
2a.1.1.7	CRDMs/ICIs/Service Structure Removal	127	69	184	69	-	200	-	160	810	810	-	-	-	3,474	-	-	-	78,625	3,870	-
2a.1.1.8	Reactor Vessel Internals	96	2,242	7,381	1,478	-	11,693	236	9,826	32,952	32,952	-	-	-	626	527	976	-	228,003	24,950	1,130
2a.1.1.9	Reactor Vessel	65	4,153	1,443	954	-	1,820	236	4,692	13,365	13,365	-	-	-	7,120	-	-	-	790,717	24,950	1,130
2a.1.1	Totals	664	9,724	11,278	9,727	1,871	22,326	472	19,425	75,486	75,486	-	-	26,258	42,606	527	976	-	5,594,055	73,043	6,173
Removal of Major Equipment																					
2a.1.2	Main Turbine/Generator	-	271	138	101	434	597	-	311	1,852	1,852	-	-	4,195	2,611	-	-	-	423,022	5,913	-
2a.1.3	Main Condensers	-	930	163	120	514	707	-	520	2,953	2,953	-	-	4,962	3,088	-	-	-	500,376	20,428	-
Cascading Costs from Clean Building Demolition																					
2a.1.4.1	Containment	-	693	-	-	-	-	-	104	796	796	-	-	-	-	-	-	-	-	8,184	-
2a.1.4.2	Fuel Handling	-	52	-	-	-	-	-	8	60	60	-	-	-	-	-	-	-	-	663	-
2a.1.4	Totals	-	745	-	-	-	-	-	112	857	857	-	-	-	-	-	-	-	-	8,847	-
Disposal of Plant Systems																					
2a.1.5.1	Amertap	-	71	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,715	-
2a.1.5.2	Auxiliary Feedwater	-	4	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	98	-
2a.1.5.3	Auxiliary Feedwater - Insulated	-	17	-	-	-	-	-	2	19	-	-	19	-	-	-	-	-	-	411	-
2a.1.5.4	Auxiliary Feedwater - Insulated - RCA	-	121	5	7	29	44	-	47	252	252	-	-	308	191	-	-	-	29,619	2,630	-
2a.1.5.5	Auxiliary Feedwater - RCA	-	27	1	2	7	11	-	11	58	58	-	-	75	46	-	-	-	7,205	571	-
2a.1.5.6	Auxiliary Steam	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	10	-
2a.1.5.7	Auxiliary Steam - Insulated	-	29	-	-	-	-	-	4	34	-	-	34	-	-	-	-	-	-	734	-
2a.1.5.8	Auxiliary Steam - Insulated - RCA	-	7	0	1	3	3	-	3	16	16	-	-	31	12	-	-	-	2,380	141	-
2a.1.5.9	Auxiliary Steam - RCA	-	0	0	0	0	0	-	0	0	0	-	-	0	0	-	-	-	16	1	-
2a.1.5.10	Breathing Air - Insulated - RCA	-	5	0	0	1	1	-	2	9	9	-	-	9	7	-	-	-	963	104	-
2a.1.5.11	Breathing Air - RCA	-	16	1	1	3	6	-	6	33	33	-	-	38	26	-	-	-	3,793	351	-
2a.1.5.12	Chemical & Volume Control	55	95	12	16	49	105	-	89	421	421	-	-	521	521	-	-	-	62,170	3,058	-
2a.1.5.13	Chemical & Volume Control - Insulated	148	255	13	18	16	127	-	176	754	754	-	-	167	557	-	-	-	56,721	8,346	-
2a.1.5.14	Circulating Water	-	91	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	2,204	-
2a.1.5.15	Component Cooling Water	-	145	-	-	-	-	-	22	167	-	-	167	-	-	-	-	-	-	3,558	-
2a.1.5.16	Component Cooling Water - RCA	-	350	27	46	378	206	-	205	1,212	1,212	-	-	4,044	902	-	-	-	245,115	7,562	-
2a.1.5.17	Condensate	-	166	-	-	-	-	-	25	191	-	-	191	-	-	-	-	-	-	3,960	-
2a.1.5.18	Condensate - Insulated	-	52	-	-	-	-	-	8	60	-	-	60	-	-	-	-	-	-	1,309	-
2a.1.5.19	Condensate Polishing	-	31	-	-	-	-	-	5	36	-	-	36	-	-	-	-	-	-	734	-

Table C-1
Turkey Point Nuclear Plant, Unit 3
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
2a.1.5.20	Condensate Polishing - Ins	-	81	-	-	-	-	-	12	93	-	-	93	-	-	-	-	-	-	1,986	-
2a.1.5.21	Condensate Recovery	-	15	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	373	-
2a.1.5.22	Condensate Recovery - Insulated	-	2	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	60	-
2a.1.5.23	Condensate Recovery - Insulated - RCA	-	5	0	0	1	2	-	2	10	10	-	-	10	8	-	-	-	1,127	108	-
2a.1.5.24	Condensate Recovery - RCA	-	21	1	1	4	8	-	8	43	43	-	-	43	36	-	-	-	5,028	434	-
2a.1.5.25	Condensate Storage	-	68	-	-	-	-	-	10	78	-	-	78	-	-	-	-	-	-	1,572	-
2a.1.5.26	Condenser	-	22	-	-	-	-	-	3	25	-	-	25	-	-	-	-	-	-	545	-
2a.1.5.27	Containment Post Accident Eval	-	1	0	0	0	0	-	0	1	1	-	-	2	0	-	-	-	130	16	-
2a.1.5.28	Electrical - Clean	-	1,335	-	-	-	-	-	200	1,535	-	-	1,535	-	-	-	-	-	-	31,193	-
2a.1.5.29	Extraction Steam	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	244	-
2a.1.5.30	Extraction Steam - Insulated	-	48	-	-	-	-	-	7	55	-	-	55	-	-	-	-	-	-	1,194	-
2a.1.5.31	Feedwater	-	47	-	-	-	-	-	7	54	-	-	54	-	-	-	-	-	-	1,095	-
2a.1.5.32	Feedwater - Insulated	-	134	-	-	-	-	-	20	154	-	-	154	-	-	-	-	-	-	3,321	-
2a.1.5.33	Feedwater - Insulated - RCA	-	64	4	7	60	32	-	34	201	201	-	-	640	141	-	-	-	38,659	1,386	-
2a.1.5.34	Feedwater - RCA	-	6	0	1	5	3	-	3	18	18	-	-	55	13	-	-	-	3,412	122	-
2a.1.5.35	Feedwater Heater Drains & Vents	-	44	-	-	-	-	-	7	50	-	-	50	-	-	-	-	-	-	1,053	-
2a.1.5.36	Feedwater Heater Drains & Vents - Ins	-	292	-	-	-	-	-	44	335	-	-	335	-	-	-	-	-	-	7,237	-
2a.1.5.37	Fire Protection	-	15	-	-	-	-	-	2	17	-	-	17	-	-	-	-	-	-	394	-
2a.1.5.38	Generator	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	126	-
2a.1.5.39	Generator - Insulated	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	47	-
2a.1.5.40	Instrument Air	-	12	-	-	-	-	-	2	14	-	-	14	-	-	-	-	-	-	291	-
2a.1.5.41	Instrument Air - Insulated	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	239	-
2a.1.5.42	Intake Cooling Water	-	143	-	-	-	-	-	21	164	-	-	164	-	-	-	-	-	-	3,548	-
2a.1.5.43	Main Steam - Insulated	-	161	-	-	-	-	-	24	186	-	-	186	-	-	-	-	-	-	3,903	-
2a.1.5.44	Main Steam - Insulated - RCA	-	43	3	5	45	23	-	24	144	144	-	-	483	102	-	-	-	28,740	943	-
2a.1.5.45	Reactor Coolant - Insulated	37	73	3	5	6	34	-	47	205	205	-	-	62	149	-	-	-	15,924	2,267	-
2a.1.5.46	Safety Injection	-	204	10	20	340	25	-	112	711	711	-	-	3,638	145	-	-	-	157,613	4,565	-
2a.1.5.47	Safety Injection - Insulated	-	109	6	10	61	52	-	52	290	290	-	-	656	229	-	-	-	47,208	2,324	-
2a.1.5.48	Sample - NSSS	-	22	1	1	8	4	-	8	44	44	-	-	83	19	-	-	-	5,051	521	-
2a.1.5.49	Sample - NSSS - Ins	-	21	1	1	0	4	-	7	34	34	-	-	4	20	-	-	-	1,923	514	-
2a.1.5.50	Screen Wash	-	22	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	531	-
2a.1.5.51	Secondary Sample	-	4	-	-	-	-	-	1	4	-	-	4	-	-	-	-	-	-	83	-
2a.1.5.52	Secondary Sample - RCA	-	5	0	0	3	1	-	2	10	10	-	-	29	3	-	-	-	1,464	108	-
2a.1.5.53	Secondary Wet Layup	-	20	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	503	-
2a.1.5.54	Secondary Wet Layup - RCA	-	18	1	1	6	8	-	8	43	43	-	-	67	37	-	-	-	6,050	378	-
2a.1.5.55	Turbine Building HVAC	-	17	-	-	-	-	-	2	19	-	-	19	-	-	-	-	-	-	409	-
2a.1.5.56	Turbine Lube Oil	-	38	-	-	-	-	-	6	43	-	-	43	-	-	-	-	-	-	906	-
2a.1.5.57	Turbine Plant Chemical Addition	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	77	-
2a.1.5.58	Turbine Plant Cooling Water	-	81	-	-	-	-	-	12	93	-	-	93	-	-	-	-	-	-	1,975	-
2a.1.5.59	Turbine Plant Cooling Water - Insulated	-	45	-	-	-	-	-	7	51	-	-	51	-	-	-	-	-	-	1,107	-
2a.1.5.60	Turbine Steam	-	61	-	-	-	-	-	9	70	-	-	70	-	-	-	-	-	-	1,496	-
2a.1.5.61	Turbine Steam - Insulated	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	669	-
2a.1.5	Totals	240	4,833	90	143	1,024	701	-	1,351	8,382	4,511	-	3,871	10,968	3,164	-	-	-	720,311	117,369	-
2a.1.6	Scaffolding in support of decommissioning	-	163	3	1	15	2	-	44	229	229	-	-	146	9	-	-	-	7,403	4,338	-
2a.1	Subtotal Period 2a Activity Costs	904	16,665	11,672	10,091	3,859	24,333	472	21,764	89,759	85,888	-	3,871	46,528	51,478	527	976	-	7,245,168	229,938	6,173
Period 2a Collateral Costs																					
2a.3.1	Process decommissioning water waste	66	-	29	197	-	167	-	107	567	567	-	-	-	460	-	-	-	27,571	90	-
2a.3.2	Process decommissioning chemical flush waste	0	-	9	65	-	96	-	35	204	204	-	-	-	148	-	-	-	15,794	28	-
2a.3.3	Small tool allowance	-	201	-	-	-	-	-	30	231	208	-	23	-	-	-	-	-	-	-	-
2a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	4,199	630	4,829	-	4,829	-	-	-	-	-	-	-	-	-
2a.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	111	11	122	122	-	-	-	-	-	-	-	-	-	-
2a.3.6	Fixed Overhead	-	-	-	-	-	-	1,539	231	1,770	1,770	-	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	66	201	39	262	-	262	5,849	1,044	7,723	2,871	4,829	23	-	608	-	-	-	43,364	117	-
Period 2a Period-Dependent Costs																					
2a.4.1	Decon supplies	75	-	-	-	-	-	-	19	93	93	-	-	-	-	-	-	-	-	-	-
2a.4.2	Insurance	-	-	-	-	-	-	1,005	100	1,105	1,105	-	-	-	-	-	-	-	-	-	-
2a.4.3	Property taxes	-	-	-	-	-	-	2	0	2	2	-	0	-	-	-	-	-	-	-	-

Table C-1
Turkey Point Nuclear Plant, Unit 3
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 2a Period-Dependent Costs (continued)																					
2a.4.4	Health physics supplies	-	1,485	-	-	-	-	-	371	1,856	1,856	-	-	-	-	-	-	-	-	-	-
2a.4.5	Heavy equipment rental	-	2,990	-	-	-	-	-	448	3,438	3,438	-	-	-	-	-	-	-	-	-	-
2a.4.6	Disposal of DAW generated	-	-	60	46	-	137	-	47	290	290	-	-	-	3,007	-	-	-	60,142	98	-
2a.4.7	Plant energy budget	-	-	-	-	-	-	2,801	420	3,221	3,221	-	-	-	-	-	-	-	-	-	-
2a.4.8	NRC Fees	-	-	-	-	-	-	954	95	1,050	1,050	-	-	-	-	-	-	-	-	-	-
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	567	57	624	-	624	-	-	-	-	-	-	-	-	-
2a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	1,061	159	1,220	-	1,220	-	-	-	-	-	-	-	-	-
2a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	62	9	71	-	71	-	-	-	-	-	-	-	-	-
2a.4.12	NEI Fees	-	-	-	-	-	-	367	37	404	404	-	-	-	-	-	-	-	-	-	-
2a.4.13	Security Staff Cost	-	-	-	-	-	-	6,233	935	7,167	7,167	-	-	-	-	-	-	-	-	-	154,736
2a.4.14	DOC Staff Cost	-	-	-	-	-	-	17,222	2,583	19,806	19,806	-	-	-	-	-	-	-	-	-	220,183
2a.4.15	Utility Staff Cost	-	-	-	-	-	-	26,495	3,974	30,469	30,469	-	-	-	-	-	-	-	-	-	407,222
2a.4	Subtotal Period 2a Period-Dependent Costs	75	4,475	60	46	-	137	56,769	9,256	70,817	68,902	1,915	0	-	3,007	-	-	-	60,142	98	782,142
2a.0	TOTAL PERIOD 2a COST	1,045	21,341	11,770	10,399	3,859	24,732	63,090	32,063	168,299	157,661	6,743	3,895	46,528	55,093	527	976	-	7,348,674	230,154	788,315
PERIOD 2b - Site Decontamination																					
Period 2b Direct Decommissioning Activities																					
Disposal of Plant Systems																					
2b.1.1.1	Containment Emergency Filter	-	5	0	0	4	0	-	2	12	12	-	-	45	1	-	-	-	1,940	111	-
2b.1.1.2	Containment Normal & Emerg Cooling	-	537	18	38	654	53	-	253	1,552	1,552	-	-	7,004	230	-	-	-	305,021	10,770	-
2b.1.1.3	Containment Normal & Emerg Cooling - Ins	-	4	0	0	0	3	-	2	10	10	-	-	3	13	-	-	-	1,282	80	-
2b.1.1.4	Containment Purge	-	46	4	7	68	28	-	30	184	184	-	-	729	124	-	-	-	40,682	968	-
2b.1.1.5	Containment Spray	-	70	8	11	13	76	-	41	219	219	-	-	134	334	-	-	-	35,424	1,475	-
2b.1.1.6	Containment Spray - Insulated	-	55	5	6	4	45	-	27	143	143	-	-	44	198	-	-	-	19,524	1,132	-
2b.1.1.7	EDG Building HVAC	-	1	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	39	-
2b.1.1.8	Electrical - Decontaminated	-	1,922	78	139	796	753	-	817	4,505	4,505	-	-	8,520	3,292	-	-	-	641,383	39,842	-
2b.1.1.9	Emergency Diesel Engine & Oil	-	64	-	-	-	-	-	10	74	-	-	74	-	-	-	-	-	-	1,507	-
2b.1.1.10	Emergency Diesel Engine & Oil - Ins	-	2	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	62	-
2b.1.1.11	Fire Protection - RCA	-	96	7	8	22	49	-	41	223	223	-	-	232	215	-	-	-	28,720	1,904	-
2b.1.1.12	Instrument Air - Insulated - RCA	-	64	2	3	9	21	-	23	123	123	-	-	100	92	-	-	-	12,291	1,409	-
2b.1.1.13	Instrument Air - RCA	-	37	2	2	6	13	-	14	74	74	-	-	63	58	-	-	-	7,789	815	-
2b.1.1.14	Miscellaneous - RCA	-	6	1	1	14	6	-	6	35	35	-	-	155	26	-	-	-	8,613	143	-
2b.1.1.15	Primary Water Makeup	-	71	-	-	-	-	-	11	82	-	-	82	-	-	-	-	-	-	1,691	-
2b.1.1.16	Refueling Equipment	-	131	10	15	65	91	-	69	381	381	-	-	700	399	-	-	-	64,237	2,945	-
2b.1.1.17	Residual Heat Removal	155	78	58	76	139	519	-	264	1,288	1,288	-	-	1,485	2,269	-	-	-	263,705	1,955	-
2b.1.1.18	Residual Heat Removal - Insulated	221	233	29	41	72	279	-	258	1,132	1,132	-	-	769	1,220	-	-	-	140,554	6,718	-
2b.1.1.19	Safety Injection Accumulator	-	211	14	23	251	82	-	116	696	696	-	-	2,687	369	-	-	-	141,108	4,554	-
2b.1.1.20	Service Water	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	10	-
2b.1.1.21	Service Water - RCA	-	4	0	0	2	2	-	2	11	11	-	-	27	9	-	-	-	1,889	82	-
2b.1.1.22	Steam Generator Wet Layup	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	25	-
2b.1.1.23	Steam Generator Wet Layup - RCA	-	1	0	0	0	1	-	1	3	3	-	-	2	4	-	-	-	438	28	-
2b.1.1.24	Waste Disposal	19	36	3	3	6	22	-	25	113	113	-	-	65	102	-	-	-	11,109	1,129	-
2b.1.1.25	Waste Disposal - Insulated	52	78	5	7	5	48	-	60	254	254	-	-	54	209	-	-	-	20,959	2,592	-
2b.1.1	Totals	446	3,755	243	383	2,131	2,091	-	2,072	11,121	10,960	-	162	22,817	9,164	-	-	-	1,746,769	81,987	-
2b.1.2	Scaffolding in support of decommissioning	-	204	4	1	19	3	-	55	286	286	-	-	183	11	-	-	-	9,254	5,423	-
Decontamination of Site Buildings																					
2b.1.3.1	Containment	810	771	146	260	210	1,017	-	937	4,153	4,153	-	-	2,253	7,326	-	-	-	786,491	32,533	-
2b.1.3.2	Contaminated Soil- RPV Head Replacement	-	10	142	270	-	394	-	156	971	971	-	-	-	7,155	-	-	-	715,500	353	-
2b.1.3	Totals	810	781	288	531	210	1,411	-	1,093	5,124	5,124	-	-	2,253	14,481	-	-	-	1,501,992	32,885	-
2b.1	Subtotal Period 2b Activity Costs	1,256	4,740	535	915	2,361	3,505	-	3,220	16,532	16,370	-	162	25,253	23,657	-	-	-	3,258,014	120,295	-
Period 2b Additional Costs																					
2b.2.1	Seaweed Remediation & Disposal	-	41	4	392	-	326	-	151	914	914	-	-	-	29,650	-	-	-	593,000	494	-
2b.2	Subtotal Period 2b Additional Costs	-	41	4	392	-	326	-	151	914	914	-	-	-	29,650	-	-	-	593,000	494	-

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Turkey Point Nuclear Plant, Unit 3
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed WL, Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 2b Collateral Costs																					
2b.3.1	Process decommissioning water waste	46	-	21	143	-	120	-	77	407	407	-	-	-	332	-	-	-	19,916	65	-
2b.3.2	Process decommissioning chemical flush waste	2	-	65	459	-	679	-	246	1,451	1,451	-	-	-	1,054	-	-	-	112,266	197	-
2b.3.3	Small tool allowance	-	92	-	-	-	-	-	14	106	106	-	-	-	-	-	-	-	-	-	-
2b.3.4	Decommissioning Equipment Disposition	-	-	127	47	621	85	-	134	1,015	1,015	-	-	6,000	373	-	-	-	303,507	88	-
2b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	38,400	5,760	44,160	-	44,160	-	-	-	-	-	-	-	-	-
2b.3.6	Florida LLRW Inspection Fee	-	-	-	-	-	-	120	12	133	133	-	-	-	-	-	-	-	-	-	-
2b.3.7	Fixed Overhead	-	-	-	-	-	-	2,890	433	3,323	3,323	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	48	92	213	649	621	885	41,411	6,677	50,596	6,436	44,160	-	6,000	1,759	-	-	-	435,689	350	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	440	-	-	-	-	-	-	110	551	551	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	1,887	189	2,076	2,076	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	4	0	4	4	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	1,354	-	-	-	-	-	339	1,693	1,693	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	5,573	-	-	-	-	-	836	6,408	6,408	-	-	-	-	-	-	-	-	-	-
2b.4.6	Disposal of DAW generated	-	-	55	42	-	126	-	43	265	265	-	-	-	2,753	-	-	-	55,053	90	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	4,152	623	4,775	4,775	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	1,792	179	1,971	1,971	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	1,064	106	1,171	-	1,171	-	-	-	-	-	-	-	-	-
2b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	1,992	299	2,291	-	2,291	-	-	-	-	-	-	-	-	-
2b.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	505	76	582	582	-	-	-	-	-	-	-	-	-	-
2b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	116	17	133	-	133	-	-	-	-	-	-	-	-	-
2b.4.13	NEI Fees	-	-	-	-	-	-	690	69	759	759	-	-	-	-	-	-	-	-	-	-
2b.4.14	Security Staff Cost	-	-	-	-	-	-	2,270	340	2,610	2,610	-	-	-	-	-	-	-	-	-	58,480
2b.4.15	OOC Staff Cost	-	-	-	-	-	-	22,282	3,342	25,624	25,624	-	-	-	-	-	-	-	-	-	293,760
2b.4.16	Utility Staff Cost	-	-	-	-	-	-	34,554	5,183	39,737	39,737	-	-	-	-	-	-	-	-	-	546,720
2b.4	Subtotal Period 2b Period-Dependent Costs	440	6,927	55	42	-	126	71,309	11,752	90,650	87,055	3,595	-	-	2,753	-	-	-	55,053	90	898,960
2b.0	TOTAL PERIOD 2b COST	1,745	11,800	807	1,997	2,982	4,842	112,720	21,800	158,692	110,775	47,756	162	31,253	57,818	-	-	-	4,341,756	121,229	898,960
PERIOD 2d - Decontamination Following Wet Fuel Storage																					
Period 2d Direct Decommissioning Activities																					
2d.1.1	Remove spent fuel racks	396	39	152	81	-	600	-	385	1,654	1,654	-	-	-	2,621	-	-	-	235,217	1,023	-
Disposal of Plant Systems																					
2d.1.2.1	Electrical - Contaminated	-	213	4	8	147	10	-	79	461	461	-	-	1,574	42	-	-	-	67,658	4,404	-
2d.1.2.2	Fuel Handling HVAC	-	51	2	3	62	4	-	24	146	146	-	-	662	18	-	-	-	28,461	1,046	-
2d.1.2.3	Spent Fuel Pool Cooling	64	101	11	15	22	102	-	89	403	403	-	-	231	451	-	-	-	49,278	3,059	-
2d.1.2.4	Spent Fuel Pool Cooling - Insulated	38	48	4	6	6	40	-	43	185	185	-	-	68	174	-	-	-	18,305	1,568	-
2d.1.2	Totals	102	413	20	32	237	155	-	235	1,194	1,194	-	-	2,534	684	-	-	-	163,702	10,079	-
Decontamination of Site Buildings																					
2d.1.3.1	Fuel Handling	320	369	8	14	122	20	-	278	1,131	1,131	-	-	1,306	252	-	-	-	77,309	14,586	-
2d.1.3	Totals	320	369	8	14	122	20	-	278	1,131	1,131	-	-	1,306	252	-	-	-	77,309	14,586	-
2d.1.4	Scaffolding in support of decommissioning	-	41	1	0	4	1	-	11	57	57	-	-	37	2	-	-	-	1,851	1,085	-
2d.1	Subtotal Period 2d Activity Costs	818	863	181	127	363	775	-	910	4,036	4,036	-	-	3,877	3,560	-	-	-	478,078	26,772	-
Period 2d Additional Costs																					
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	699	210	909	909	-	-	-	-	-	-	-	-	-	6,240
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	699	210	909	909	-	-	-	-	-	-	-	-	-	6,240
Period 2d Collateral Costs																					
2d.3.1	Process decommissioning water waste	53	-	25	166	-	141	-	89	475	475	-	-	-	387	-	-	-	23,234	75	-
2d.3.2	Process decommissioning chemical flush waste	0	-	8	59	-	88	-	32	187	187	-	-	-	136	-	-	-	14,486	25	-
2d.3.3	Small tool allowance	-	28	-	-	-	-	-	4	32	32	-	-	-	-	-	-	-	-	-	-
2d.3.4	Decommissioning Equipment Disposition	-	-	127	47	621	85	-	134	1,015	1,015	-	-	6,000	373	-	-	-	303,507	88	-
2d.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	10	1	11	11	-	-	-	-	-	-	-	-	-	-
2d.3.6	Fixed Overhead	-	-	-	-	-	-	601	90	691	691	-	-	-	-	-	-	-	-	-	-

Table C-1
Turkey Point Nuclear Plant, Unit 3
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours
2d.3	Subtotal Period 2d Collateral Costs	54	28	160	273	621	314	611	351	2,411	2,411	-	-	6,000	897	-	-	-	341,227	189	-
Period 2d Period-Dependent Costs																					
2d.4.1	Decon supplies	75	-	-	-	-	-	-	19	94	94	-	-	-	-	-	-	-	-	-	-
2d.4.2	Insurance	-	-	-	-	-	-	392	39	432	432	-	-	-	-	-	-	-	-	-	-
2d.4.3	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2d.4.4	Health physics supplies	-	266	-	-	-	-	-	67	333	333	-	-	-	-	-	-	-	-	-	-
2d.4.5	Heavy equipment rental	-	1,159	-	-	-	-	-	174	1,333	1,333	-	-	-	-	-	-	-	-	-	-
2d.4.6	Disposal of DAW generated	-	-	13	10	-	30	-	10	63	63	-	-	-	650	-	-	-	13,007	21	-
2d.4.7	Plant energy budget	-	-	-	-	-	-	461	69	530	530	-	-	-	-	-	-	-	-	-	-
2d.4.8	NRC Fees	-	-	-	-	-	-	373	37	410	410	-	-	-	-	-	-	-	-	-	-
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	221	22	244	-	244	-	-	-	-	-	-	-	-	-
2d.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	211	32	242	242	-	-	-	-	-	-	-	-	-	-
2d.4.11	ISFSI Operating Costs	-	-	-	-	-	-	24	4	28	-	28	-	-	-	-	-	-	-	-	-
2d.4.12	NEI Fees	-	-	-	-	-	-	144	14	158	158	-	-	-	-	-	-	-	-	-	-
2d.4.13	Security Staff Cost	-	-	-	-	-	-	132	20	152	152	-	-	-	-	-	-	-	-	-	3,394
2d.4.14	DOC Staff Cost	-	-	-	-	-	-	3,066	460	3,526	3,526	-	-	-	-	-	-	-	-	-	41,297
2d.4.15	Utility Staff Cost	-	-	-	-	-	-	4,206	631	4,837	4,837	-	-	-	-	-	-	-	-	-	68,451
2d.4	Subtotal Period 2d Period-Dependent Costs	75	1,425	13	10	-	30	9,230	1,597	12,381	12,110	271	-	-	650	-	-	-	13,007	21	113,143
2d.0	TOTAL PERIOD 2d COST	947	2,316	354	410	984	1,118	10,540	3,068	19,737	19,466	271	-	9,877	5,107	-	-	-	832,311	26,982	119,383
PERIOD 2e - Delay before License Termination																					
Period 2e Collateral Costs																					
2e.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	647	97	745	-	745	-	-	-	-	-	-	-	-	-
2e.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-	-	-	-	-	-
2e.3.3	Fixed Overhead	-	-	-	-	-	-	877	132	1,009	1,009	-	-	-	-	-	-	-	-	-	-
2e.3	Subtotal Period 2e Collateral Costs	-	-	-	-	-	-	1,525	229	1,754	1,009	745	-	-	-	-	-	-	-	-	-
Period 2e Period-Dependent Costs																					
2e.4.1	Insurance	-	-	-	-	-	-	516	52	568	568	-	-	-	-	-	-	-	-	-	-
2e.4.2	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2e.4.3	Health physics supplies	-	46	-	-	-	-	-	11	57	57	-	-	-	-	-	-	-	-	-	-
2e.4.4	Disposal of DAW generated	-	-	1	1	-	3	-	1	5	5	-	-	-	56	-	-	-	1,116	2	-
2e.4.5	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2e.4.6	NRC Fees	-	-	-	-	-	-	137	14	151	151	-	-	-	-	-	-	-	-	-	-
2e.4.7	Emergency Planning Fees	-	-	-	-	-	-	323	32	355	-	355	-	-	-	-	-	-	-	-	-
2e.4.8	ISFSI Operating Costs	-	-	-	-	-	-	35	5	40	-	40	-	-	-	-	-	-	-	-	-
2e.4.9	NEI Fees	-	-	-	-	-	-	209	21	230	230	-	-	-	-	-	-	-	-	-	-
2e.4.10	Security Staff Cost	-	-	-	-	-	-	106	16	122	122	-	-	-	-	-	-	-	-	-	4,954
2e.4.11	Utility Staff Cost	-	-	-	-	-	-	705	106	810	810	-	-	-	-	-	-	-	-	-	11,560
2e.4	Subtotal Period 2e Period-Dependent Costs	-	46	1	1	-	3	2,034	258	2,342	1,946	396	-	-	56	-	-	-	1,116	2	16,514
2e.0	TOTAL PERIOD 2e COST	-	46	1	1	-	3	3,559	487	4,095	2,955	1,140	-	-	56	-	-	-	1,116	2	16,514
PERIOD 2f - License Termination																					
Period 2f Direct Decommissioning Activities																					
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
2f.1.2	Terminate license									a											
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
Period 2f Additional Costs																					
2f.2.1	License Termination Survey	-	-	-	-	-	-	2,173	652	2,825	2,825	-	-	-	-	-	-	-	-	41,403	3,120
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	2,173	652	2,825	2,825	-	-	-	-	-	-	-	-	41,403	3,120
Period 2f Collateral Costs																					
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,628	244	1,872	1,872	-	-	-	-	-	-	-	-	-	-
2f.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,059	159	1,218	-	1,218	-	-	-	-	-	-	-	-	-
2f.3.3	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	1	1	-	-	-	-	-	-	-	-	-	-
2f.3.4	Fixed Overhead	-	-	-	-	-	-	838	126	964	964	-	-	-	-	-	-	-	-	-	-

Table C-1
Turkey Point Nuclear Plant, Unit 3
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	3,526	529	4,055	2,836	1,218	-	-	-	-	-	-	-	-	-
Period 2f Period-Dependent Costs																					
2f.4.1	Insurance	-	-	-	-	-	-	493	49	543	543	-	-	-	-	-	-	-	-	-	-
2f.4.2	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2f.4.3	Health physics supplies	-	303	-	-	-	-	-	76	379	379	-	-	-	-	-	-	-	-	-	-
2f.4.4	Disposal of DAW generated	-	-	5	4	-	11	-	4	24	24	-	-	-	250	-	-	-	4,992	8	-
2f.4.5	Plant energy budget	-	-	-	-	-	-	321	48	369	369	-	-	-	-	-	-	-	-	-	-
2f.4.6	NRC Fees	-	-	-	-	-	-	558	56	614	614	-	-	-	-	-	-	-	-	-	-
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	309	31	339	-	339	-	-	-	-	-	-	-	-	-
2f.4.8	ISFSI Operating Costs	-	-	-	-	-	-	34	5	39	-	39	-	-	-	-	-	-	-	-	-
2f.4.9	NEI Fees	-	-	-	-	-	-	200	20	220	220	-	-	-	-	-	-	-	-	-	-
2f.4.10	Security Staff Cost	-	-	-	-	-	-	1,162	174	1,337	1,337	-	-	-	-	-	-	-	-	-	27,994
2f.4.11	DOC Staff Cost	-	-	-	-	-	-	3,509	526	4,036	4,036	-	-	-	-	-	-	-	-	-	46,920
2f.4.12	Utility Staff Cost	-	-	-	-	-	-	4,316	647	4,964	4,964	-	-	-	-	-	-	-	-	-	60,326
2f.4	Subtotal Period 2f Period-Dependent Costs	-	303	5	4	-	11	10,904	1,637	12,864	12,486	378	-	-	250	-	-	-	4,992	8	135,240
2f.0	TOTAL PERIOD 2f COST	-	303	5	4	-	11	16,755	2,864	19,942	18,345	1,596	-	-	250	-	-	-	4,992	41,411	138,360
PERIOD 2 TOTALS		3,736	35,805	12,938	12,811	7,824	30,706	206,663	60,281	370,766	309,203	57,507	4,055	87,658	118,323	527	976	-	12,528,850	419,778	1,961,532
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Containment	-	3,985	-	-	-	-	-	598	4,583	-	-	4,583	-	-	-	-	-	-	47,411	-
3b.1.1.2	Miscellaneous Structures	-	175	-	-	-	-	-	26	201	-	-	201	-	-	-	-	-	-	2,631	-
3b.1.1.3	Sealwell	-	96	-	-	-	-	-	14	110	-	-	110	-	-	-	-	-	-	1,251	-
3b.1.1.4	Security Improvements	-	291	-	-	-	-	-	44	335	-	-	335	-	-	-	-	-	-	2,380	-
3b.1.1.5	Turbine	-	432	-	-	-	-	-	65	496	-	-	496	-	-	-	-	-	-	7,063	-
3b.1.1.6	Turbine Pedestal	-	457	-	-	-	-	-	69	525	-	-	525	-	-	-	-	-	-	5,055	-
3b.1.1.7	Fuel Handling	-	494	-	-	-	-	-	74	569	-	-	569	-	-	-	-	-	-	6,475	-
3b.1.1	Totals	-	5,931	-	-	-	-	-	890	6,820	-	-	6,820	-	-	-	-	-	-	72,267	-
Site Closeout Activities																					
3b.1.2	Grade & landscape site	-	348	-	-	-	-	-	52	400	-	-	400	-	-	-	-	-	-	921	-
3b.1.3	Final report to NRC	-	-	-	-	-	-	187	28	215	215	-	-	-	-	-	-	-	-	-	1,560
3b.1	Subtotal Period 3b Activity Costs	-	6,279	-	-	-	-	187	970	7,436	215	-	7,221	-	-	-	-	-	-	73,188	1,560
Period 3b Additional Costs																					
3b.2.1	Concrete Crushing	-	254	-	-	-	-	3	39	296	-	-	296	-	-	-	-	-	-	1,164	-
3b.2	Subtotal Period 3b Additional Costs	-	254	-	-	-	-	3	39	296	-	-	296	-	-	-	-	-	-	1,164	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	62	-	-	-	-	-	9	71	-	-	71	-	-	-	-	-	-	-	-
3b.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	93	14	107	-	107	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	62	-	-	-	-	93	23	178	-	107	71	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	622	62	684	-	684	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	5,844	-	-	-	-	-	877	6,721	-	-	6,721	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	405	61	465	-	-	465	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	239	24	263	-	263	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	778	78	856	-	856	-	-	-	-	-	-	-	-	-
3b.4.7	ISFSI Operating Costs	-	-	-	-	-	-	85	13	97	-	97	-	-	-	-	-	-	-	-	-
3b.4.8	NEI Fees	-	-	-	-	-	-	504	50	555	555	-	-	-	-	-	-	-	-	-	-
3b.4.9	Security Staff Cost	-	-	-	-	-	-	2,796	419	3,216	0	2,605	611	-	-	-	-	-	-	-	67,134
3b.4.10	DOC Staff Cost	-	-	-	-	-	-	8,502	1,275	9,777	-	-	9,777	-	-	-	-	-	-	-	105,394
3b.4.11	Utility Staff Cost	-	-	-	-	-	-	4,720	708	5,428	-	1,086	4,343	-	-	-	-	-	-	-	67,134
3b.4	Subtotal Period 3b Period-Dependent Costs	-	5,844	-	-	-	-	18,654	3,567	28,065	555	5,593	21,917	-	-	-	-	-	-	-	239,663

Table C-1
Turkey Point Nuclear Plant, Unit 3
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
3b.0	TOTAL PERIOD 3b COST	-	12,439	-	-	-	-	18,937	4,599	35,975	770	5,701	29,505	-	-	-	-	-	-	74,352	241,223
PERIOD 3c - Fuel Storage Operations/Shipping																					
Period 3c Collateral Costs																					
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	5,700	855	6,555	-	6,555	-	-	-	-	-	-	-	-	-
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	5,700	855	6,555	-	6,555	-	-	-	-	-	-	-	-	-
Period 3c Period-Dependent Costs																					
3c.4.1	Insurance	-	-	-	-	-	-	10,091	1,009	11,100	-	11,100	-	-	-	-	-	-	-	-	-
3c.4.2	Property taxes	-	-	-	-	-	-	48	5	52	-	52	-	-	-	-	-	-	-	-	-
3c.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	3,873	387	4,260	-	4,260	-	-	-	-	-	-	-	-	-
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	12,627	1,263	13,890	-	13,890	-	-	-	-	-	-	-	-	-
3c.4.6	ISFSI Operating Costs	-	-	-	-	-	-	1,373	206	1,579	-	1,579	-	-	-	-	-	-	-	-	-
3c.4.7	Security Staff Cost	-	-	-	-	-	-	36,915	5,537	42,452	-	42,452	-	-	-	-	-	-	-	-	871,174
3c.4.8	Utility Staff Cost	-	-	-	-	-	-	15,099	2,265	17,364	-	17,364	-	-	-	-	-	-	-	-	218,116
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	80,025	10,672	90,697	-	90,697	-	-	-	-	-	-	-	-	1,089,291
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	85,725	11,527	97,252	-	97,252	-	-	-	-	-	-	-	-	1,089,291
PERIOD 3d - GTCC shipping																					
Period 3d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	300	-	-	9,743	-	1,491	11,534	11,534	-	-	-	-	-	-	487	100,132	-	-
3d.1.1	Totals	-	-	300	-	-	9,743	-	1,491	11,534	11,534	-	-	-	-	-	-	487	100,132	-	-
3d.1	Subtotal Period 3d Activity Costs	-	-	300	-	-	9,743	-	1,491	11,534	11,534	-	-	-	-	-	-	487	100,132	-	-
Period 3d Collateral Costs																					
3d.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-
Period 3d Period-Dependent Costs																					
3d.4.1	Insurance	-	-	-	-	-	-	13	1	14	-	14	-	-	-	-	-	-	-	-	-
3d.4.2	Property taxes	-	-	-	-	-	-	0	0	0	-	0	-	-	-	-	-	-	-	-	-
3d.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3d.4.4	Emergency Planning Fees	-	-	-	-	-	-	16	2	17	-	17	-	-	-	-	-	-	-	-	-
3d.4.5	ISFSI Operating Costs	-	-	-	-	-	-	2	0	2	-	2	-	-	-	-	-	-	-	-	-
3d.4.6	Security Staff Cost	-	-	-	-	-	-	46	7	53	-	53	-	-	-	-	-	-	-	-	1,080
3d.4.7	Utility Staff Cost	-	-	-	-	-	-	19	3	22	-	22	-	-	-	-	-	-	-	-	270
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	94	13	107	-	107	-	-	-	-	-	-	-	-	1,350
3d.0	TOTAL PERIOD 3d COST	-	-	300	-	-	9,743	95	1,504	11,643	11,534	108	-	-	-	-	-	487	100,132	-	1,350
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	ISFSI License Termination	-	260	5	34	-	34	747	190	1,269	-	1,269	-	-	640	-	-	-	111,939	6,468	1,280
3e.2	Subtotal Period 3e Additional Costs	-	260	5	34	-	34	747	190	1,269	-	1,269	-	-	640	-	-	-	111,939	6,468	1,280
Period 3e Collateral Costs																					
3e.3.1	Small tool allowance	-	3	-	-	-	-	-	0	3	-	3	-	-	-	-	-	-	-	-	-
3e.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-
3e.3	Subtotal Period 3e Collateral Costs	-	3	-	-	-	-	1	1	5	-	5	-	-	-	-	-	-	-	-	-
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	108	11	119	-	119	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-

Table C-1
Turkey Point Nuclear Plant, Unit 3
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Penod 3e Period-Dependent Costs (continued)																					
3e.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3e.4.4	Security Staff Cost	-	-	-	-	-	-	102	15	117	-	117	-	-	-	-	-	-	-	-	2,510
3e.4.5	Utility Staff Cost	-	-	-	-	-	-	140	21	160	-	160	-	-	-	-	-	-	-	-	1,901
3e.4	Subtotal Period 3e Period-Dependent Costs	-	-	-	-	-	-	350	47	397	-	397	-	-	-	-	-	-	-	-	4,411
3e.0	TOTAL PERIOD 3e COST	-	263	5	34	-	34	1,099	237	1,671	-	1,671	-	-	640	-	-	-	111,939	6,468	5,691
PERIOD 3f - ISFSI Site Restoration																					
Penod 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	ISFSI Demolition and Site Restoration	-	692	-	-	-	-	24	107	824	-	824	-	-	-	-	-	-	-	4,727	80
3f.2	Subtotal Period 3f Additional Costs	-	692	-	-	-	-	24	107	824	-	824	-	-	-	-	-	-	-	4,727	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	4	-	-	-	-	-	1	4	-	4	-	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	4	-	-	-	-	-	1	4	-	4	-	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3f.4.2	Property taxes	-	-	-	-	-	-	0	0	0	-	0	-	-	-	-	-	-	-	-	-
3f.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3f.4.4	Security Staff Cost	-	-	-	-	-	-	51	8	59	-	59	-	-	-	-	-	-	-	-	1,265
3f.4.5	Utility Staff Cost	-	-	-	-	-	-	60	9	69	-	69	-	-	-	-	-	-	-	-	784
3f.4	Subtotal Period 3f Period-Dependent Costs	-	-	-	-	-	-	112	17	129	-	129	-	-	-	-	-	-	-	-	2,050
3f.0	TOTAL PERIOD 3f COST	-	696	-	-	-	-	136	125	957	-	957	-	-	-	-	-	-	-	4,727	2,130
PERIOD 3 TOTALS		-	13,398	305	34	-	9,777	105,992	17,992	147,499	12,305	105,689	29,505	-	640	-	-	487	212,071	85,547	1,339,685
TOTAL COST TO DECOMMISSION		6,568	52,320	13,871	13,423	13,159	43,107	414,406	96,849	653,704	449,544	169,113	35,047	110,990	122,165	1,173	976	487	14,119,890	548,983	4,279,446

TOTAL COST TO DECOMMISSION WITH 17.39% CONTINGENCY:	$653,704	thousands of 2010 dollars
TOTAL NRC LICENSE TERMINATION COST IS 68.77% OR:	$449,543	thousands of 2010 dollars
SPENT FUEL MANAGEMENT COST IS 25.87% OR:	$169,113	thousands of 2010 dollars
NON-NUCLEAR DEMOLITION COST IS 5.36% OR:	$35,047	thousands of 2010 dollars
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):	124,313	cubic feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	487	cubic feet
TOTAL SCRAP METAL REMOVED:	32,473	tons
TOTAL CRAFT LABOR REQUIREMENTS:	548,983	man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense.
a - indicates that this activity performed by decommissioning staff.
0 - Indicates that this value is less than 0.5 but is non-zero.
a cell containing " - " indicates a zero value

Table C-2
Turkey Point Nuclear Plant, Unit 4
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Penod 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	67	10	77	77	-	-	-	-	-	-	-	-	-	556
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	103	15	118	118	-	-	-	-	-	-	-	-	-	856
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	236	35	272	272	-	-	-	-	-	-	-	-	-	1,969
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
1a.1.10	End product description	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	67	10	77	77	-	-	-	-	-	-	-	-	-	556
1a.1.12	Define major work sequence	-	-	-	-	-	-	385	58	443	443	-	-	-	-	-	-	-	-	-	3,210
1a.1.13	Perform SER and EA	-	-	-	-	-	-	159	24	183	183	-	-	-	-	-	-	-	-	-	1,327
1a.1.14	Perform Site-Specific Cost Study	-	-	-	-	-	-	257	39	295	295	-	-	-	-	-	-	-	-	-	2,140
1a.1.15	Prepare/submit License Termination Plan	-	-	-	-	-	-	210	32	242	242	-	-	-	-	-	-	-	-	-	1,753
1a.1.16	Receive NRC approval of termination plan									a											
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	253	38	291	262	-	29	-	-	-	-	-	-	-	2,106
1a.1.17.2	Plant systems	-	-	-	-	-	-	214	32	246	221	-	25	-	-	-	-	-	-	-	1,783
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	26	4	30	30	-	-	-	-	-	-	-	-	-	214
1a.1.17.4	Reactor Internals	-	-	-	-	-	-	365	55	419	419	-	-	-	-	-	-	-	-	-	3,039
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	334	50	384	384	-	-	-	-	-	-	-	-	-	2,782
1a.1.17.6	Biological shield	-	-	-	-	-	-	26	4	30	30	-	-	-	-	-	-	-	-	-	214
1a.1.17.7	Steam generators	-	-	-	-	-	-	160	24	184	184	-	-	-	-	-	-	-	-	-	1,335
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	82	12	95	47	-	47	-	-	-	-	-	-	-	685
1a.1.17.9	Main Turbine	-	-	-	-	-	-	21	3	24	-	-	24	-	-	-	-	-	-	-	171
1a.1.17.10	Main Condensers	-	-	-	-	-	-	21	3	24	-	-	24	-	-	-	-	-	-	-	171
1a.1.17.11	Plant structures & buildings	-	-	-	-	-	-	160	24	184	92	-	92	-	-	-	-	-	-	-	1,335
1a.1.17.12	Waste management	-	-	-	-	-	-	236	35	272	272	-	-	-	-	-	-	-	-	-	1,969
1a.1.17.13	Facility & site closeout	-	-	-	-	-	-	46	7	53	27	-	27	-	-	-	-	-	-	-	385
1a.1.17	Total	-	-	-	-	-	-	1,943	291	2,234	1,967	-	267	-	-	-	-	-	-	-	16,190
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	123	18	142	142	-	-	-	-	-	-	-	-	-	1,027
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	2,800	420	3,220	3,220	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	72	11	83	83	-	-	-	-	-	-	-	-	-	599
1a.1.21	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,200	330	2,530	2,530	-	-	-	-	-	-	-	-	-	-
1a.1.22	Procure casks/liners & containers	-	-	-	-	-	-	63	9	73	73	-	-	-	-	-	-	-	-	-	526
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	8,788	1,318	10,106	9,839	-	267	-	-	-	-	-	-	-	31,566
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	984	148	1,132	-	1,132	-	-	-	-	-	-	-	-	-
1a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
1a.3.3	Fixed Overhead	-	-	-	-	-	-	1,108	166	1,274	1,274	-	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	2,093	314	2,407	1,275	1,132	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,526	153	1,678	1,678	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	44	4	48	48	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	331	-	-	-	-	-	83	414	414	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	522	-	-	-	-	-	78	601	601	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	9	7	-	20	-	7	43	43	-	-	-	448	-	-	-	8,963	15	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	2,123	318	2,441	2,441	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	485	48	533	533	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	602	60	662	-	662	-	-	-	-	-	-	-	-	-
1a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	754	115	878	-	878	-	-	-	-	-	-	-	-	-
1a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-

Table C-2
Turkey Point Nuclear Plant, Unit 4
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1a Period-Dependent Costs (continued)																					
1a.4.11	INPO Fees	-	-	-	-	-	-	722	72	794	794	-	-	-	-	-	-	-	-	-	-
1a.4.12	NEI Fees	-	-	-	-	-	-	265	26	291	291	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	1,811	272	2,083	2,083	-	-	-	-	-	-	-	-	-	46,678
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	21,371	3,206	24,577	24,577	-	-	-	-	-	-	-	-	-	346,229
1a.4	Subtotal Period 1a Period-Dependent Costs	-	853	9	7	-	20	29,756	4,449	35,094	33,503	1,591	-	-	448	-	-	-	8,963	15	392,907
1a.0	TOTAL PERIOD 1a COST	-	853	9	7	-	20	40,636	6,081	47,607	44,618	2,723	267	-	448	-	-	-	8,963	15	424,473
PERIOD 1b - Decommissioning Preparations																					
Period 1b Direct Decommissioning Activities																					
Detailed Work Procedures																					
1b.1.1.1	Plant systems	-	-	-	-	-	-	243	36	280	252	-	28	-	-	-	-	-	-	-	2,026
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
1b.1.1.3	Reactor internals	-	-	-	-	-	-	128	19	148	148	-	-	-	-	-	-	-	-	-	1,070
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	69	10	80	20	-	60	-	-	-	-	-	-	-	578
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
1b.1.1.7	Incore instrumentation	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	186	28	214	214	-	-	-	-	-	-	-	-	-	1,554
1b.1.1.9	Facility closeout	-	-	-	-	-	-	62	9	71	35	-	35	-	-	-	-	-	-	-	514
1b.1.1.10	Missile shields	-	-	-	-	-	-	23	3	27	27	-	-	-	-	-	-	-	-	-	193
1b.1.1.11	Biological shield	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	514
1b.1.1.12	Steam generators	-	-	-	-	-	-	236	35	272	272	-	-	-	-	-	-	-	-	-	1,969
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	51	8	59	30	-	30	-	-	-	-	-	-	-	428
1b.1.1.14	Main Turbine	-	-	-	-	-	-	80	12	92	-	-	92	-	-	-	-	-	-	-	668
1b.1.1.15	Main Condensers	-	-	-	-	-	-	80	12	92	-	-	92	-	-	-	-	-	-	-	668
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	140	21	161	145	-	16	-	-	-	-	-	-	-	1,168
1b.1.1.17	Reactor building	-	-	-	-	-	-	140	21	161	145	-	16	-	-	-	-	-	-	-	1,168
1b.1.1	Total	-	-	-	-	-	-	1,707	256	1,963	1,594	-	369	-	-	-	-	-	-	-	14,228
1b.1.2	Decon primary loop	495	-	-	-	-	-	-	248	743	743	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	495	-	-	-	-	-	1,707	504	2,706	2,337	-	369	-	-	-	-	-	-	1,067	14,228
Period 1b Additional Costs																					
1b.2.1	Site Characterization	-	-	-	-	-	-	2,173	652	2,825	2,825	-	-	-	-	-	-	-	-	13,042	4,640
1b.2.2	Spent Fuel Pool Isolation	-	-	-	-	-	-	6,654	998	7,652	7,652	-	-	-	-	-	-	-	-	-	-
1b.2.3	Mixed/Hazardous Waste	-	-	535	144	5,335	-	-	875	6,889	6,889	-	-	23,332	-	-	-	-	1,232,428	4,905	-
1b.2.4	Asbestos Removal Program	-	603	25	55	-	127	8	194	1,012	1,012	-	-	-	2,207	-	-	-	49,898	7,001	-
1b.2	Subtotal Period 1b Additional Costs	-	603	560	199	5,335	127	8,835	2,720	18,379	18,379	-	-	23,332	2,207	-	-	-	1,282,326	24,948	4,640
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	879	-	-	-	-	-	-	132	1,011	1,011	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,628	244	1,872	1,872	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process decommissioning water waste	28	-	13	84	-	71	-	46	242	242	-	-	-	195	-	-	-	11,725	38	-
1b.3.4	Process decommissioning chemical flush waste	1	-	40	281	-	2,389	-	644	3,355	3,355	-	-	-	-	646	-	-	68,816	121	-
1b.3.5	Small tool allowance	-	9	-	-	-	-	-	1	10	10	-	-	-	-	-	-	-	-	-	-
1b.3.6	Pipe cutting equipment	-	1,100	-	-	-	-	-	165	1,265	1,265	-	-	-	-	-	-	-	-	-	-
1b.3.7	Decon rig	1,400	-	-	-	-	-	-	210	1,610	1,610	-	-	-	-	-	-	-	-	-	-
1b.3.8	Florida LLRW Inspection Fee	-	-	-	-	-	-	7	1	7	7	-	-	-	-	-	-	-	-	-	-
1b.3.9	Fixed Overhead	-	-	-	-	-	-	735	110	845	845	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	2,309	1,109	52	365	-	2,460	2,369	1,553	10,217	10,217	-	-	-	195	646	-	-	80,540	159	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	36	-	-	-	-	-	-	9	45	45	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	480	48	528	528	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	297	-	-	-	-	-	74	371	371	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	346	-	-	-	-	-	52	398	398	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	7	5	-	16	-	5	34	34	-	-	-	348	-	-	-	6,960	11	-

Table C-2
Turkey Point Nuclear Plant, Unit 4
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1b Period-Dependent Costs (continued)																					
1b.4.7	Plant energy budget	-	-	-	-	-	-	2,815	422	3,237	3,237	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	321	32	354	354	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	399	40	439	-	439	-	-	-	-	-	-	-	-	-
1b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	506	76	582	-	582	-	-	-	-	-	-	-	-	-
1b.4.11	ISFSI Operating Costs	-	-	-	-	-	-	29	4	34	-	34	-	-	-	-	-	-	-	-	-
1b.4.12	NEI Fees	-	-	-	-	-	-	175	18	193	193	-	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	1,201	180	1,381	1,381	-	-	-	-	-	-	-	-	-	30,948
1b.4.14	DOC Staff Cost	-	-	-	-	-	-	4,724	709	5,432	5,432	-	-	-	-	-	-	-	-	-	62,229
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	14,169	2,125	16,295	16,295	-	-	-	-	-	-	-	-	-	229,554
1b.4	Subtotal Period 1b Period-Dependent Costs	36	643	7	5	-	16	24,821	3,795	29,323	28,268	1,055	-	-	348	-	-	-	6,960	11	322,731
1b.0	TOTAL PERIOD 1b COST	2,839	2,355	620	569	5,335	2,603	37,733	8,571	60,624	59,200	1,055	369	23,332	2,751	646	-	-	1,369,827	26,185	341,599
PERIOD 1 TOTALS		2,839	3,208	628	576	5,335	2,623	78,369	14,653	108,231	103,817	3,778	636	23,332	3,199	646	-	-	1,378,790	26,200	766,072
PERIOD 2a - Large Component Removal																					
Period 2a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
2a.1.1.1	Reactor Coolant Piping	53	41	8	16	-	124	-	71	312	312	-	-	-	425	-	-	-	48,604	1,954	-
2a.1.1.2	Pressurizer Relief Tank	22	19	5	11	-	75	-	37	168	168	-	-	-	265	-	-	-	29,424	863	-
2a.1.1.3	Reactor Coolant Pumps & Motors	42	65	68	127	-	657	-	227	1,185	1,185	-	-	-	2,396	-	-	-	555,300	2,733	100
2a.1.1.4	Pressurizer	34	51	344	91	-	805	-	279	1,605	1,605	-	-	-	2,937	-	-	-	227,375	2,018	938
2a.1.1.5	Steam Generators	225	3,084	1,732	3,564	1,871	3,530	-	2,754	16,760	16,760	-	-	26,258	12,879	-	-	-	2,271,299	11,704	1,750
2a.1.1.6	Retired Steam Generator Units	-	-	112	3,416	-	3,421	-	1,379	8,329	8,329	-	-	-	12,483	-	-	-	1,364,708	-	1,125
2a.1.1.7	CRDMs/ICIs/Service Structure Removal	127	69	184	69	-	200	-	160	810	810	-	-	-	3,474	-	-	-	78,625	3,870	-
2a.1.1.8	Reactor Vessel Internals	96	2,242	7,381	1,478	-	11,658	236	9,809	32,900	32,900	-	-	-	626	527	976	-	228,003	24,950	1,130
2a.1.1.9	Reactor Vessel	65	4,153	1,443	954	-	1,820	236	4,692	13,365	13,365	-	-	-	7,120	-	-	-	790,717	24,950	1,130
2a.1.1	Totals	664	9,724	11,278	9,727	1,871	22,291	472	19,408	75,434	75,434	-	-	26,258	42,606	527	976	-	5,594,055	73,043	6,173
Removal of Major Equipment																					
2a.1.2	Main Turbine/Generator	-	271	138	101	434	597	-	311	1,852	1,852	-	-	4,195	2,611	-	-	-	423,022	5,913	-
2a.1.3	Main Condensers	-	930	163	120	514	707	-	520	2,953	2,953	-	-	4,962	3,088	-	-	-	500,376	20,428	-
Cascading Costs from Clean Building Demolition																					
2a.1.4.1	Containment	-	692	-	-	-	-	-	104	796	796	-	-	-	-	-	-	-	-	8,183	-
2a.1.4.2	Auxiliary	-	115	-	-	-	-	-	17	133	133	-	-	-	-	-	-	-	-	1,652	-
2a.1.4.3	Miscellaneous Structures - Contaminated	-	5	-	-	-	-	-	1	6	6	-	-	-	-	-	-	-	-	76	-
2a.1.4.4	Radwaste Solidification	-	83	-	-	-	-	-	12	95	95	-	-	-	-	-	-	-	-	1,106	-
2a.1.4.5	Fuel Handling	-	52	-	-	-	-	-	8	60	60	-	-	-	-	-	-	-	-	663	-
2a.1.4	Totals	-	948	-	-	-	-	-	142	1,090	1,090	-	-	-	-	-	-	-	-	11,679	-
Disposal of Plant Systems																					
2a.1.5.1	Amertap	-	76	-	-	-	-	-	11	87	-	-	87	-	-	-	-	-	-	1,847	-
2a.1.5.2	Auxiliary Feedwater	-	15	-	-	-	-	-	2	17	-	-	17	-	-	-	-	-	-	352	-
2a.1.5.3	Auxiliary Feedwater - Insulated	-	25	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	623	-
2a.1.5.4	Auxiliary Feedwater - Insulated - RCA	-	182	7	11	48	67	-	72	388	388	-	-	514	294	-	-	-	47,293	3,947	-
2a.1.5.5	Auxiliary Feedwater - RCA	9	38	2	3	10	15	-	20	98	98	-	-	112	67	-	-	-	10,567	1,027	-
2a.1.5.6	Auxiliary Steam	-	1	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	34	-
2a.1.5.7	Auxiliary Steam - Insulated	-	41	-	-	-	-	-	6	48	-	-	48	-	-	-	-	-	-	1,031	-
2a.1.5.8	Auxiliary Steam - Insulated - RCA	-	9	0	1	4	4	-	4	23	23	-	-	46	17	-	-	-	3,386	202	-
2a.1.5.9	Auxiliary Steam - RCA	-	0	0	0	0	0	-	0	1	1	-	-	1	0	-	-	-	63	6	-
2a.1.5.10	Breathing Air - Insulated - RCA	-	5	0	0	1	2	-	2	10	10	-	-	10	7	-	-	-	1,028	110	-
2a.1.5.11	Breathing Air - RCA	-	73	4	6	44	31	-	34	192	192	-	-	472	135	-	-	-	31,273	1,602	-
2a.1.5.12	Chemical & Volume Control	481	459	70	86	370	507	-	558	2,531	2,531	-	-	3,956	2,914	-	-	-	359,630	19,646	-
2a.1.5.13	Chemical & Volume Control - Insulated	240	456	22	31	30	218	-	300	1,297	1,297	-	-	321	951	-	-	-	98,356	14,396	-
2a.1.5.14	Circulating Water	-	110	-	-	-	-	-	17	127	-	-	127	-	-	-	-	-	-	2,697	-
2a.1.5.15	Component Cooling Water	-	193	-	-	-	-	-	29	222	-	-	222	-	-	-	-	-	-	4,791	-
2a.1.5.16	Component Cooling Water - RCA	-	493	38	65	533	293	-	290	1,712	1,712	-	-	5,702	1,283	-	-	-	346,592	10,573	-
2a.1.5.17	Condensate	-	196	-	-	-	-	-	29	225	-	-	225	-	-	-	-	-	-	4,701	-

Table C-2
Turkey Point Nuclear Plant, Unit 4
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
2a.1.5.18	Condensate - Insulated	-	76	-	-	-	-	-	11	87	-	-	87	-	-	-	-	-	-	1,892	-
2a.1.5.19	Condensate Polishing	-	33	-	-	-	-	-	5	38	-	-	38	-	-	-	-	-	-	784	-
2a.1.5.20	Condensate Polishing - Ins	-	99	-	-	-	-	-	15	114	-	-	114	-	-	-	-	-	-	2,448	-
2a.1.5.21	Condensate Recovery	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	554	-
2a.1.5.22	Condensate Recovery - Insulated	-	4	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	99	-
2a.1.5.23	Condensate Recovery - Insulated - RCA	-	9	0	0	2	3	-	3	17	17	-	-	17	13	-	-	-	1,857	187	-
2a.1.5.24	Condensate Recovery - RCA	-	30	1	2	6	12	-	12	63	63	-	-	64	51	-	-	-	7,233	641	-
2a.1.5.25	Condensate Storage	-	71	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,651	-
2a.1.5.26	Condenser	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	636	-
2a.1.5.27	Containment Post Accident Eval	-	14	0	1	6	2	-	5	28	28	-	-	59	10	-	-	-	3,265	320	-
2a.1.5.28	Containment Post Accident Eval - Ins	-	23	1	1	4	9	-	9	47	47	-	-	42	40	-	-	-	5,308	473	-
2a.1.5.29	Containment Purge	-	46	4	7	68	28	-	30	184	184	-	-	729	124	-	-	-	40,682	968	-
2a.1.5.30	Electrical - Clean	-	2,034	-	-	-	-	-	305	2,339	-	-	2,339	-	-	-	-	-	-	47,559	-
2a.1.5.31	Extraction Steam	-	13	-	-	-	-	-	2	15	-	-	15	-	-	-	-	-	-	317	-
2a.1.5.32	Extraction Steam - Insulated	-	76	-	-	-	-	-	11	87	-	-	87	-	-	-	-	-	-	1,908	-
2a.1.5.33	Feedwater	-	137	-	-	-	-	-	20	157	-	-	157	-	-	-	-	-	-	3,134	-
2a.1.5.34	Feedwater - Insulated	-	227	-	-	-	-	-	34	261	-	-	261	-	-	-	-	-	-	5,619	-
2a.1.5.35	Feedwater - Insulated - RCA	-	108	7	12	91	54	-	56	327	327	-	-	973	235	-	-	-	60,613	2,341	-
2a.1.5.36	Feedwater - RCA	-	10	1	1	9	5	-	6	32	32	-	-	96	23	-	-	-	6,015	221	-
2a.1.5.37	Feedwater Heater Drains & Vents	-	50	-	-	-	-	-	7	57	-	-	57	-	-	-	-	-	-	1,202	-
2a.1.5.38	Feedwater Heater Drains & Vents - Ins	-	364	-	-	-	-	-	55	419	-	-	419	-	-	-	-	-	-	9,047	-
2a.1.5.39	Fire Protection	-	331	-	-	-	-	-	50	381	-	-	381	-	-	-	-	-	-	7,798	-
2a.1.5.40	Generator	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	126	-
2a.1.5.41	Generator - Insulated	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	47	-
2a.1.5.42	HVAC - Clean	-	157	-	-	-	-	-	24	181	-	-	181	-	-	-	-	-	-	4,217	-
2a.1.5.43	Instrument Air	-	21	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	501	-
2a.1.5.44	Instrument Air - Insulated	-	18	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	445	-
2a.1.5.45	Intake Cooling Water	-	200	-	-	-	-	-	30	230	-	-	230	-	-	-	-	-	-	4,964	-
2a.1.5.46	Main Steam - Insulated	-	194	-	-	-	-	-	29	223	-	-	223	-	-	-	-	-	-	4,732	-
2a.1.5.47	Main Steam - Insulated - RCA	-	58	4	7	62	32	-	33	196	196	-	-	660	139	-	-	-	39,261	1,274	-
2a.1.5.48	Nitrogen & Hydrogen	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	27	-
2a.1.5.49	Nitrogen & Hydrogen - RCA	-	1	0	0	0	1	-	1	3	3	-	-	2	4	-	-	-	438	28	-
2a.1.5.50	Reactor Coolant - Insulated	38	79	4	5	6	37	-	50	219	219	-	-	68	162	-	-	-	17,258	2,413	-
2a.1.5.51	Safety Injection	-	204	10	20	340	25	-	112	711	711	-	-	3,639	145	-	-	-	157,687	4,571	-
2a.1.5.52	Safety Injection - Insulated	-	150	9	14	92	73	-	73	410	410	-	-	983	318	-	-	-	68,456	3,230	-
2a.1.5.53	Sample - N5SS	-	47	1	1	8	8	-	15	81	81	-	-	83	36	-	-	-	6,609	1,142	-
2a.1.5.54	Sample - N5SS - Ins	-	58	2	1	0	10	-	18	89	89	-	-	4	46	-	-	-	4,260	1,445	-
2a.1.5.55	Screen Wash	-	32	-	-	-	-	-	5	37	-	-	37	-	-	-	-	-	-	757	-
2a.1.5.56	Secondary Sample	-	4	-	-	-	-	-	1	4	-	-	4	-	-	-	-	-	-	87	-
2a.1.5.57	Secondary Sample - RCA	-	4	0	0	1	1	-	1	7	7	-	-	14	2	-	-	-	782	95	-
2a.1.5.58	Secondary Wet Layup	-	22	-	-	-	-	-	3	25	-	-	25	-	-	-	-	-	-	543	-
2a.1.5.59	Secondary Wet Layup - RCA	-	20	1	2	7	9	-	9	48	48	-	-	75	41	-	-	-	6,678	420	-
2a.1.5.60	Turbine Building HVAC	-	18	-	-	-	-	-	3	21	-	-	21	-	-	-	-	-	-	451	-
2a.1.5.61	Turbine Lube Oil	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	1,197	-
2a.1.5.62	Turbine Plant Chemical Addition	-	4	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	112	-
2a.1.5.63	Turbine Plant Cooling Water	-	99	-	-	-	-	-	15	114	-	-	114	-	-	-	-	-	-	2,416	-
2a.1.5.64	Turbine Plant Cooling Water - Insulated	-	58	-	-	-	-	-	9	67	-	-	67	-	-	-	-	-	-	1,440	-
2a.1.5.65	Turbine Steam	-	87	-	-	-	-	-	13	100	-	-	100	-	-	-	-	-	-	2,165	-
2a.1.5.66	Turbine Steam - Insulated	-	40	-	-	-	-	-	6	46	-	-	46	-	-	-	-	-	-	1,009	-
2a.1.5	Totals	769	7,811	188	278	1,741	1,447	-	2,497	14,731	8,714	-	6,017	18,642	7,058	-	-	-	1,324,592	197,238	-
2a.1.6	Scaffolding in support of decommissioning	-	394	9	3	42	6	-	107	560	560	-	-	407	25	-	-	-	20,580	10,412	-
2a.1	Subtotal Period 2a Activity Costs	1,433	20,076	11,775	10,228	4,602	25,048	472	22,986	96,621	90,604	-	6,017	54,463	55,388	527	976	-	7,862,625	318,713	6,173
Period 2a Collateral Costs																					
2a.3.1	Process decommissioning water waste	150	-	67	452	-	382	-	245	1,296	1,296	-	-	-	1,051	-	-	-	63,064	205	-
2a.3.2	Process decommissioning chemical flush waste	0	-	14	102	-	151	-	55	323	323	-	-	-	234	-	-	-	24,986	44	-
2a.3.3	Small tool allowance	-	259	-	-	-	-	-	40	309	279	-	31	-	-	-	-	-	-	-	-
2a.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	121	12	133	133	-	-	-	-	-	-	-	-	-	-
2a.3.5	Fixed Overhead	-	-	-	-	-	-	1,566	235	1,801	1,801	-	-	-	-	-	-	-	-	-	-

Table C-2
Turkey Point Nuclear Plant, Unit 4
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
2a.3	Subtotal Period 2a Collateral Costs	151	269	82	554	-	533	1,687	587	3,863	3,832	-	31	-	1,286	-	-	-	88,049	249	-
Period 2a Period-Dependent Costs																					
2a.4.1	Decon supplies	76	-	-	-	-	-	-	19	95	95	-	-	-	-	-	-	-	-	-	-
2a.4.2	Insurance	-	-	-	-	-	-	1,023	102	1,125	1,125	-	-	-	-	-	-	-	-	-	-
2a.4.3	Property taxes	-	-	-	-	-	-	2	0	2	2	-	0	-	-	-	-	-	-	-	-
2a.4.4	Health physics supplies	-	1,870	-	-	-	-	-	468	2,338	2,338	-	-	-	-	-	-	-	-	-	-
2a.4.5	Heavy equipment rental	-	3,043	-	-	-	-	-	456	3,499	3,499	-	-	-	-	-	-	-	-	-	-
2a.4.6	Disposal of DAW generated	-	-	73	56	-	168	-	58	355	355	-	-	-	3,680	-	-	-	73,608	120	-
2a.4.7	Plant energy budget	-	-	-	-	-	-	2,851	428	3,278	3,278	-	-	-	-	-	-	-	-	-	-
2a.4.8	NRC Fees	-	-	-	-	-	-	654	65	720	720	-	-	-	-	-	-	-	-	-	-
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	577	58	635	-	635	-	-	-	-	-	-	-	-	-
2a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	1,080	162	1,242	-	1,242	-	-	-	-	-	-	-	-	-
2a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	63	9	72	-	72	-	-	-	-	-	-	-	-	-
2a.4.12	NEI Fees	-	-	-	-	-	-	374	37	411	411	-	-	-	-	-	-	-	-	-	-
2a.4.13	Security Staff Cost	-	-	-	-	-	-	6,425	964	7,388	7,388	-	-	-	-	-	-	-	-	-	159,488
2a.4.14	DOC Staff Cost	-	-	-	-	-	-	17,528	2,629	20,157	20,157	-	-	-	-	-	-	-	-	-	224,091
2a.4.15	Utility Staff Cost	-	-	-	-	-	-	25,985	4,048	31,032	31,032	-	-	-	-	-	-	-	-	-	414,658
2a.4	Subtotal Period 2a Period-Dependent Costs	76	4,913	73	56	-	168	57,561	9,503	72,351	70,402	1,949	0	-	3,680	-	-	-	73,608	120	798,237
2a.0	TOTAL PERIOD 2a COST	1,660	25,259	11,930	10,838	4,602	25,748	59,721	33,077	172,835	164,838	1,949	6,048	54,463	60,354	527	976	-	8,024,283	319,082	804,410
PERIDD 2b - Site Decontamination																					
Period 2b Direct Decommissioning Activities																					
Disposal of Plant Systems																					
2b.1.1.1	Auxiliary Bldg HVAC	-	235	8	18	305	25	-	114	705	705	-	-	3,269	109	-	-	-	142,543	4,803	-
2b.1.1.2	Containment Emergency Filter	-	5	0	0	4	0	-	2	12	12	-	-	45	1	-	-	-	1,940	111	-
2b.1.1.3	Containment Normal & Emerg Cooling	-	542	18	39	655	56	-	255	1,566	1,566	-	-	7,013	244	-	-	-	306,700	10,875	-
2b.1.1.4	Containment Normal & Emerg Cooling - Ins	-	6	1	0	1	3	-	3	13	13	-	-	9	15	-	-	-	1,679	107	-
2b.1.1.5	Containment Spray	-	74	5	7	50	34	-	36	206	206	-	-	531	151	-	-	-	35,086	1,558	-
2b.1.1.6	Containment Spray - Insulated	-	59	4	5	20	29	-	26	143	143	-	-	217	127	-	-	-	20,249	1,221	-
2b.1.1.7	Control Building HVAC	-	26	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	636	-
2b.1.1.8	EDG Building HVAC	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	79	-
2b.1.1.9	Electrical - Decontaminated	-	2,938	112	200	1,034	1,102	-	1,215	6,662	6,662	-	-	11,710	4,818	-	-	-	907,901	60,278	-
2b.1.1.10	Emergency Diesel Engine & Oil	-	71	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,676	-
2b.1.1.11	Emergency Diesel Engine & Oil - Ins	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	77	-
2b.1.1.12	Fire Protection - RCA	-	993	61	100	743	482	-	501	2,880	2,880	-	-	7,953	2,108	-	-	-	512,067	21,086	-
2b.1.1.13	HVAC - Contaminated	-	48	1	3	59	4	-	22	138	138	-	-	627	17	-	-	-	26,939	966	-
2b.1.1.14	Instrument Air - Insulated - RCA	-	110	4	5	14	34	-	39	207	207	-	-	145	151	-	-	-	19,369	2,475	-
2b.1.1.15	Instrument Air - RCA	-	68	3	3	9	23	-	25	130	130	-	-	95	99	-	-	-	12,719	1,513	-
2b.1.1.16	Miscellaneous - RCA	-	6	1	1	14	6	-	6	35	35	-	-	155	26	-	-	-	8,613	143	-
2b.1.1.17	Primary Water Makeup	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,668	-
2b.1.1.18	Radwaste Building HVAC	-	109	3	7	127	8	-	50	303	303	-	-	1,357	36	-	-	-	58,339	2,189	-
2b.1.1.19	Refueling Equipment	-	160	12	19	84	115	-	85	476	476	-	-	901	501	-	-	-	81,494	3,608	-
2b.1.1.20	Residual Heat Removal	160	83	59	78	141	526	-	271	1,317	1,317	-	-	1,507	2,301	-	-	-	267,511	2,072	-
2b.1.1.21	Residual Heat Removal - Insulated	287	302	36	52	94	356	-	333	1,460	1,460	-	-	1,004	1,558	-	-	-	180,519	8,512	-
2b.1.1.22	Safety Injection Accumulator	-	247	16	27	287	98	-	135	808	808	-	-	3,074	439	-	-	-	163,086	5,310	-
2b.1.1.23	Service Water	-	19	-	-	-	-	-	3	22	-	-	22	-	-	-	-	-	-	487	-
2b.1.1.24	Service Water - Insulated	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	204	-
2b.1.1.25	Service Water - Insulated - RCA	-	70	4	5	14	32	-	29	154	154	-	-	147	141	-	-	-	18,582	1,431	-
2b.1.1.26	Service Water - RCA	-	155	10	11	31	74	-	65	347	347	-	-	329	326	-	-	-	42,571	3,122	-
2b.1.1.27	Steam Generator Wet Layup	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	25	-
2b.1.1.28	Steam Generator Wet Layup - RCA	-	1	0	0	0	1	-	1	3	3	-	-	2	4	-	-	-	438	28	-
2b.1.1.29	Waste Disposal	333	382	47	58	209	355	-	396	1,779	1,779	-	-	2,236	1,910	-	-	-	230,088	14,791	-
2b.1.1.30	Waste Disposal - Insulated	342	464	32	39	26	281	-	370	1,555	1,555	-	-	283	1,229	-	-	-	121,702	16,361	-
2b.1.1.31	Water Treatment Plant	-	128	-	-	-	-	-	19	147	-	-	147	-	-	-	-	-	-	3,065	-
2b.1.1.32	Water Treatment Plant - Insulated	-	95	-	-	-	-	-	14	109	-	-	109	-	-	-	-	-	-	2,338	-
2b.1.1	Totals	1,122	7,482	435	680	3,980	3,646	-	4,043	21,387	20,901	-	486	42,611	16,310	-	-	-	3,160,136	172,817	-
2b.1.2	Scaffolding in support of decommissioning	-	492	11	3	53	7	-	134	700	700	-	-	509	32	-	-	-	25,725	13,015	-

Table C-2
Turkey Point Nuclear Plant, Unit 4
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Decontamination of Site Buildings																					
2b.1.3.1	Containment	810	782	147	261	223	1,018	-	942	4,183	4,183	-	-	2,384	7,335	-	-	-	792,135	32,769	-
2b.1.3.2	Auxiliary	383	176	35	66	109	95	-	289	1,152	1,152	-	-	1,163	1,642	-	-	-	209,690	11,731	-
2b.1.3.3	Contaminated Soil - RPV Head Replacement	-	10	142	270	-	394	-	156	971	971	-	-	-	7,155	-	-	-	715,500	353	-
2b.1.3.4	Miscellaneous Structures - Contaminated	9	4	1	2	0	3	-	7	27	27	-	-	2	54	-	-	-	5,501	279	-
2b.1.3.5	Radwaste Solidification	120	64	11	22	17	31	-	90	355	355	-	-	181	554	-	-	-	62,577	3,839	-
2b.1.3	Totals	1,322	1,036	336	621	348	1,541	-	1,484	6,688	6,688	-	-	3,730	16,740	-	-	-	1,785,403	48,971	-
2b.1	Subtotal Period 2b Activity Costs	2,444	9,009	782	1,304	4,381	5,194	-	5,661	28,776	28,289	-	486	46,849	33,082	-	-	-	4,971,264	234,804	-
Period 2b Additional Costs																					
2b.2.1	Seaweed Remediation & Disposal	-	41	4	392	-	326	-	151	914	914	-	-	-	29,650	-	-	-	593,000	494	-
2b.2	Subtotal Period 2b Additional Costs	-	41	4	392	-	326	-	151	914	914	-	-	-	29,650	-	-	-	593,000	494	-
Period 2b Collateral Costs																					
2b.3.1	Process decommissioning water waste	89	-	41	275	-	232	-	148	784	784	-	-	-	639	-	-	-	38,352	125	-
2b.3.2	Process decommissioning chemical flush waste	3	-	92	649	-	960	-	348	2,052	2,052	-	-	-	1,490	-	-	-	158,738	279	-
2b.3.3	Small tool allowance	-	178	-	-	-	-	-	27	205	205	-	-	-	-	-	-	-	-	-	-
2b.3.4	Decommissioning Equipment Disposition	-	-	127	47	621	85	-	134	1,015	1,015	-	-	6,000	373	-	-	-	303,507	88	-
2b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	76,079	11,412	87,491	-	87,491	-	-	-	-	-	-	-	-	-
2b.3.6	Florida LLRW Inspection Fee	-	-	-	-	-	-	144	14	158	158	-	-	-	-	-	-	-	-	-	-
2b.3.7	Fixed Overhead	-	-	-	-	-	-	2,684	403	3,086	3,086	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	92	178	260	971	621	1,278	78,906	12,486	94,791	7,300	87,491	-	6,000	2,502	-	-	-	500,597	492	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	688	-	-	-	-	-	-	172	860	860	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	1,752	175	1,927	1,927	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	4	0	4	4	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	1,875	-	-	-	-	-	469	2,343	2,343	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	5,175	-	-	-	-	-	776	5,951	5,951	-	-	-	-	-	-	-	-	-	-
2b.4.6	Disposal of DAW generated	-	-	86	66	-	197	-	68	416	416	-	-	-	4,320	-	-	-	86,392	141	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	3,856	578	4,434	4,434	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	1,121	112	1,233	1,233	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	988	99	1,087	-	1,087	-	-	-	-	-	-	-	-	-
2b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	1,850	277	2,127	-	2,127	-	-	-	-	-	-	-	-	-
2b.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	470	71	541	541	-	-	-	-	-	-	-	-	-	-
2b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	107	16	124	-	124	-	-	-	-	-	-	-	-	-
2b.4.13	NEI Fees	-	-	-	-	-	-	641	64	705	705	-	-	-	-	-	-	-	-	-	-
2b.4.14	Security Staff Cost	-	-	-	-	-	-	12,887	1,933	14,820	14,820	-	-	-	-	-	-	-	-	-	319,503
2b.4.15	DOC Staff Cost	-	-	-	-	-	-	28,947	4,342	33,289	33,289	-	-	-	-	-	-	-	-	-	368,754
2b.4.16	Utility Staff Cost	-	-	-	-	-	-	44,832	6,725	51,557	51,557	-	-	-	-	-	-	-	-	-	684,469
2b.4	Subtotal Period 2b Period-Dependent Costs	688	7,049	86	66	-	197	97,455	15,877	121,418	118,080	3,338	-	-	4,320	-	-	-	86,392	141	1,372,726
2b.0	TOTAL PERIOD 2b COST	3,224	16,278	1,131	2,733	5,002	6,995	176,361	34,176	245,899	154,584	90,829	486	52,849	69,554	-	-	-	6,151,253	235,930	1,372,726
PERIOD 2d - Decontamination Following Wet Fuel Storage																					
Period 2d Direct Decommissioning Activities																					
2d.1.1	Remove spent fuel racks	396	39	152	81	-	600	-	385	1,654	1,654	-	-	-	2,621	-	-	-	235,217	1,023	-
Disposal of Plant Systems																					
2d.1.2.1	Electrical - Contaminated	-	328	5	12	212	14	-	120	691	691	-	-	2,267	60	-	-	-	97,471	6,730	-
2d.1.2.2	Fuel Handling HVAC	-	51	2	3	62	4	-	24	146	146	-	-	662	18	-	-	-	28,461	1,046	-
2d.1.2.3	Spent Fuel Pool Cooling	74	109	11	16	23	109	-	99	442	442	-	-	249	485	-	-	-	52,999	3,363	-
2d.1.2.4	Spent Fuel Pool Cooling - Insulated	41	55	5	7	8	46	-	48	209	209	-	-	83	199	-	-	-	21,242	1,713	-
2d.1.2	Totals	115	543	23	38	305	173	-	290	1,487	1,487	-	-	3,260	762	-	-	-	200,174	12,853	-
Decontamination of Site Buildings																					
2d.1.3.1	Fuel Handling	320	369	8	14	122	20	-	278	1,131	1,131	-	-	1,306	252	-	-	-	77,309	14,586	-
2d.1.3	Totals	320	369	8	14	122	20	-	278	1,131	1,131	-	-	1,306	252	-	-	-	77,309	14,586	-
2d.1.4	Scaffolding in support of decommissioning	-	98	2	1	11	1	-	27	140	140	-	-	102	6	-	-	-	5,145	2,603	-

Table C-2
Turkey Point Nuclear Plant, Unit 4
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
2d.1	Subtotal Period 2d Activity Costs	831	1,051	185	133	437	794	-	981	4,412	4,412	-	-	4,668	3,642	-	-	-	517,845	31,064	-
Period 2d Additional Costs																					
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	699	210	909	909	-	-	-	-	-	-	-	-	-	6,240
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	699	210	909	909	-	-	-	-	-	-	-	-	-	6,240
Period 2d Collateral Costs																					
2d.3.1	Process decommissioning water waste	53	-	25	166	-	140	-	89	473	473	-	-	-	386	-	-	-	23,166	75	-
2d.3.2	Process decommissioning chemical flush waste	0	-	10	71	-	105	-	38	224	224	-	-	-	163	-	-	-	17,341	30	-
2d.3.3	Small tool allowance	-	31	-	-	-	-	-	5	36	36	-	-	-	-	-	-	-	-	-	-
2d.3.4	Decommissioning Equipment Disposition	-	-	127	47	621	85	-	134	1,015	1,015	-	-	6,000	373	-	-	-	303,507	88	-
2d.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	647	97	745	-	745	-	-	-	-	-	-	-	-	-
2d.3.6	Florida LLRW Inspection Fee	-	-	-	-	-	-	11	1	12	12	-	-	-	-	-	-	-	-	-	-
2d.3.7	Fixed Overhead	-	-	-	-	-	-	680	102	782	782	-	-	-	-	-	-	-	-	-	-
2d.3	Subtotal Period 2d Collateral Costs	54	31	162	284	621	331	1,338	466	3,287	2,542	745	-	6,000	922	-	-	-	344,013	194	-
Period 2d Period-Dependent Costs																					
2d.4.1	Decon supplies	79	-	-	-	-	-	-	20	99	99	-	-	-	-	-	-	-	-	-	-
2d.4.2	Insurance	-	-	-	-	-	-	444	44	488	488	-	-	-	-	-	-	-	-	-	-
2d.4.3	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2d.4.4	Health physics supplies	-	326	-	-	-	-	-	82	408	408	-	-	-	-	-	-	-	-	-	-
2d.4.5	Heavy equipment rental	-	1,311	-	-	-	-	-	197	1,508	1,508	-	-	-	-	-	-	-	-	-	-
2d.4.6	Disposal of DAW generated	-	-	19	14	-	43	-	15	91	91	-	-	-	949	-	-	-	18,977	31	-
2d.4.7	Plant energy budget	-	-	-	-	-	-	521	78	599	599	-	-	-	-	-	-	-	-	-	-
2d.4.8	NRC Fees	-	-	-	-	-	-	284	28	312	312	-	-	-	-	-	-	-	-	-	-
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	250	25	276	-	276	-	-	-	-	-	-	-	-	-
2d.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	238	36	274	274	-	-	-	-	-	-	-	-	-	-
2d.4.11	ISFSI Operating Costs	-	-	-	-	-	-	27	4	31	-	31	-	-	-	-	-	-	-	-	-
2d.4.12	NEI Fees	-	-	-	-	-	-	162	16	179	179	-	-	-	-	-	-	-	-	-	-
2d.4.13	Security Staff Cost	-	-	-	-	-	-	1,775	266	2,041	2,041	-	-	-	-	-	-	-	-	-	42,560
2d.4.14	DOC Staff Cost	-	-	-	-	-	-	4,912	737	5,649	5,649	-	-	-	-	-	-	-	-	-	64,000
2d.4.15	Utility Staff Cost	-	-	-	-	-	-	8,387	1,258	9,645	9,645	-	-	-	-	-	-	-	-	-	122,240
2d.4	Subtotal Period 2d Period-Dependent Costs	79	1,637	19	14	-	43	17,002	2,806	21,601	21,294	307	-	-	949	-	-	-	18,977	31	228,800
2d.0	TOTAL PERIOD 2d COST	964	2,719	366	432	1,058	1,168	19,039	4,463	30,209	29,157	1,051	-	10,668	5,513	-	-	-	880,834	31,289	235,040
PERIOD 2f - License Termination																					
Period 2f Direct Decommissioning Activities																					
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
2f.1.2	Terminate license									0											
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
Period 2f Additional Costs																					
2f.2.1	License Termination Survey	-	-	-	-	-	-	2,705	812	3,517	3,517	-	-	-	-	-	-	-	-	53,793	3,120
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	2,705	812	3,517	3,517	-	-	-	-	-	-	-	-	53,793	3,120
Period 2f Collateral Costs																					
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,628	244	1,872	1,872	-	-	-	-	-	-	-	-	-	-
2f.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,059	159	1,218	-	1,218	-	-	-	-	-	-	-	-	-
2f.3.3	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	1	1	-	-	-	-	-	-	-	-	-	-
2f.3.4	Fixed Overhead	-	-	-	-	-	-	838	126	964	964	-	-	-	-	-	-	-	-	-	-
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	3,526	529	4,055	2,836	1,218	-	-	-	-	-	-	-	-	-
Period 2f Period-Dependent Costs																					
2f.4.1	Insurance	-	-	-	-	-	-	493	49	543	543	-	-	-	-	-	-	-	-	-	-
2f.4.2	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2f.4.3	Health physics supplies	-	335	-	-	-	-	-	84	419	419	-	-	-	-	-	-	-	-	-	-
2f.4.4	Disposal of DAW generated	-	-	5	4	-	11	-	4	24	24	-	-	-	250	-	-	-	4,992	8	-
2f.4.5	Plant energy budget	-	-	-	-	-	-	321	48	369	369	-	-	-	-	-	-	-	-	-	-
2f.4.6	NRC Fees	-	-	-	-	-	-	367	37	403	403	-	-	-	-	-	-	-	-	-	-
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	309	31	339	-	339	-	-	-	-	-	-	-	-	-

Table C-2
Turkey Point Nuclear Plant, Unit 4
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 2f Period-Dependent Costs (continued)																					
2f.4.8	ISFSI Operating Costs	-	-	-	-	-	-	34	5	39	-	39	-	-	-	-	-	-	-	-	-
2f.4.9	NEI Fees	-	-	-	-	-	-	200	20	220	220	-	-	-	-	-	-	-	-	-	-
2f.4.10	Security Staff Cost	-	-	-	-	-	-	1,162	174	1,337	1,337	-	-	-	-	-	-	-	-	-	27,994
2f.4.11	DOC Staff Cost	-	-	-	-	-	-	3,509	526	4,036	4,036	-	-	-	-	-	-	-	-	-	46,920
2f.4.12	Utility Staff Cost	-	-	-	-	-	-	4,316	647	4,964	4,964	-	-	-	-	-	-	-	-	-	60,326
2f.4	Subtotal Period 2f Period-Dependent Costs	-	335	5	4	-	11	10,712	1,626	12,694	12,315	378	-	-	250	-	-	-	4,992	8	135,240
2f.0	TOTAL PERIOD 2f COST	-	335	5	4	-	11	17,095	3,012	20,463	18,866	1,596	-	-	250	-	-	-	4,992	53,801	138,360
PERIOD 2 TOTALS		5,848	44,591	13,433	14,006	10,662	33,922	272,216	74,728	469,405	367,445	95,425	6,534	117,980	135,671	527	976	-	15,061,360	640,102	2,550,536
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Containment	-	3,981	-	-	-	-	-	597	4,578	-	-	4,578	-	-	-	-	-	-	47,324	-
3b.1.1.2	Auxiliary	-	1,038	-	-	-	-	-	156	1,193	-	-	1,193	-	-	-	-	-	-	14,864	-
3b.1.1.3	Control	-	118	-	-	-	-	-	18	136	-	-	136	-	-	-	-	-	-	1,773	-
3b.1.1.4	Intake	-	124	-	-	-	-	-	19	143	-	-	143	-	-	-	-	-	-	1,577	-
3b.1.1.5	Miscellaneous Structures - Clean	-	2,578	-	-	-	-	-	387	2,965	-	-	2,965	-	-	-	-	-	-	41,531	-
3b.1.1.6	Miscellaneous Structures - Contaminated	-	95	-	-	-	-	-	14	109	-	-	109	-	-	-	-	-	-	1,447	-
3b.1.1.7	Radwaste Solidification	-	747	-	-	-	-	-	112	859	-	-	859	-	-	-	-	-	-	9,978	-
3b.1.1.8	Sealwell	-	96	-	-	-	-	-	14	110	-	-	110	-	-	-	-	-	-	1,251	-
3b.1.1.9	Security Improvements	-	291	-	-	-	-	-	44	335	-	-	335	-	-	-	-	-	-	2,380	-
3b.1.1.10	Turbine	-	411	-	-	-	-	-	62	472	-	-	472	-	-	-	-	-	-	6,750	-
3b.1.1.11	Turbine Pedestal	-	457	-	-	-	-	-	69	525	-	-	525	-	-	-	-	-	-	5,055	-
3b.1.1.12	Fuel Handling	-	494	-	-	-	-	-	74	569	-	-	569	-	-	-	-	-	-	6,475	-
3b.1.1	Totals	-	10,430	-	-	-	-	-	1,565	11,995	-	-	11,995	-	-	-	-	-	-	140,405	-
Site Closeout Activities																					
3b.1.2	Remove Rubble	-	1,244	-	-	-	-	-	187	1,431	-	-	1,431	-	-	-	-	-	-	7,631	-
3b.1.3	Grade & landscape site	-	374	-	-	-	-	-	56	430	-	-	430	-	-	-	-	-	-	1,043	-
3b.1.4	Final report to NRC	-	-	-	-	-	-	80	12	92	92	-	-	-	-	-	-	-	-	-	668
3b.1	Subtotal Period 3b Activity Costs	-	12,049	-	-	-	-	80	1,819	13,948	92	-	13,359	-	-	-	-	-	-	149,079	668
Period 3b Additional Costs																					
3b.2.1	Concrete Crushing	-	501	-	-	-	-	6	76	583	-	-	583	-	-	-	-	-	-	2,295	-
3b.2.2	Intake Structure Cofferdam	-	210	-	-	-	-	-	31	241	-	-	241	-	-	-	-	-	-	1,896	-
3b.2.3	Discharge Structure Cofferdam	-	229	-	-	-	-	-	34	263	-	-	263	-	-	-	-	-	-	2,066	-
3b.2	Subtotal Period 3b Additional Costs	-	940	-	-	-	-	6	142	1,087	-	-	1,087	-	-	-	-	-	-	6,257	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	126	-	-	-	-	-	19	145	-	-	145	-	-	-	-	-	-	-	-
3b.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	99	15	114	-	114	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	126	-	-	-	-	99	34	260	-	114	145	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	622	62	684	-	684	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	5,844	-	-	-	-	-	877	6,721	-	-	6,721	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	405	61	465	-	-	465	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	239	24	263	-	263	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	778	78	856	-	856	-	-	-	-	-	-	-	-	-
3b.4.7	ISFSI Operating Costs	-	-	-	-	-	-	85	13	97	-	97	-	-	-	-	-	-	-	-	-
3b.4.8	NEI Fees	-	-	-	-	-	-	504	50	555	555	-	-	-	-	-	-	-	-	-	-
3b.4.9	Security Staff Cost	-	-	-	-	-	-	2,796	419	3,216	0	2,605	611	-	-	-	-	-	-	-	67,134
3b.4.10	DOC Staff Cost	-	-	-	-	-	-	8,502	1,275	9,777	-	-	9,777	-	-	-	-	-	-	-	105,394
3b.4.11	Utility Staff Cost	-	-	-	-	-	-	4,720	708	5,428	-	1,086	4,343	-	-	-	-	-	-	-	67,134
3b.4	Subtotal Period 3b Period-Dependent Costs	-	5,844	-	-	-	-	18,654	3,567	28,065	555	5,593	21,917	-	-	-	-	-	-	-	239,663

Table C-2
Turkey Point Nuclear Plant, Unit 4
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
3b.0	TOTAL PERIOD 3b COST	-	18,959	-	-	-	-	18,839	5,562	43,360	647	5,708	37,006	-	-	-	-	-	-	155,336	240,330
PERIOD 3c - Fuel Storage Operations/Shipping																					
Period 3c Collateral Costs																					
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	5,694	854	6,548	-	6,548	-	-	-	-	-	-	-	-	-
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	5,694	854	6,548	-	6,548	-	-	-	-	-	-	-	-	-
Period 3c Period-Dependent Costs																					
3c.4.1	Insurance	-	-	-	-	-	-	10,091	1,009	11,100	-	11,100	-	-	-	-	-	-	-	-	-
3c.4.2	Property taxes	-	-	-	-	-	-	48	5	52	-	52	-	-	-	-	-	-	-	-	-
3c.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	3,873	387	4,260	-	4,260	-	-	-	-	-	-	-	-	-
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	12,627	1,263	13,890	-	13,890	-	-	-	-	-	-	-	-	-
3c.4.6	ISFSI Operating Costs	-	-	-	-	-	-	1,373	206	1,579	-	1,579	-	-	-	-	-	-	-	-	-
3c.4.7	Security Staff Cost	-	-	-	-	-	-	36,915	5,537	42,452	-	42,452	-	-	-	-	-	-	-	-	871,174
3c.4.8	Utility Staff Cost	-	-	-	-	-	-	15,099	2,265	17,364	-	17,364	-	-	-	-	-	-	-	-	218,116
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	80,025	10,672	90,697	-	90,697	-	-	-	-	-	-	-	-	1,089,291
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	85,719	11,526	97,245	-	97,245	-	-	-	-	-	-	-	-	1,089,291
PERIOD 3d - GTCC shipping																					
Period 3d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	300	-	-	9,743	-	1,491	11,534	11,534	-	-	-	-	-	-	487	100,132	-	-
3d.1.1	Totals	-	-	300	-	-	9,743	-	1,491	11,534	11,534	-	-	-	-	-	-	487	100,132	-	-
3d.1	Subtotal Period 3d Activity Costs	-	-	300	-	-	9,743	-	1,491	11,534	11,534	-	-	-	-	-	-	487	100,132	-	-
Period 3d Collateral Costs																					
3d.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-
Period 3d Period-Dependent Costs																					
3d.4.1	Insurance	-	-	-	-	-	-	13	1	14	-	14	-	-	-	-	-	-	-	-	-
3d.4.2	Property taxes	-	-	-	-	-	-	0	0	0	-	0	-	-	-	-	-	-	-	-	-
3d.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3d.4.4	Emergency Planning Fees	-	-	-	-	-	-	16	2	17	-	17	-	-	-	-	-	-	-	-	-
3d.4.5	ISFSI Operating Costs	-	-	-	-	-	-	2	0	2	-	2	-	-	-	-	-	-	-	-	-
3d.4.6	Security Staff Cost	-	-	-	-	-	-	46	7	53	-	53	-	-	-	-	-	-	-	-	1,080
3d.4.7	Utility Staff Cost	-	-	-	-	-	-	19	3	22	-	22	-	-	-	-	-	-	-	-	270
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	94	13	107	-	107	-	-	-	-	-	-	-	-	1,350
3d.0	TOTAL PERIOD 3d COST	-	-	300	-	-	9,743	95	1,504	11,643	11,534	108	-	-	-	-	-	487	100,132	-	1,350
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	ISFSI License Termination	-	260	5	34	-	34	747	190	1,269	-	1,269	-	-	640	-	-	-	111,939	6,468	1,280
3e.2	Subtotal Period 3e Additional Costs	-	260	5	34	-	34	747	190	1,269	-	1,269	-	-	640	-	-	-	111,939	6,468	1,280
Period 3e Collateral Costs																					
3e.3.1	Small tool allowance	-	3	-	-	-	-	-	0	3	-	3	-	-	-	-	-	-	-	-	-
3e.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-
3e.3	Subtotal Period 3e Collateral Costs	-	3	-	-	-	-	1	1	5	-	5	-	-	-	-	-	-	-	-	-
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	108	11	119	-	119	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-

Table C-2
Turkey Point Nuclear Plant, Unit 4
DECON Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt. Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 3e Period-Dependent Costs (continued)																					
3e.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3e.4.4	Security Staff Cost	-	-	-	-	-	-	102	15	117	-	117	-	-	-	-	-	-	-	-	2,510
3e.4.5	Utility Staff Cost	-	-	-	-	-	-	140	21	160	-	160	-	-	-	-	-	-	-	-	1,901
3e.4	Subtotal Period 3e Period-Dependent Costs	-	-	-	-	-	-	350	47	397	-	397	-	-	-	-	-	-	-	-	4,411
3e.0	TOTAL PERIOD 3e COST	-	263	5	34	-	34	1,099	237	1,671	-	1,671	-	-	640	-	-	-	111,939	6,468	5,691
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	ISFSI Demolition and Site Restoration	-	692	-	-	-	-	24	107	824	-	824	-	-	-	-	-	-	-	4,727	80
3f.2	Subtotal Period 3f Additional Costs	-	692	-	-	-	-	24	107	824	-	824	-	-	-	-	-	-	-	4,727	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	4	-	-	-	-	-	1	4	-	4	-	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	4	-	-	-	-	-	1	4	-	4	-	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3f.4.2	Property taxes	-	-	-	-	-	-	0	0	0	-	0	-	-	-	-	-	-	-	-	-
3f.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3f.4.4	Security Staff Cost	-	-	-	-	-	-	51	8	59	-	59	-	-	-	-	-	-	-	-	1,265
3f.4.5	Utility Staff Cost	-	-	-	-	-	-	60	9	69	-	69	-	-	-	-	-	-	-	-	784
3f.4	Subtotal Period 3f Period-Dependent Costs	-	-	-	-	-	-	112	17	129	-	129	-	-	-	-	-	-	-	-	2,050
3f.0	TOTAL PERIOD 3f COST	-	696	-	-	-	-	136	125	957	-	957	-	-	-	-	-	-	-	4,727	2,130
PERIOD 3 TOTALS		-	19,918	305	34	-	9,777	105,888	18,955	154,877	12,181	105,689	37,006	-	640	-	-	487	212,071	166,531	1,338,792
TOTAL COST TO DECOMMISSION		8,687	67,717	14,366	14,616	15,998	46,322	456,473	108,335	732,513	483,444	204,893	44,176	141,312	139,510	1,173	976	487	16,652,220	832,833	4,655,400

TOTAL COST TO DECOMMISSION WITH 17.36% CONTINGENCY:	$732,513	thousands of 2010 dollars
TOTAL NRC LICENSE TERMINATION COST IS 66% DR:	$483,444	thousands of 2010 dollars
SPENT FUEL MANAGEMENT COST IS 27.97% OR:	$204,893	thousands of 2010 dollars
NON-NUCLEAR DEMOLITION COST IS 6.03% OR:	$44,176	thousands of 2010 dollars
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):	141,658	cubic feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	487	cubic feet
TOTAL SCRAP METAL REMOVED:	38,920	tons
TOTAL CRAFT LABOR REQUIREMENTS:	832,833	man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense.
a - indicates that this activity performed by decommissioning staff.
0 - indicates that this value is less than 0.5 but is non-zero.
a cell containing " - " indicates a zero value

APPENDIX D

DETAILED COST ANALYSIS

SAFSTOR

Tables

D-1 Turkey Point Nuclear Plant, Unit 3.....2

D-2 Turkey Point Nuclear Plant, Unit 4.....13

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	338	101	439	439	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	156	23	179	179	-	-	-	-	-	-	-	-	-	1,300
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	240	36	276	276	-	-	-	-	-	-	-	-	-	2,000
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	156	23	179	179	-	-	-	-	-	-	-	-	-	1,300
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	End product description	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	1,500
1a.1.13	Define major work sequence	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
1a.1.14	Perform SER and EA	-	-	-	-	-	-	372	56	428	428	-	-	-	-	-	-	-	-	-	3,100
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	600	90	690	690	-	-	-	-	-	-	-	-	-	5,000
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	590	89	679	679	-	-	-	-	-	-	-	-	-	4,920
1a.1.16.2	Plant systems	-	-	-	-	-	-	500	75	575	575	-	-	-	-	-	-	-	-	-	4,167
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	374	56	431	431	-	-	-	-	-	-	-	-	-	3,120
1a.1.16.4	Waste management	-	-	-	-	-	-	240	36	276	276	-	-	-	-	-	-	-	-	-	2,000
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	240	36	276	276	-	-	-	-	-	-	-	-	-	2,000
1a.1.16	Total	-	-	-	-	-	-	1,945	292	2,237	2,237	-	-	-	-	-	-	-	-	-	16,207
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	142	21	163	163	-	-	-	-	-	-	-	-	-	1,183
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	144	22	166	166	-	-	-	-	-	-	-	-	-	1,200
1a.1.17	Total	-	-	-	-	-	-	286	43	329	329	-	-	-	-	-	-	-	-	-	2,383
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	12	2	14	14	-	-	-	-	-	-	-	-	-	100
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	4,645	747	5,392	5,392	-	-	-	-	-	-	-	-	-	35,890
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,805	271	2,076	-	2,076	-	-	-	-	-	-	-	-	-
1a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
1a.3.3	Fixed Overhead	-	-	-	-	-	-	1,108	166	1,274	1,274	-	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	2,914	437	3,351	1,275	2,076	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,526	153	1,678	1,678	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	59	6	65	65	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	358	-	-	-	-	-	89	447	447	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	522	-	-	-	-	-	78	601	601	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	10	8	-	22	-	8	47	47	-	-	-	493	-	-	-	9,854	16	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	2,123	318	2,441	2,441	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	738	74	812	812	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	602	60	662	-	662	-	-	-	-	-	-	-	-	-
1a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	764	115	878	-	878	-	-	-	-	-	-	-	-	-
1a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-
1a.4.11	INPO Fees	-	-	-	-	-	-	722	72	794	794	-	-	-	-	-	-	-	-	-	-
1a.4.12	NEI Fees	-	-	-	-	-	-	265	26	291	291	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	1,811	272	2,083	2,083	-	-	-	-	-	-	-	-	-	46,678
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	26,881	4,032	30,913	30,913	-	-	-	-	-	-	-	-	-	423,400
1a.4	Subtotal Period 1a Period-Dependent Costs	-	880	10	8	-	22	35,535	5,310	41,765	40,174	1,591	-	-	493	-	-	-	9,854	16	470,078
1a.0	TOTAL PERIOD 1a COST	-	880	10	8	-	22	43,094	6,495	50,509	46,841	3,667	-	-	493	-	-	-	9,854	16	505,968

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Containment	801	-	-	-	-	-	-	401	1,202	1,202	-	-	-	-	-	-	-	-	17,275	-
1b.1.1.2	Fuel Handling	316	-	-	-	-	-	-	158	474	474	-	-	-	-	-	-	-	-	6,269	-
1b.1.1	Totals	1,117	-	-	-	-	-	-	559	1,676	1,676	-	-	-	-	-	-	-	-	23,543	-
1b.1	Subtotal Period 1b Activity Costs	1,117	-	-	-	-	-	-	559	1,676	1,676	-	-	-	-	-	-	-	-	23,543	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	879	-	-	-	-	-	-	132	1,011	1,011	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	98	-	43	288	-	244	-	157	830	830	-	-	-	671	-	-	-	40,268	131	-
1b.3.4	Small tool allowance	-	19	-	-	-	-	-	3	22	22	-	-	-	-	-	-	-	-	-	-
1b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	624	94	717	-	717	-	-	-	-	-	-	-	-	-
1b.3.6	Florida LLRW Inspection Fee	-	-	-	-	-	-	2	0	2	2	-	-	-	-	-	-	-	-	-	-
1b.3.7	Fixed Overhead	-	-	-	-	-	-	279	42	321	321	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	977	19	43	288	-	244	905	428	2,904	2,186	717	-	-	671	-	-	-	40,268	131	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	346	-	-	-	-	-	-	87	433	433	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	385	38	423	423	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	15	1	16	16	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	190	-	-	-	-	-	48	238	238	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	132	-	-	-	-	-	20	151	151	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	6	5	-	14	-	5	29	29	-	-	-	304	-	-	-	6,080	10	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	535	80	615	615	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	186	19	205	205	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	152	15	167	-	167	-	-	-	-	-	-	-	-	-
1b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	193	29	221	-	221	-	-	-	-	-	-	-	-	-
1b.4.11	ISFSI Operating Costs	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
1b.4.12	NEI Fees	-	-	-	-	-	-	67	7	73	73	-	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	457	68	525	525	-	-	-	-	-	-	-	-	-	11,765
1b.4.14	Utility Staff Cost	-	-	-	-	-	-	6,776	1,016	7,792	7,792	-	-	-	-	-	-	-	-	-	106,720
1b.4	Subtotal Period 1b Period-Dependent Costs	346	322	6	5	-	14	8,775	1,435	10,902	10,501	401	-	-	304	-	-	-	6,080	10	118,486
1b.0	TOTAL PERIOD 1b COST	2,440	341	49	293	-	257	9,680	2,421	15,482	14,364	1,118	-	-	975	-	-	-	46,349	23,684	118,486
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	407	-	-	-	-	-	61	468	468	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	36	-	-	-	-	-	5	41	41	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	16,133	-
1c.1.4	Secure building accesses									a											
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	70	10	80	80	-	-	-	-	-	-	-	-	-	583
1c.1	Subtotal Period 1c Activity Costs	-	443	-	-	-	-	803	297	1,542	1,542	-	-	-	-	-	-	-	-	19,833	583
Period 1c Additional Costs																					
1c.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	9,980	1,497	11,477	11,477	-	-	-	-	-	-	-	-	-	-
1c.2.2	Mixed/Hazardous Waste	-	-	535	144	5,335	-	-	875	6,889	6,889	-	-	23,332	-	-	-	-	1,232,428	4,905	-
1c.2.3	Asbestos Removal Program	-	603	25	55	-	127	8	194	1,012	1,012	-	-	-	2,207	-	-	-	49,898	7,001	-
1c.2	Subtotal Period 1c Additional Costs	-	603	560	199	5,335	127	9,988	2,567	19,379	19,379	-	-	23,332	2,207	-	-	-	1,282,326	11,906	-
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	124	-	55	368	-	310	-	200	1,057	1,057	-	-	-	855	-	-	-	51,310	167	-
1c.3.3	Small tool allowance	-	10	-	-	-	-	-	2	12	12	-	-	-	-	-	-	-	-	-	-
1c.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	631	95	725	-	725	-	-	-	-	-	-	-	-	-
1c.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
1c.3.6	Fixed Overhead	-	-	-	-	-	-	282	42	325	325	-	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	124	10	55	368	-	310	919	339	2,126	1,401	725	-	-	855	-	-	-	51,310	167	-

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1c Period-Dependent Costs																					
1c4.1	Insurance	-	-	-	-	-	-	389	39	428	428	-	-	-	-	-	-	-	-	-	-
1c4.2	Property taxes	-	-	-	-	-	-	12	1	13	13	-	-	-	-	-	-	-	-	-	-
1c4.3	Health physics supplies	-	226	-	-	-	-	-	57	283	283	-	-	-	-	-	-	-	-	-	-
1c4.4	Heavy equipment rental	-	133	-	-	-	-	-	20	153	153	-	-	-	-	-	-	-	-	-	-
1c4.5	Disposal of DAW generated	-	-	2	2	-	6	-	2	12	12	-	-	-	126	-	-	-	2,511	4	-
1c4.6	Plant energy budget	-	-	-	-	-	-	541	81	622	622	-	-	-	-	-	-	-	-	-	-
1c4.7	NRC Fees	-	-	-	-	-	-	188	19	207	207	-	-	-	-	-	-	-	-	-	-
1c4.8	Emergency Planning Fees	-	-	-	-	-	-	153	15	169	-	169	-	-	-	-	-	-	-	-	-
1c4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	195	29	224	-	224	-	-	-	-	-	-	-	-	-
1c4.10	ISFSI Operating Costs	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
1c4.11	NEI Fees	-	-	-	-	-	-	67	7	74	74	-	-	-	-	-	-	-	-	-	-
1c4.12	Security Staff Cost	-	-	-	-	-	-	462	69	531	531	-	-	-	-	-	-	-	-	-	11,893
1c4.13	Utility Staff Cost	-	-	-	-	-	-	6,849	1,027	7,877	7,877	-	-	-	-	-	-	-	-	-	107,880
1c4	Subtotal Period 1c Period-Dependent Costs	-	359	2	2	-	6	8,867	1,368	10,604	10,199	405	-	-	126	-	-	-	2,511	4	119,773
1c.0	TOTAL PERIOD 1c COST	124	1,415	618	568	5,335	443	20,577	4,571	33,652	32,522	1,131	-	23,332	3,188	-	-	-	1,336,147	31,909	120,357
PERIOD 1 TOTALS		2,565	2,637	677	869	5,335	723	73,251	13,487	99,644	93,727	5,917	-	23,332	4,656	-	-	-	1,392,350	55,610	744,810
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection									a											
2a.1.2	Semi-annual environmental survey									a											
2a.1.3	Prepare reports									a											
2a.1.5	Maintenance supplies	-	-	-	-	-	-	503	126	629	629	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	503	126	629	629	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	42,599	6,390	48,989	-	48,989	-	-	-	-	-	-	-	-	-
2a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2a.3.3	Fixed Overhead	-	-	-	-	-	-	4,432	665	5,097	5,097	-	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	47,032	7,055	54,087	5,098	48,989	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	2,894	289	3,183	2,776	407	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	474	-	-	-	-	-	119	593	593	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	12	9	-	27	-	9	56	56	-	-	-	586	-	-	-	11,711	19	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	1,698	255	1,953	976	976	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	775	78	853	853	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	1,632	163	1,796	-	1,796	-	-	-	-	-	-	-	-	-
2a.4.8	Spent Fuel Pool O&M	-	-	-	-	-	-	3,055	458	3,514	-	3,514	-	-	-	-	-	-	-	-	-
2a.4.9	ISFSI Operating Costs	-	-	-	-	-	-	177	27	204	-	204	-	-	-	-	-	-	-	-	-
2a.4.10	NEI Fees	-	-	-	-	-	-	1,058	106	1,164	1,164	-	-	-	-	-	-	-	-	-	-
2a.4.11	Security Staff Cost	-	-	-	-	-	-	1,700	255	1,955	-	1,955	-	-	-	-	-	-	-	-	43,800
2a.4.12	Utility Staff Cost	-	-	-	-	-	-	10,221	1,533	11,755	3,640	8,115	-	-	-	-	-	-	-	-	154,343
2a.4	Subtotal Period 2a Period-Dependent Costs	-	474	12	9	-	27	23,218	3,292	27,032	10,065	16,967	-	-	586	-	-	-	11,711	19	198,143
2a.0	TOTAL PERIOD 2a COST	-	474	12	9	-	27	70,754	10,473	81,748	15,792	65,956	-	-	586	-	-	-	11,711	19	198,143
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection									a											
2b.1.2	Semi-annual environmental survey									a											
2b.1.3	Prepare reports									a											
2b.1.5	Maintenance supplies	-	-	-	-	-	-	4,396	1,099	5,495	5,495	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	4,396	1,099	5,495	5,495	-	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	7,500	1,125	8,625	-	8,625	-	-	-	-	-	-	-	-	-
2b.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	5	1	6	6	-	-	-	-	-	-	-	-	-	-
2b.3.3	Fixed Overhead	-	-	-	-	-	-	38,750	5,813	44,563	44,563	-	-	-	-	-	-	-	-	-	-

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	46,255	6,938	53,193	44,568	8,625	-	-	-	-	-	-	-	-	-
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	22,812	2,281	25,093	24,272	821	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	54	5	59	59	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	2,092	-	-	-	-	-	523	2,615	2,615	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	51	40	-	118	-	41	250	250	-	-	-	2,591	-	-	-	51,826	85	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	7,424	1,114	8,537	8,537	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	6,779	678	7,456	7,456	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	14,273	1,427	15,701	-	15,701	-	-	-	-	-	-	-	-	-
2b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	1,552	233	1,784	-	1,784	-	-	-	-	-	-	-	-	-
2b.4.9	NEI Fees	-	-	-	-	-	-	9,252	925	10,177	10,177	-	-	-	-	-	-	-	-	-	-
2b.4.10	Security Staff Cost	-	-	-	-	-	-	41,727	6,259	47,986	28,451	19,535	-	-	-	-	-	-	-	-	984,729
2b.4.11	Utility Staff Cost	-	-	-	-	-	-	46,516	6,977	53,493	31,826	21,667	-	-	-	-	-	-	-	-	729,429
2b.4	Subtotal Period 2b Period-Dependent Costs	-	2,092	51	40	-	118	150,388	20,463	173,152	113,644	59,509	-	-	2,591	-	-	-	51,826	85	1,714,157
2b.0	TOTAL PERIOD 2b COST	-	2,092	51	40	-	118	201,039	28,500	231,841	163,707	68,134	-	-	2,591	-	-	-	51,826	85	1,714,157
PERIOD 2c - SAFSTOR Dormancy without Spent Fuel Storage																					
Period 2c Direct Decommissioning Activities																					
2c.1.1	Quarterly Inspection									a											
2c.1.2	Semi-annual environmental survey									a											
2c.1.3	Prepare reports									a											
2c.1.5	Maintenance supplies	-	-	-	-	-	-	1,613	403	2,016	2,016	-	-	-	-	-	-	-	-	-	-
2c.1	Subtotal Period 2c Activity Costs	-	-	-	-	-	-	1,613	403	2,016	2,016	-	-	-	-	-	-	-	-	-	-
Period 2c Collateral Costs																					
2c.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	2	0	2	2	-	-	-	-	-	-	-	-	-	-
2c.3.2	Fixed Overhead	-	-	-	-	-	-	14,219	2,133	16,352	16,352	-	-	-	-	-	-	-	-	-	-
2c.3	Subtotal Period 2c Collateral Costs	-	-	-	-	-	-	14,221	2,133	16,354	16,354	-	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	8,097	810	8,907	8,907	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	20	2	22	22	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	734	-	-	-	-	-	183	917	917	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	18	14	-	41	-	14	86	86	-	-	-	895	-	-	-	17,898	29	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	2,724	409	3,133	3,133	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	2,224	222	2,446	2,446	-	-	-	-	-	-	-	-	-	-
2c.4.7	NEI Fees	-	-	-	-	-	-	3,395	339	3,734	3,734	-	-	-	-	-	-	-	-	-	-
2c.4.8	Security Staff Cost	-	-	-	-	-	-	9,078	1,362	10,440	10,440	-	-	-	-	-	-	-	-	-	200,743
2c.4.9	Utility Staff Cost	-	-	-	-	-	-	10,155	1,523	11,678	11,678	-	-	-	-	-	-	-	-	-	170,765
2c.4	Subtotal Period 2c Period-Dependent Costs	-	734	18	14	-	41	35,692	4,865	41,363	41,363	-	-	-	895	-	-	-	17,898	29	371,508
2c.0	TOTAL PERIOD 2c COST	-	734	18	14	-	41	51,526	7,401	59,733	59,733	-	-	-	895	-	-	-	17,898	29	371,508
PERIOD 2 TOTALS		-	3,300	81	62	-	186	323,319	46,374	373,321	239,232	134,089	-	-	4,072	-	-	-	81,435	133	2,283,808
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	156	23	179	179	-	-	-	-	-	-	-	-	-	1,300
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	552	83	635	635	-	-	-	-	-	-	-	-	-	4,600
3a.1.3	Perform detailed rad survey									a											
3a.1.4	End product description	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	156	23	179	179	-	-	-	-	-	-	-	-	-	1,300
3a.1.6	Define major work sequence	-	-	-	-	-	-	900	135	1,035	1,035	-	-	-	-	-	-	-	-	-	7,500
3a.1.7	Perform SER and EA	-	-	-	-	-	-	372	56	428	428	-	-	-	-	-	-	-	-	-	3,100
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	600	90	690	690	-	-	-	-	-	-	-	-	-	5,000
3a.1.9	Prepare/submit License Termination Plan	-	-	-	-	-	-	492	74	565	565	-	-	-	-	-	-	-	-	-	4,096
3a.1.10	Receive NRC approval of termination plan									a											

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	884	133	1,017	915	-	102	-	-	-	-	-	-	-	7,370
3a.1.11.2	Plant systems	-	-	-	-	-	-	500	75	575	518	-	58	-	-	-	-	-	-	-	4,167
3a.1.11.3	Reactor internals	-	-	-	-	-	-	852	128	980	980	-	-	-	-	-	-	-	-	-	7,100
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	780	117	897	897	-	-	-	-	-	-	-	-	-	6,500
3a.1.11.5	Biological shield	-	-	-	-	-	-	60	9	69	69	-	-	-	-	-	-	-	-	-	500
3a.1.11.6	Steam generators	-	-	-	-	-	-	374	56	431	431	-	-	-	-	-	-	-	-	-	3,120
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	192	29	221	110	-	110	-	-	-	-	-	-	-	1,600
3a.1.11.8	Main Turbine	-	-	-	-	-	-	48	7	55	-	-	55	-	-	-	-	-	-	-	400
3a.1.11.9	Main Condensers	-	-	-	-	-	-	48	7	55	-	-	55	-	-	-	-	-	-	-	400
3a.1.11.10	Plant structures & buildings	-	-	-	-	-	-	374	56	431	215	-	215	-	-	-	-	-	-	-	3,120
3a.1.11.11	Waste management	-	-	-	-	-	-	552	83	635	635	-	-	-	-	-	-	-	-	-	4,600
3a.1.11.12	Facility & site closeout	-	-	-	-	-	-	108	16	124	62	-	62	-	-	-	-	-	-	-	900
3a.1.11	Total	-	-	-	-	-	-	4,773	716	5,489	4,832	-	657	-	-	-	-	-	-	-	39,777
Planning & Site Preparations																					
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	288	43	331	331	-	-	-	-	-	-	-	-	-	2,400
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	2,800	420	3,220	3,220	-	-	-	-	-	-	-	-	-	-
3a.1.14	Design water clean-up system	-	-	-	-	-	-	168	25	193	193	-	-	-	-	-	-	-	-	-	1,400
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,200	330	2,530	2,530	-	-	-	-	-	-	-	-	-	-
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	148	22	170	170	-	-	-	-	-	-	-	-	-	1,230
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	13,724	2,059	15,783	15,126	-	657	-	-	-	-	-	-	-	72,703
Period 3a Collateral Costs																					
3a.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
3a.3.2	Fixed Overhead	-	-	-	-	-	-	1,108	166	1,274	1,274	-	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	-	-	-	-	-	1,109	166	1,275	1,275	-	-	-	-	-	-	-	-	-	-
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	631	63	694	694	-	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	2	0	2	2	-	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	300	-	-	-	-	-	75	376	376	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	522	-	-	-	-	-	78	601	601	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	8	6	-	18	-	6	38	38	-	-	-	398	-	-	-	7,951	13	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	2,123	318	2,441	2,441	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC Fees	-	-	-	-	-	-	245	25	270	270	-	-	-	-	-	-	-	-	-	-
3a.4.8	NEI Fees	-	-	-	-	-	-	265	26	291	291	-	-	-	-	-	-	-	-	-	-
3a.4.9	Security Staff Cost	-	-	-	-	-	-	2,730	410	3,140	3,140	-	-	-	-	-	-	-	-	-	65,179
3a.4.10	Utility Staff Cost	-	-	-	-	-	-	16,785	2,518	19,302	19,302	-	-	-	-	-	-	-	-	-	258,629
3a.4	Subtotal Period 3a Period-Dependent Costs	-	823	8	6	-	18	22,780	3,520	27,154	27,154	-	-	-	398	-	-	-	7,951	13	323,807
3a.0	TOTAL PERIOD 3a COST	-	823	8	6	-	18	37,613	5,744	44,212	43,555	-	657	-	398	-	-	-	7,951	13	396,510
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	568	85	653	588	-	65	-	-	-	-	-	-	-	4,733
3b.1.1.2	Reactor internals	-	-	-	-	-	-	300	45	345	345	-	-	-	-	-	-	-	-	-	2,500
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	162	24	186	47	-	140	-	-	-	-	-	-	-	1,350
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	436	65	501	501	-	-	-	-	-	-	-	-	-	3,630
3b.1.1.8	Facility closeout	-	-	-	-	-	-	144	22	166	83	-	83	-	-	-	-	-	-	-	1,200
3b.1.1.9	Missile shields	-	-	-	-	-	-	54	8	62	62	-	-	-	-	-	-	-	-	-	450
3b.1.1.10	Biological shield	-	-	-	-	-	-	144	22	166	166	-	-	-	-	-	-	-	-	-	1,200
3b.1.1.11	Steam generators	-	-	-	-	-	-	552	83	635	635	-	-	-	-	-	-	-	-	-	4,600
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	120	18	138	69	-	69	-	-	-	-	-	-	-	1,000
3b.1.1.13	Main Turbine	-	-	-	-	-	-	187	28	215	-	-	215	-	-	-	-	-	-	-	1,560
3b.1.1.14	Main Condensers	-	-	-	-	-	-	187	28	215	-	-	215	-	-	-	-	-	-	-	1,560
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	328	49	377	339	-	38	-	-	-	-	-	-	-	2,730
3b.1.1.16	Reactor building	-	-	-	-	-	-	328	49	377	339	-	38	-	-	-	-	-	-	-	2,730

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
3b.1.1	Total	-	-	-	-	-	-	3,869	580	4,450	3,587	-	863	-	-	-	-	-	-	-	32,243
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	3,869	580	4,450	3,587	-	863	-	-	-	-	-	-	-	32,243
Period 3b Additional Costs																					
3b.2.1	Site Characterization	-	-	-	-	-	-	5,083	1,525	6,607	6,607	-	-	-	-	-	-	-	-	30,500	10,852
3b.2	Subtotal Period 3b Additional Costs	-	-	-	-	-	-	5,083	1,525	6,607	6,607	-	-	-	-	-	-	-	-	30,500	10,852
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	879	-	-	-	-	-	-	132	1,011	1,011	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,628	244	1,872	1,872	-	-	-	-	-	-	-	-	-	-
3b.3.3	Pipe cutting equipment	-	1,100	-	-	-	-	-	165	1,265	1,265	-	-	-	-	-	-	-	-	-	-
3b.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	1	1	-	-	-	-	-	-	-	-	-	-
3b.3.5	Fixed Overhead	-	-	-	-	-	-	562	84	646	646	-	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	879	1,100	-	-	-	-	2,190	625	4,794	4,794	-	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	27	-	-	-	-	-	-	7	34	34	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	367	37	403	403	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	173	-	-	-	-	-	43	216	216	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	265	-	-	-	-	-	40	304	304	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	5	4	-	11	-	4	23	23	-	-	-	236	-	-	-	4,714	8	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	1,076	161	1,237	1,237	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC Fees	-	-	-	-	-	-	124	12	137	137	-	-	-	-	-	-	-	-	-	-
3b.4.9	NEI Fees	-	-	-	-	-	-	134	13	147	147	-	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	1,384	208	1,591	1,591	-	-	-	-	-	-	-	-	-	33,036
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	4,621	693	5,314	5,314	-	-	-	-	-	-	-	-	-	59,200
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	8,507	1,276	9,783	9,783	-	-	-	-	-	-	-	-	-	131,086
3b.4	Subtotal Period 3b Period-Dependent Costs	27	438	5	4	-	11	16,214	2,494	19,192	19,192	-	-	-	236	-	-	-	4,714	8	223,321
3b.0	TOTAL PERIOD 3b COST	906	1,538	5	4	-	11	27,356	5,225	35,043	34,181	-	863	-	236	-	-	-	4,714	30,508	266,416
PERIOD 3 TOTALS		906	2,360	13	10	-	29	64,969	10,969	79,256	77,735	-	1,520	-	633	-	-	-	12,665	30,521	662,926
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	10	37	8	8	51	62	-	40	216	216	-	-	201	213	-	-	-	46,608	1,055	-
4a.1.1.2	Pressurizer Relief Tank	4	17	5	5	34	38	-	22	125	125	-	-	133	133	-	-	-	29,424	480	-
4a.1.1.3	Reactor Coolant Pumps & Motors	9	56	34	118	-	657	-	204	1,079	1,079	-	-	-	2,396	-	-	-	555,300	1,924	80
4a.1.1.4	Pressurizer	7	51	344	88	-	805	-	265	1,559	1,559	-	-	-	2,937	-	-	-	214,354	1,495	750
4a.1.1.5	Steam Generators	44	3,084	1,212	3,539	1,871	3,421	-	2,581	15,753	15,753	-	-	26,258	12,483	-	-	-	2,143,159	9,661	1,125
4a.1.1.6	Retired Steam Generator Units	-	-	75	3,416	-	3,421	-	1,375	8,288	8,288	-	-	-	12,483	-	-	-	1,364,708	-	1,125
4a.1.1.7	CRDMs/ICIs/Service Structure Removal	25	67	180	50	64	118	-	94	599	599	-	-	753	2,540	-	-	-	74,266	1,893	-
4a.1.1.8	Reactor Vessel Internals	66	1,913	5,496	1,089	-	7,151	185	6,718	22,618	22,618	-	-	-	757	376	986	-	224,278	18,833	885
4a.1.1.9	Vessel & Internals GTCC Disposal	-	-	-	-	-	9,743	-	1,461	11,204	11,204	-	-	-	-	-	-	487	100,132	-	-
4a.1.1.10	Reactor Vessel	-	3,825	1,020	392	-	1,738	185	4,118	11,278	11,278	-	-	-	7,815	-	-	-	796,882	18,833	885
4a.1.1	Totals	166	9,052	8,375	8,705	2,021	27,154	370	16,879	72,720	72,720	-	-	27,344	41,757	376	986	487	5,549,111	54,175	4,851
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	239	93	23	482	-	-	145	982	982	-	-	4,661	-	-	-	-	209,740	5,215	-
4a.1.3	Main Condensers	-	834	109	27	571	-	-	309	1,850	1,850	-	-	5,513	-	-	-	-	248,093	18,250	-
Castading Costs from Clean Building Demolition																					
4a.1.4.1	Containment	-	692	-	-	-	-	-	104	796	796	-	-	-	-	-	-	-	-	8,183	-
4a.1.4.2	Fuel Handling	-	52	-	-	-	-	-	8	60	60	-	-	-	-	-	-	-	-	663	-
4a.1.4	Totals	-	745	-	-	-	-	-	112	857	857	-	-	-	-	-	-	-	-	8,846	-
Disposal of Plant Systems																					
4a.1.5.1	Ameritap	-	71	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,715	-
4a.1.5.2	Auxiliary Feedwater	-	4	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	98	-
4a.1.5.3	Auxiliary Feedwater - Insulated	-	17	-	-	-	-	-	2	19	-	-	19	-	-	-	-	-	-	411	-

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
4a.1.5.4	Auxiliary Feedwater - Insulated - RCA	-	110	1	3	64	-	-	38	216	216	-	-	684	-	-	-	-	27,785	2,343	-
4a.1.5.5	Auxiliary Feedwater - RCA	-	24	0	1	16	-	-	9	50	50	-	-	166	-	-	-	-	6,761	510	-
4a.1.5.6	Auxiliary Steam	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	10	-
4a.1.5.7	Auxiliary Steam - Insulated	-	29	-	-	-	-	-	4	34	-	-	34	-	-	-	-	-	-	734	-
4a.1.5.8	Auxiliary Steam - Insulated - RCA	-	6	0	0	5	-	-	2	14	14	-	-	56	-	-	-	-	2,259	126	-
4a.1.5.9	Auxiliary Steam - RCA	-	0	0	0	0	-	-	0	0	0	-	-	0	-	-	-	-	15	1	-
4a.1.5.10	Breathing Air - Insulated - RCA	-	4	0	0	2	-	-	1	8	8	-	-	22	-	-	-	-	900	93	-
4a.1.5.11	Breathing Air - RCA	-	15	0	0	8	-	-	5	29	29	-	-	87	-	-	-	-	3,546	313	-
4a.1.5.12	Chemical & Volume Control	-	86	9	13	78	68	-	53	306	306	-	-	839	328	-	-	-	60,650	1,870	-
4a.1.5.13	Chemical & Volume Control - Insulated	-	233	12	16	28	112	-	94	495	495	-	-	298	490	-	-	-	56,048	4,922	-
4a.1.5.14	Circulating Water	-	91	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	2,204	-
4a.1.5.15	Component Cooling Water	-	145	-	-	-	-	-	22	167	-	-	167	-	-	-	-	-	-	3,558	-
4a.1.5.16	Component Cooling Water - RCA	-	318	11	26	544	-	-	166	1,065	1,065	-	-	5,822	-	-	-	-	236,429	6,736	-
4a.1.5.17	Condensate	-	166	-	-	-	-	-	25	191	-	-	191	-	-	-	-	-	-	3,960	-
4a.1.5.18	Condensate - Insulated	-	52	-	-	-	-	-	8	60	-	-	60	-	-	-	-	-	-	1,309	-
4a.1.5.19	Condensate Polishing	-	31	-	-	-	-	-	5	36	-	-	36	-	-	-	-	-	-	734	-
4a.1.5.20	Condensate Polishing - Ins	-	81	-	-	-	-	-	12	93	-	-	93	-	-	-	-	-	-	1,986	-
4a.1.5.21	Condensate Recovery	-	15	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	373	-
4a.1.5.22	Condensate Recovery - Insulated	-	2	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	60	-
4a.1.5.23	Condensate Recovery - Insulated - RCA	-	5	0	0	2	-	-	2	9	9	-	-	26	-	-	-	-	1,045	96	-
4a.1.5.24	Condensate Recovery - RCA	-	19	0	1	11	-	-	6	37	37	-	-	115	-	-	-	-	4,669	388	-
4a.1.5.25	Condensate Storage	-	68	-	-	-	-	-	10	78	-	-	78	-	-	-	-	-	-	1,572	-
4a.1.5.26	Condenser	-	22	-	-	-	-	-	3	25	-	-	25	-	-	-	-	-	-	545	-
4a.1.5.27	Containment Post Accident Eval	-	1	0	0	0	-	-	0	1	1	-	-	3	-	-	-	-	127	14	-
4a.1.5.28	Containment Purge	-	42	2	4	91	-	-	25	164	164	-	-	972	-	-	-	-	39,455	864	-
4a.1.5.29	Electrical - Clean	-	1,335	-	-	-	-	-	200	1,535	-	-	1,535	-	-	-	-	-	-	31,193	-
4a.1.5.30	Extraction Steam	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	244	-
4a.1.5.31	Extraction Steam - Insulated	-	48	-	-	-	-	-	7	55	-	-	55	-	-	-	-	-	-	1,194	-
4a.1.5.32	Feedwater	-	47	-	-	-	-	-	7	54	-	-	54	-	-	-	-	-	-	1,095	-
4a.1.5.33	Feedwater - Insulated	-	134	-	-	-	-	-	20	154	-	-	154	-	-	-	-	-	-	3,321	-
4a.1.5.34	Feedwater - Insulated - RCA	-	58	2	4	86	-	-	28	177	177	-	-	918	-	-	-	-	37,298	1,233	-
4a.1.5.35	Feedwater - RCA	-	5	0	0	8	-	-	3	16	16	-	-	81	-	-	-	-	3,290	109	-
4a.1.5.36	Feedwater Heater Drains & Vents	-	44	-	-	-	-	-	7	50	-	-	50	-	-	-	-	-	-	1,053	-
4a.1.5.37	Feedwater Heater Drains & Vents - Ins	-	292	-	-	-	-	-	44	335	-	-	335	-	-	-	-	-	-	7,237	-
4a.1.5.38	Generator	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	126	-
4a.1.5.39	Generator - Insulated	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	47	-
4a.1.5.40	Instrument Air	-	12	-	-	-	-	-	2	14	-	-	14	-	-	-	-	-	-	291	-
4a.1.5.41	Instrument Air - Insulated	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	239	-
4a.1.5.42	Intake Cooling Water	-	143	-	-	-	-	-	21	164	-	-	164	-	-	-	-	-	-	3,548	-
4a.1.5.43	Main Steam - Insulated	-	161	-	-	-	-	-	24	186	-	-	186	-	-	-	-	-	-	3,903	-
4a.1.5.44	Main Steam - Insulated - RCA	-	39	1	3	64	-	-	20	127	127	-	-	684	-	-	-	-	27,764	840	-
4a.1.5.45	Safety Injection	-	184	7	17	360	-	-	103	672	672	-	-	3,856	-	-	-	-	156,576	4,102	-
4a.1.5.46	Safety Injection - Insulated	-	99	2	5	103	-	-	41	251	251	-	-	1,107	-	-	-	-	44,965	2,071	-
4a.1.5.47	Safety Injection Accumulator	-	192	6	15	316	-	-	98	628	628	-	-	3,388	-	-	-	-	137,605	4,075	-
4a.1.5.48	Sample - NSSS	-	20	0	1	11	-	-	7	38	38	-	-	120	-	-	-	-	4,856	467	-
4a.1.5.49	Sample - NSSS - Ins	-	19	0	0	4	-	-	5	28	28	-	-	42	-	-	-	-	1,710	463	-
4a.1.5.50	Screen Wash	-	22	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	531	-
4a.1.5.51	Secondary Sample	-	4	-	-	-	-	-	1	4	-	-	4	-	-	-	-	-	-	83	-
4a.1.5.52	Secondary Sample - RCA	-	4	0	0	3	-	-	2	9	9	-	-	35	-	-	-	-	1,436	96	-
4a.1.5.53	Secondary Wet Layup	-	20	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	503	-
4a.1.5.54	Secondary Wet Layup - RCA	-	17	0	1	13	-	-	6	37	37	-	-	140	-	-	-	-	5,685	337	-
4a.1.5.55	Turbine Building HVAC	-	17	-	-	-	-	-	2	19	-	-	19	-	-	-	-	-	-	409	-
4a.1.5.56	Turbine Lube Oil	-	38	-	-	-	-	-	6	43	-	-	43	-	-	-	-	-	-	906	-
4a.1.5.57	Turbine Plant Chemical Addition	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	77	-
4a.1.5.58	Turbine Plant Cooling Water	-	81	-	-	-	-	-	12	93	-	-	93	-	-	-	-	-	-	1,975	-
4a.1.5.59	Turbine Plant Cooling Water - Insulated	-	45	-	-	-	-	-	7	51	-	-	51	-	-	-	-	-	-	1,107	-
4a.1.5.60	Turbine Steam	-	61	-	-	-	-	-	9	70	-	-	70	-	-	-	-	-	-	1,496	-
4a.1.5.61	Turbine Steam - Insulated	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	669	-
4a.1.5	Totals	-	4,850	55	110	1,818	180	-	1,217	8,230	4,376	-	3,854	19,462	818	-	-	-	860,874	112,583	-
4a.1.6	Scaffolding in support of decommissioning	-	150	3	1	15	2	-	41	212	212	-	-	146	9	-	-	-	7,403	3,969	-
4a.1	Subtotal Period 4a Activity Costs	166	15,869	8,634	8,866	4,907	27,336	370	18,702	84,850	80,995	-	3,854	57,127	42,584	376	986	487	6,875,221	203,038	4,851

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 4a Additional Costs																					
4a.2.1	License Termination Survey Planning	-	-	-	-	-	-	699	210	909	909	-	-	-	-	-	-	-	-	-	6,240
4a.2	Subtotal Period 4a Additional Costs	-	-	-	-	-	-	699	210	909	909	-	-	-	-	-	-	-	-	-	6,240
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	3	-	3	22	-	19	-	10	57	57	-	-	-	52	-	-	-	3,128	10	-
4a.3.3	Small tool allowance	-	173	-	-	-	-	-	26	199	179	-	20	-	-	-	-	-	-	-	-
4a.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	91	9	100	100	-	-	-	-	-	-	-	-	-	-
4a.3.5	Fixed Overhead	-	-	-	-	-	-	1,269	190	1,459	1,459	-	-	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	3	173	3	22	-	19	1,360	235	1,816	1,796	-	20	-	52	-	-	-	3,128	10	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	62	-	-	-	-	-	-	15	77	77	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	828	83	911	911	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	2	0	2	2	-	0	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,256	-	-	-	-	-	314	1,569	1,569	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	2,465	-	-	-	-	-	370	2,835	2,835	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	46	36	-	106	-	37	225	225	-	-	-	2,332	-	-	-	46,642	76	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,309	346	2,656	2,656	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC Fees	-	-	-	-	-	-	787	79	865	865	-	-	-	-	-	-	-	-	-	-
4a.4.9	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	445	67	511	511	-	-	-	-	-	-	-	-	-	-
4a.4.10	NEI Fees	-	-	-	-	-	-	303	30	333	333	-	-	-	-	-	-	-	-	-	-
4a.4.11	Security Staff Cost	-	-	-	-	-	-	2,039	306	2,345	2,345	-	-	-	-	-	-	-	-	-	49,635
4a.4.12	DOC Staff Cost	-	-	-	-	-	-	12,415	1,862	14,278	14,278	-	-	-	-	-	-	-	-	-	162,375
4a.4.13	Utility Staff Cost	-	-	-	-	-	-	17,877	2,681	20,558	20,558	-	-	-	-	-	-	-	-	-	282,711
4a.4	Subtotal Period 4a Period-Dependent Costs	62	3,721	46	36	-	106	37,005	6,190	47,166	47,166	-	0	-	2,332	-	-	-	46,642	76	494,721
4a.0	TOTAL PERIOD 4a COST	230	19,763	8,684	8,924	4,907	27,461	39,434	25,337	134,740	130,866	-	3,874	57,127	44,969	376	986	487	6,924,992	203,124	505,812
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	360	39	152	81	-	600	-	367	1,600	1,600	-	-	-	2,621	-	-	-	235,217	1,023	-
Disposal of Plant Systems																					
4b.1.2.1	Containment Emergency Filter	-	4	0	0	4	-	-	2	11	11	-	-	47	-	-	-	-	1,929	99	-
4b.1.2.2	Containment Normal & Emerg Cooling	-	489	14	33	696	-	-	233	1,466	1,466	-	-	7,456	-	-	-	-	302,798	9,308	-
4b.1.2.3	Containment Normal & Emerg Cooling - Ins	-	4	0	0	3	-	-	1	8	8	-	-	28	-	-	-	-	1,139	71	-
4b.1.2.4	Containment Spray	-	54	1	4	74	-	-	28	171	171	-	-	792	-	-	-	-	32,145	1,311	-
4b.1.2.5	Containment Spray - Insulated	-	50	1	2	40	-	-	19	112	112	-	-	432	-	-	-	-	17,525	1,007	-
4b.1.2.6	EDG Building HVAC	-	1	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	39	-
4b.1.2.7	Electrical - Contaminated	-	193	3	7	155	-	-	73	431	431	-	-	1,656	-	-	-	-	67,265	3,933	-
4b.1.2.8	Electrical - Decontaminated	-	1,744	28	67	1,404	-	-	659	3,901	3,901	-	-	15,032	-	-	-	-	610,470	35,513	-
4b.1.2.9	Emergency Diesel Engine & Oil	-	64	-	-	-	-	-	10	74	-	-	74	-	-	-	-	-	-	1,507	-
4b.1.2.10	Emergency Diesel Engine & Oil - Ins	-	2	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	62	-
4b.1.2.11	Fire Protection	-	15	-	-	-	-	-	2	17	-	-	17	-	-	-	-	-	-	394	-
4b.1.2.12	Fire Protection - RCA	-	89	1	3	61	-	-	32	185	185	-	-	652	-	-	-	-	26,473	1,701	-
4b.1.2.13	Fuel Handling HVAC	-	45	1	3	65	-	-	22	138	138	-	-	697	-	-	-	-	28,296	908	-
4b.1.2.14	Instrument Air - Insulated - RCA	-	58	1	1	26	-	-	19	105	105	-	-	280	-	-	-	-	11,377	1,259	-
4b.1.2.15	Instrument Air - RCA	-	34	0	1	17	-	-	11	63	63	-	-	177	-	-	-	-	7,206	730	-
4b.1.2.16	Miscellaneous - RCA	-	6	0	1	19	-	-	4	31	31	-	-	206	-	-	-	-	8,358	128	-
4b.1.2.17	Primary Water Makeup	-	71	-	-	-	-	-	11	82	-	-	82	-	-	-	-	-	-	1,691	-
4b.1.2.18	Reactor Coolant - Insulated	-	56	3	4	10	29	-	26	138	138	-	-	104	128	-	-	-	15,717	1,420	-
4b.1.2.19	Refueling Equipment	-	118	7	11	99	50	-	59	344	344	-	-	1,061	717	-	-	-	62,599	2,630	-
4b.1.2.20	Residual Heat Removal	-	70	46	66	227	408	-	168	985	985	-	-	2,432	3,784	-	-	-	258,731	1,612	-
4b.1.2.21	Residual Heat Removal - Insulated	-	211	22	33	141	193	-	129	729	729	-	-	1,506	846	-	-	-	137,010	4,542	-
4b.1.2.22	Service Water	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	10	-
4b.1.2.23	Service Water - RCA	-	4	0	0	4	-	-	2	9	9	-	-	44	-	-	-	-	1,802	73	-
4b.1.2.24	Spent Fuel Pool Cooling	-	92	9	13	39	80	-	52	284	284	-	-	414	355	-	-	-	48,379	1,938	-
4b.1.2.25	Spent Fuel Pool Cooling - Insulated	-	44	4	5	13	32	-	22	119	119	-	-	135	139	-	-	-	17,966	919	-
4b.1.2.26	Steam Generator Wet Layup	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	25	-
4b.1.2.27	Steam Generator Wet Layup - RCA	-	1	0	0	1	-	-	0	3	3	-	-	10	-	-	-	-	396	25	-
4b.1.2.28	Waste Disposal	-	32	2	3	10	16	-	14	78	78	-	-	109	75	-	-	-	10,883	682	-
4b.1.2.29	Waste Disposal - Insulated	-	71	5	6	10	42	-	31	164	164	-	-	108	182	-	-	-	20,685	1,473	-
4b.1.2	Totals	-	3,646	148	262	3,118	850	-	1,630	9,654	9,476	-	179	33,380	3,726	-	-	-	1,689,071	75,010	-

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
4b.1.3	Scaffolding in support of decommissioning	-	224	5	1	23	3	-	61	317	317	-	-	220	14	-	-	-	11,105	5,954	-
Decontamination of Site Buildings																					
4b.1.4.1	Containment	729	645	165	102	222	34	-	599	2,495	2,495	-	-	9,824	623	-	-	-	717,491	28,140	-
4b.1.4.2	Contaminated Soil - RPV Head Replacement	-	9	142	270	-	394	-	155	970	970	-	-	-	7,155	-	-	-	715,500	339	-
4b.1.4.3	Fuel Handling	285	316	5	9	128	6	-	244	994	994	-	-	1,375	105	-	-	-	66,395	12,739	-
4b.1.4	Totals	1,015	970	311	381	350	434	-	999	4,459	4,459	-	-	11,199	7,883	-	-	-	1,499,386	41,217	-
4b.1	Subtotal Period 4b Activity Costs	1,375	4,879	616	726	3,491	1,887	-	3,058	16,031	15,852	-	179	44,798	14,244	-	-	-	3,434,779	123,205	-
Period 4b Additional Costs																					
4b.2.1	ISFSI License Termination	-	260	4	34	-	34	747	191	1,270	-	1,270	-	-	640	-	-	-	111,939	6,468	1,280
4b.2.2	Seaweed Remediation and Disposal	-	41	4	392	-	326	-	151	914	914	-	-	-	29,650	-	-	-	593,000	494	-
4b.2	Subtotal Period 4b Additional Costs	-	301	8	426	-	360	747	342	2,184	914	1,270	-	-	30,290	-	-	-	704,939	6,962	1,280
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	7	-	8	54	-	45	-	23	137	137	-	-	-	125	-	-	-	7,499	24	-
4b.3.3	Small tool allowance	-	104	-	-	-	-	-	16	120	120	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	127	47	521	85	-	134	1,015	1,015	-	-	6,000	373	-	-	-	303,507	88	-
4b.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	93	9	102	102	-	-	-	-	-	-	-	-	-	-
4b.3.6	Fixed Overhead	-	-	-	-	-	-	2,926	439	3,365	3,365	-	-	-	-	-	-	-	-	-	-
4b.3	Subtotal Period 4b Collateral Costs	7	104	135	101	621	131	3,020	622	4,740	4,740	-	-	6,000	498	-	-	-	311,006	113	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	475	-	-	-	-	-	-	119	593	593	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	1,911	191	2,102	2,102	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	4	0	4	4	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	1,358	-	-	-	-	-	340	1,698	1,698	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	5,643	-	-	-	-	-	846	6,489	6,489	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	55	42	-	125	-	43	265	265	-	-	-	2,751	-	-	-	55,022	90	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	4,205	631	4,835	4,835	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	1,814	181	1,996	1,996	-	-	-	-	-	-	-	-	-	-
4b.4.9	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	1,025	154	1,179	1,179	-	-	-	-	-	-	-	-	-	-
4b.4.10	NEI Fees	-	-	-	-	-	-	699	70	769	769	-	-	-	-	-	-	-	-	-	-
4b.4.11	Security Staff Cost	-	-	-	-	-	-	2,298	345	2,643	2,643	-	-	-	-	-	-	-	-	-	59,217
4b.4.12	DOC Staff Cost	-	-	-	-	-	-	19,071	2,861	21,931	21,931	-	-	-	-	-	-	-	-	-	258,903
4b.4.13	Utility Staff Cost	-	-	-	-	-	-	28,869	4,330	33,199	33,199	-	-	-	-	-	-	-	-	-	462,720
4b.4	Subtotal Period 4b Period-Dependent Costs	475	7,001	55	42	-	125	59,896	10,111	77,704	77,704	-	-	-	2,751	-	-	-	55,022	90	780,840
4b.0	TOTAL PERIOD 4b COST	1,856	12,285	814	1,295	4,112	2,503	63,663	14,132	100,660	99,211	1,270	179	50,798	47,784	-	-	-	4,505,746	130,369	782,120
PERIOD 4e - Delay before License Termination																					
Period 4e Collateral Costs																					
4e.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-	-	-	-	-	-
4e.3.2	Fixed Overhead	-	-	-	-	-	-	750	112	862	862	-	-	-	-	-	-	-	-	-	-
4e.3	Subtotal Period 4e Collateral Costs	-	-	-	-	-	-	750	112	862	862	-	-	-	-	-	-	-	-	-	-
Period 4e Period-Dependent Costs																					
4e.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4e.4.2	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
4e.4.3	Health physics supplies	-	39	-	-	-	-	-	10	49	49	-	-	-	-	-	-	-	-	-	-
4e.4.4	Disposal of DAW generated	-	-	1	1	-	2	-	1	5	5	-	-	-	48	-	-	-	954	2	-
4e.4.5	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4e.4.6	NRC Fees	-	-	-	-	-	-	117	12	129	129	-	-	-	-	-	-	-	-	-	-
4e.4.7	NEI Fees	-	-	-	-	-	-	179	18	197	197	-	-	-	-	-	-	-	-	-	-
4e.4.8	Utility Staff Cost	-	-	-	-	-	-	602	50	693	693	-	-	-	-	-	-	-	-	-	9,880
4e.4	Subtotal Period 4e Period-Dependent Costs	-	39	1	1	-	2	900	131	1,073	1,073	-	-	-	48	-	-	-	954	2	9,880
4e.0	TOTAL PERIOD 4e COST	-	39	1	1	-	2	1,649	243	1,935	1,935	-	-	-	48	-	-	-	954	2	9,880
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
4f.1.2	Terminate license									a											
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-		-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	2,173	652	2,825	2,825	-	-	-	-	-	-	-	-	41,404	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	2,173	652	2,825	2,825	-	-	-	-	-	-	-	-	41,404	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,628	244	1,872	1,872	-	-	-	-	-	-	-	-	-	-
4f.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	1	1	-	-	-	-	-	-	-	-	-	-
4f.3.3	Fixed Overhead	-	-	-	-	-	-	835	125	960	960	-	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	2,463	369	2,833	2,833	-	-	-	-	-	-	-	-	-	-
Period 4f Period-Dependent Costs																					
4f.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4f.4.2	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	301	-	-	-	-	-	75	377	377	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	5	4	-	11	-	4	24	24	-	-	-	247	-	-	-	4,938	8	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	320	48	368	368	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC Fees	-	-	-	-	-	-	556	56	612	612	-	-	-	-	-	-	-	-	-	-
4f.4.7	NEI Fees	-	-	-	-	-	-	199	20	219	219	-	-	-	-	-	-	-	-	-	-
4f.4.8	Security Staff Cost	-	-	-	-	-	-	517	78	594	594	-	-	-	-	-	-	-	-	-	11,786
4f.4.9	DOC Staff Cost	-	-	-	-	-	-	3,497	524	4,021	4,021	-	-	-	-	-	-	-	-	-	46,750
4f.4.10	Utility Staff Cost	-	-	-	-	-	-	4,079	612	4,691	4,691	-	-	-	-	-	-	-	-	-	56,964
4f.4	Subtotal Period 4f Period-Dependent Costs	-	301	5	4	-	11	9,170	1,417	10,908	10,908	-	-	-	247	-	-	-	4,938	8	115,500
4f.0	TOTAL PERIOD 4f COST	-	301	5	4	-	11	13,958	2,484	16,763	16,763	-	-	-	247	-	-	-	4,938	41,412	118,620
PERIOD 4 TOTALS		2,086	32,388	9,504	10,223	9,018	29,978	118,705	42,196	254,099	248,776	1,270	4,053	107,925	93,047	376	986	487	11,436,630	374,907	1,416,432
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Containment	-	3,985	-	-	-	-	-	598	4,582	-	-	4,582	-	-	-	-	-	-	47,407	-
5b.1.1.2	Fuel Handling	-	494	-	-	-	-	-	74	569	-	-	569	-	-	-	-	-	-	6,475	-
5b.1.1.3	Miscellaneous Structures	-	176	-	-	-	-	-	26	202	-	-	202	-	-	-	-	-	-	2,637	-
5b.1.1.4	Sealwell	-	96	-	-	-	-	-	14	110	-	-	110	-	-	-	-	-	-	1,251	-
5b.1.1.5	Security Improvements	-	291	-	-	-	-	-	44	335	-	-	335	-	-	-	-	-	-	2,380	-
5b.1.1.6	Turbine	-	432	-	-	-	-	-	65	496	-	-	496	-	-	-	-	-	-	7,063	-
5b.1.1.7	Turbine Pedestal	-	457	-	-	-	-	-	69	525	-	-	525	-	-	-	-	-	-	5,055	-
5b.1.1	Totals	-	5,931	-	-	-	-	-	890	6,821	-	-	6,821	-	-	-	-	-	-	72,268	-
Site Closeout Activities																					
5b.1.2	Grade & landscape site	-	348	-	-	-	-	-	52	400	-	-	400	-	-	-	-	-	-	971	-
5b.1.3	Final report to NRC	-	-	-	-	-	-	187	28	215	215	-	-	-	-	-	-	-	-	-	1,560
5b.1	Subtotal Period 5b Activity Costs	-	6,279	-	-	-	-	187	970	7,436	215	-	7,221	-	-	-	-	-	-	73,189	1,560
Period 5b Additional Costs																					
5b.2.1	Concrete Processing	-	254	-	-	-	-	3	39	296	-	-	296	-	-	-	-	-	-	1,164	-
5b.2.2	ISFSI Demolition and Site Restoration	-	692	-	-	-	-	24	107	824	-	824	-	-	-	-	-	-	-	4,727	80
5b.2	Subtotal Period 5b Additional Costs	-	946	-	-	-	-	27	146	1,120	-	824	295	-	-	-	-	-	-	5,891	80
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	66	-	-	-	-	-	10	76	-	-	76	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	66	-	-	-	-	-	10	76	-	-	76	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	3	0	3	-	-	3	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	5,861	-	-	-	-	-	879	6,740	-	-	6,740	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	406	61	467	-	-	467	-	-	-	-	-	-	-	-
5b.4.5	Security Staff Cost	-	-	-	-	-	-	1,177	176	1,353	-	-	1,353	-	-	-	-	-	-	-	26,444
5b.4.6	DOC Staff Cost	-	-	-	-	-	-	8,526	1,279	9,805	-	-	9,805	-	-	-	-	-	-	-	105,697

Table D-1
Turkey Point Nuclear Plant, Unit 3
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 5b Period-Dependent Costs (continued)																					
5b.4.7	Utility Staff Cost	-	-	-	-	-	-	3,727	559	4,286	-	-	4,286	-	-	-	-	-	-	-	51,851
5b.4	Subtotal Period 5b Period-Dependent Costs	-	5,861	-	-	-	-	13,839	2,955	22,655	-	-	22,655	-	-	-	-	-	-	-	183,993
5b.0	TOTAL PERIOD 5b COST	-	13,152	-	-	-	-	14,053	4,081	31,286	215	824	30,247	-	-	-	-	-	-	79,080	185,633
PERIOD 5 TOTALS		-	13,152	-	-	-	-	14,053	4,081	31,286	215	824	30,247	-	-	-	-	-	-	79,080	185,633
TOTAL COST TO DECOMMISSION		5,557	53,838	10,274	11,163	14,353	30,916	594,397	117,107	837,605	659,685	142,100	35,820	131,257	102,407	376	986	487	12,923,080	540,250	5,293,609

TOTAL COST TO DECOMMISSION WITH 16.25% CONTINGENCY:	$837,605	thousands of 2010 dollars
TOTAL NRC LICENSE TERMINATION COST IS 78.76% OR:	$659,685	thousands of 2010 dollars
SPENT FUEL MANAGEMENT COST IS 16.96% OR:	$142,100	thousands of 2010 dollars
NON-NUCLEAR DEMOLITION COST IS 4.28% OR:	$35,820	thousands of 2010 dollars
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):	103,769	cubic feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	487	cubic feet
TOTAL SCRAP METAL REMOVED:	32,574	tons
TOTAL CRAFT LABOR REQUIREMENTS:	540,250	man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense.
a - indicates that this activity performed by decommissioning staff.
0 - indicates that this value is less than 0.5 but is non-zero.
a cell containing " - " indicates a zero value

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	338	101	439	439	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	67	10	77	77	-	-	-	-	-	-	-	-	-	556
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	103	15	118	118	-	-	-	-	-	-	-	-	-	856
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	67	10	77	77	-	-	-	-	-	-	-	-	-	556
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
1a.1.11	End product description	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	77	12	89	89	-	-	-	-	-	-	-	-	-	642
1a.1.13	Define major work sequence	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
1a.1.14	Perform SER and EA	-	-	-	-	-	-	159	24	183	183	-	-	-	-	-	-	-	-	-	1,327
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	257	39	295	295	-	-	-	-	-	-	-	-	-	2,140
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	2,106
1a.1.16.2	Plant systems	-	-	-	-	-	-	214	32	246	246	-	-	-	-	-	-	-	-	-	1,783
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	160	24	184	184	-	-	-	-	-	-	-	-	-	1,335
1a.1.16.4	Waste management	-	-	-	-	-	-	103	15	118	118	-	-	-	-	-	-	-	-	-	856
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	103	15	118	118	-	-	-	-	-	-	-	-	-	856
1a.1.16	Total	-	-	-	-	-	-	832	125	957	957	-	-	-	-	-	-	-	-	-	6,936
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	61	9	70	70	-	-	-	-	-	-	-	-	-	506
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	514
1a.1.17	Total	-	-	-	-	-	-	122	18	141	141	-	-	-	-	-	-	-	-	-	1,020
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	5	1	6	6	-	-	-	-	-	-	-	-	-	43
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	2,181	378	2,559	2,559	-	-	-	-	-	-	-	-	-	15,361
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	984	148	1,132	-	1,132	-	-	-	-	-	-	-	-	-
1a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
1a.3.3	Fixed Overhead	-	-	-	-	-	-	1,108	166	1,274	1,274	-	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	2,093	314	2,407	1,275	1,132	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,526	153	1,678	1,678	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	44	4	48	48	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	337	-	-	-	-	-	84	421	421	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	522	-	-	-	-	-	78	601	601	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	9	7	-	21	-	7	44	44	-	-	-	458	-	-	-	9,158	15	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	2,123	318	2,441	2,441	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	485	48	533	533	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	602	60	662	-	662	-	-	-	-	-	-	-	-	-
1a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	764	115	878	-	878	-	-	-	-	-	-	-	-	-
1a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-
1a.4.11	INPO Fees	-	-	-	-	-	-	722	72	794	794	-	-	-	-	-	-	-	-	-	-
1a.4.12	NEI Fees	-	-	-	-	-	-	265	26	291	291	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	6,313	947	7,259	7,259	-	-	-	-	-	-	-	-	-	157,471
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	22,579	3,387	25,966	25,966	-	-	-	-	-	-	-	-	-	363,144
1a.4	Subtotal Period 1a Period-Dependent Costs	-	859	9	7	-	21	35,465	5,307	41,668	40,077	1,591	-	-	458	-	-	-	9,158	15	520,615
1a.0	TOTAL PERIOD 1a COST	-	859	9	7	-	21	39,739	5,999	46,634	43,911	2,723	-	-	458	-	-	-	9,158	15	535,976

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1b - SAFSTOR United DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Containment	801	-	-	-	-	-	-	401	1,202	1,202	-	-	-	-	-	-	-	-	17,275	-
1b.1.1.2	Auxiliary	366	-	-	-	-	-	-	183	549	549	-	-	-	-	-	-	-	-	8,218	-
1b.1.1.3	Fuel Handling	316	-	-	-	-	-	-	158	474	474	-	-	-	-	-	-	-	-	6,269	-
1b.1.1.4	Miscellaneous Structures - Contaminated	8	-	-	-	-	-	-	4	12	12	-	-	-	-	-	-	-	-	176	-
1b.1.1.5	Radwaste Solidification	103	-	-	-	-	-	-	52	155	155	-	-	-	-	-	-	-	-	2,249	-
1b.1.1	Totals	1,595	-	-	-	-	-	-	797	2,392	2,392	-	-	-	-	-	-	-	-	34,186	-
1b.1	Subtotal Period 1b Activity Costs	1,595	-	-	-	-	-	-	797	2,392	2,392	-	-	-	-	-	-	-	-	34,186	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	879	-	-	-	-	-	-	132	1,011	1,011	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	104	-	46	307	-	259	-	167	884	884	-	-	-	714	-	-	-	42,854	139	-
1b.3.4	Small tool allowance	-	27	-	-	-	-	-	4	31	31	-	-	-	-	-	-	-	-	-	-
1b.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	2	0	2	2	-	-	-	-	-	-	-	-	-	-
1b.3.6	Fixed Overhead	-	-	-	-	-	-	279	42	321	321	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	983	27	46	307	-	259	282	345	2,249	2,249	-	-	-	714	-	-	-	42,854	139	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	575	-	-	-	-	-	-	144	719	719	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	385	38	423	423	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	236	-	-	-	-	-	59	294	294	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	132	-	-	-	-	-	20	151	151	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	9	7	-	20	-	7	43	43	-	-	-	449	-	-	-	8,978	15	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	535	80	615	615	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	122	12	134	134	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	152	15	167	-	167	-	-	-	-	-	-	-	-	-
1b.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	193	29	221	-	221	-	-	-	-	-	-	-	-	-
1b.4.11	ISFSI Operating Costs	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
1b.4.12	NEI Fees	-	-	-	-	-	-	67	7	73	73	-	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	1,591	239	1,830	1,830	-	-	-	-	-	-	-	-	-	39,691
1b.4.14	Utility Staff Cost	-	-	-	-	-	-	6,776	1,016	7,792	7,792	-	-	-	-	-	-	-	-	-	106,720
1b.4	Subtotal Period 1b Period-Dependent Costs	575	367	9	7	-	20	9,831	1,668	12,477	12,076	401	-	-	449	-	-	-	8,978	15	146,411
1b.0	TOTAL PERIOD 1b COST	3,153	394	55	314	-	280	10,112	2,811	17,118	16,717	401	-	-	1,163	-	-	-	51,832	34,340	146,411
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	407	-	-	-	-	-	61	468	468	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	36	-	-	-	-	-	5	41	41	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	16,133	-
1c.1.4	Secure building accesses									a											
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	30	4	34	34	-	-	-	-	-	-	-	-	-	250
1c.1	Subtotal Period 1c Activity Costs	-	443	-	-	-	-	763	291	1,496	1,496	-	-	-	-	-	-	-	-	19,833	250
Period 1c Additional Costs																					
1c.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	6,654	998	7,652	7,652	-	-	-	-	-	-	-	-	-	-
1c.2.2	Mixed/Hazardous Waste	-	-	535	144	5,335	-	-	875	6,889	6,889	-	-	23,332	-	-	-	-	1,232,428	4,905	-
1c.2.3	Asbestos Removal Program	-	603	25	55	-	127	8	194	1,012	1,012	-	-	-	2,207	-	-	-	49,898	7,001	-
1c.2	Subtotal Period 1c Additional Costs	-	603	560	199	5,335	127	6,661	2,068	15,553	15,553	-	-	23,332	2,207	-	-	-	1,282,326	11,906	-
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	124	-	55	368	-	310	-	200	1,057	1,057	-	-	-	855	-	-	-	51,310	167	-
1c.3.3	Small tool allowance	-	10	-	-	-	-	-	2	12	12	-	-	-	-	-	-	-	-	-	-
1c.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	2	0	2	2	-	-	-	-	-	-	-	-	-	-
1c.3.5	Fixed Overhead	-	-	-	-	-	-	282	42	325	325	-	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	124	10	55	368	-	310	284	244	1,396	1,396	-	-	-	855	-	-	-	51,310	167	-

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	389	39	428	428	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	226	-	-	-	-	-	57	283	283	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	133	-	-	-	-	-	20	153	153	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	2	2	-	6	-	2	12	12	-	-	-	126	-	-	-	2,511	4	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	541	81	622	622	-	-	-	-	-	-	-	-	-	-
1c.4.7	NRC Fees	-	-	-	-	-	-	124	12	136	136	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	153	15	169	-	169	-	-	-	-	-	-	-	-	-
1c.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	195	29	224	-	224	-	-	-	-	-	-	-	-	-
1c.4.10	ISFSI Operating Costs	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
1c.4.11	NEI Fees	-	-	-	-	-	-	67	7	74	74	-	-	-	-	-	-	-	-	-	-
1c.4.12	Security Staff Cost	-	-	-	-	-	-	1,608	241	1,850	1,850	-	-	-	-	-	-	-	-	-	40,123
1c.4.13	Utility Staff Cost	-	-	-	-	-	-	6,849	1,027	7,877	7,877	-	-	-	-	-	-	-	-	-	107,880
1c.4	Subtotal Period 1c Period-Dependent Costs	-	359	2	2	-	6	9,938	1,532	11,840	11,434	405	-	-	126	-	-	-	2,511	4	148,003
1c.0	TOTAL PERIOD 1c COST	124	1,415	618	568	5,335	443	17,646	4,136	30,286	29,880	405	-	23,332	3,188	-	-	-	1,336,147	31,909	148,253
PERIOD 1 TOTALS		3,277	2,669	682	889	5,335	744	67,497	12,945	94,038	90,508	3,529	-	23,332	4,809	-	-	-	1,397,137	66,264	830,640
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly inspection									a											
2a.1.2	Semi-annual environmental survey									a											
2a.1.3	Prepare reports									a											
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	167	25	193	193	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	503	126	629	629	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	670	151	821	821	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	58,987	8,848	67,835	-	67,835	-	-	-	-	-	-	-	-	-
2a.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2a.3.3	Fixed Overhead	-	-	-	-	-	-	4,432	665	5,097	5,097	-	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	63,421	9,513	72,934	5,098	67,835	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	2,894	289	3,183	2,776	407	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	530	-	-	-	-	-	132	662	662	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	13	10	-	31	-	11	65	65	-	-	-	678	-	-	-	13,550	22	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	1,698	255	1,953	976	976	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	677	68	745	745	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	1,632	163	1,796	-	1,796	-	-	-	-	-	-	-	-	-
2a.4.8	Spent Fuel Pool O&M	-	-	-	-	-	-	3,055	458	3,514	-	3,514	-	-	-	-	-	-	-	-	-
2a.4.9	ISFSI Operating Costs	-	-	-	-	-	-	177	27	204	-	204	-	-	-	-	-	-	-	-	-
2a.4.10	NEI Fees	-	-	-	-	-	-	1,058	106	1,164	1,164	-	-	-	-	-	-	-	-	-	-
2a.4.11	Security Staff Cost	-	-	-	-	-	-	16,562	2,484	19,046	3,106	15,941	-	-	-	-	-	-	-	-	407,882
2a.4.12	Utility Staff Cost	-	-	-	-	-	-	21,098	3,165	24,263	3,573	20,690	-	-	-	-	-	-	-	-	313,608
2a.4	Subtotal Period 2a Period-Dependent Costs	-	530	13	10	-	31	48,859	7,159	56,602	13,074	43,528	-	-	678	-	-	-	13,550	22	721,490
2a.0	TOTAL PERIOD 2a COST	-	530	13	10	-	31	112,950	16,822	130,357	18,993	111,363	-	-	678	-	-	-	13,550	22	721,490
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly inspection									a											
2b.1.2	Semi-annual environmental survey									a											
2b.1.3	Prepare reports									a											
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	1,433	215	1,648	1,648	-	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	4,305	1,076	5,381	5,381	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	5,738	1,291	7,029	7,029	-	-	-	-	-	-	-	-	-	-

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	24,592	3,689	28,280	-	28,280	-	-	-	-	-	-	-	-	-
2b.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	5	0	5	5	-	-	-	-	-	-	-	-	-	-
2b.3.3	Fixed Overhead	-	-	-	-	-	-	37,946	5,692	43,638	43,638	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	62,543	9,381	71,924	43,643	28,280	-	-	-	-	-	-	-	-	-
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	22,339	2,234	24,572	23,769	804	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	2,048	-	-	-	-	-	512	2,561	2,561	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	50	39	-	116	-	40	245	245	-	-	-	2,538	-	-	-	50,750	83	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	7,270	1,090	8,360	8,360	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	5,795	580	6,375	6,375	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	13,977	1,398	15,375	-	15,375	-	-	-	-	-	-	-	-	-
2b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	1,520	228	1,747	-	1,747	-	-	-	-	-	-	-	-	-
2b.4.9	NEI Fees	-	-	-	-	-	-	9,060	906	9,966	9,966	-	-	-	-	-	-	-	-	-	-
2b.4.10	Security Staff Cost	-	-	-	-	-	-	40,861	6,129	46,990	26,588	20,401	-	-	-	-	-	-	-	-	964,286
2b.4.11	Utility Staff Cost	-	-	-	-	-	-	45,550	6,833	52,383	30,590	21,793	-	-	-	-	-	-	-	-	714,286
2b.4	Subtotal Period 2b Period-Dependent Costs	-	2,048	50	39	-	116	146,423	19,954	168,631	108,511	60,120	-	-	2,538	-	-	-	50,750	83	1,678,571
2b.0	TOTAL PERIOD 2b COST	-	2,048	50	39	-	116	214,704	30,627	247,584	159,183	88,400	-	-	2,538	-	-	-	50,750	83	1,678,571
PERIOD 2c - SAFSTOR Dormancy without Spent Fuel Storage																					
Period 2c Direct Decommissioning Activities																					
2c.1.1	Quarterly inspection									a											
2c.1.2	Semi-annual environmental survey									a											
2c.1.3	Prepare reports									a											
2c.1.4	Bituminous roof replacement	-	-	-	-	-	-	563	84	647	647	-	-	-	-	-	-	-	-	-	-
2c.1.5	Maintenance supplies	-	-	-	-	-	-	1,690	423	2,113	2,113	-	-	-	-	-	-	-	-	-	-
2c.1	Subtotal Period 2c Activity Costs	-	-	-	-	-	-	2,253	507	2,760	2,760	-	-	-	-	-	-	-	-	-	-
Period 2c Collateral Costs																					
2c.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	2	0	2	2	-	-	-	-	-	-	-	-	-	-
2c.3.2	Fixed Overhead	-	-	-	-	-	-	14,899	2,235	17,134	17,134	-	-	-	-	-	-	-	-	-	-
2c.3	Subtotal Period 2c Collateral Costs	-	-	-	-	-	-	14,901	2,235	17,136	17,136	-	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	8,484	848	9,332	9,332	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	21	2	23	23	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	768	-	-	-	-	-	192	960	960	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	19	14	-	43	-	15	90	90	-	-	-	936	-	-	-	18,718	31	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	2,854	428	3,282	3,282	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	2,157	216	2,373	2,373	-	-	-	-	-	-	-	-	-	-
2c.4.7	NEI Fees	-	-	-	-	-	-	3,557	356	3,913	3,913	-	-	-	-	-	-	-	-	-	-
2c.4.8	Security Staff Cost	-	-	-	-	-	-	9,078	1,362	10,440	10,440	-	-	-	-	-	-	-	-	-	200,807
2c.4.9	Utility Staff Cost	-	-	-	-	-	-	10,444	1,567	12,011	12,011	-	-	-	-	-	-	-	-	-	175,847
2c.4	Subtotal Period 2c Period-Dependent Costs	-	768	19	14	-	43	36,596	4,985	42,424	42,424	-	-	-	936	-	-	-	18,718	31	376,654
2c.0	TOTAL PERIOD 2c COST	-	768	19	14	-	43	53,750	7,727	62,320	62,320	-	-	-	936	-	-	-	18,718	31	376,654
PERIOD 2 TOTALS		-	3,346	82	63	-	189	381,404	55,176	440,260	240,497	199,763	-	-	4,151	-	-	-	83,018	135	2,776,716
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	67	10	77	77	-	-	-	-	-	-	-	-	-	556
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	236	35	272	272	-	-	-	-	-	-	-	-	-	1,969
3a.1.3	Perform detailed rad survey									a											
3a.1.4	End product description	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	67	10	77	77	-	-	-	-	-	-	-	-	-	556
3a.1.6	Define major work sequence	-	-	-	-	-	-	385	58	443	443	-	-	-	-	-	-	-	-	-	3,210
3a.1.7	Perform SER and EA	-	-	-	-	-	-	159	24	183	183	-	-	-	-	-	-	-	-	-	1,327
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	257	39	295	295	-	-	-	-	-	-	-	-	-	2,140
3a.1.9	Prepare/submit License Termination Plan	-	-	-	-	-	-	210	32	242	242	-	-	-	-	-	-	-	-	-	1,753

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
3a.1.10	Receive NRC approval of termination plan									a											
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	379	57	435	392	-	44	-	-	-	-	-	-	-	3,154
3a.1.11.2	Plant systems	-	-	-	-	-	-	214	32	246	221	-	25	-	-	-	-	-	-	-	1,783
3a.1.11.3	Reactor internals	-	-	-	-	-	-	365	55	419	419	-	-	-	-	-	-	-	-	-	3,039
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	334	50	384	384	-	-	-	-	-	-	-	-	-	2,782
3a.1.11.5	Biological shield	-	-	-	-	-	-	26	4	30	30	-	-	-	-	-	-	-	-	-	214
3a.1.11.6	Steam generators	-	-	-	-	-	-	160	24	184	184	-	-	-	-	-	-	-	-	-	1,335
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	82	12	95	47	-	47	-	-	-	-	-	-	-	685
3a.1.11.8	Main Turbine	-	-	-	-	-	-	21	3	24	-	-	24	-	-	-	-	-	-	-	171
3a.1.11.9	Main Condensers	-	-	-	-	-	-	21	3	24	-	-	24	-	-	-	-	-	-	-	171
3a.1.11.10	Plant structures & buildings	-	-	-	-	-	-	160	24	184	92	-	92	-	-	-	-	-	-	-	1,335
3a.1.11.11	Waste management	-	-	-	-	-	-	236	35	272	272	-	-	-	-	-	-	-	-	-	1,969
3a.1.11.12	Facility & site closeout	-	-	-	-	-	-	46	7	53	27	-	27	-	-	-	-	-	-	-	385
3a.1.11	Total	-	-	-	-	-	-	2,043	306	2,349	2,068	-	281	-	-	-	-	-	-	-	17,024
Planning & Site Preparations																					
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	123	18	142	142	-	-	-	-	-	-	-	-	-	1,027
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	2,800	420	3,220	3,220	-	-	-	-	-	-	-	-	-	-
3a.1.14	Design water clean-up system	-	-	-	-	-	-	72	11	83	83	-	-	-	-	-	-	-	-	-	599
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,200	330	2,530	2,530	-	-	-	-	-	-	-	-	-	-
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	63	9	73	73	-	-	-	-	-	-	-	-	-	526
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	8,734	1,310	10,044	9,763	-	281	-	-	-	-	-	-	-	31,117
3a.2	Subtotal Period 3a Additional Costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Period 3a Collateral Costs																					
3a.3.1	Florida LLRW Inspection Fee	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
3a.3.2	Fixed Overhead	-	-	-	-	-	-	1,108	166	1,274	1,274	-	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	-	-	-	-	-	1,109	166	1,275	1,275	-	-	-	-	-	-	-	-	-	-
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	631	63	694	694	-	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	2	0	2	2	-	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	280	-	-	-	-	-	70	350	350	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	522	-	-	-	-	-	78	601	601	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	7	6	-	17	-	6	35	35	-	-	-	364	-	-	-	7,277	12	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	2,123	318	2,441	2,441	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC Fees	-	-	-	-	-	-	208	21	229	229	-	-	-	-	-	-	-	-	-	-
3a.4.8	NEI Fees	-	-	-	-	-	-	265	26	291	291	-	-	-	-	-	-	-	-	-	-
3a.4.9	Security Staff Cost	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	6,257
3a.4.10	Utility Staff Cost	-	-	-	-	-	-	12,410	1,861	14,271	14,271	-	-	-	-	-	-	-	-	-	200,229
3a.4	Subtotal Period 3a Period-Dependent Costs	-	802	7	6	-	17	15,880	2,481	19,192	19,192	-	-	-	364	-	-	-	7,277	12	206,486
3a.0	TOTAL PERIOD 3a COST	-	802	7	6	-	17	25,723	3,957	30,512	30,230	-	281	-	364	-	-	-	7,277	12	237,603
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	243	36	280	252	-	28	-	-	-	-	-	-	-	2,026
3b.1.1.2	Reactor Internals	-	-	-	-	-	-	128	19	148	148	-	-	-	-	-	-	-	-	-	1,070
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	69	10	80	20	-	60	-	-	-	-	-	-	-	578
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	51	8	59	59	-	-	-	-	-	-	-	-	-	428
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	186	28	214	214	-	-	-	-	-	-	-	-	-	1,554
3b.1.1.8	Facility closeout	-	-	-	-	-	-	62	9	71	35	-	35	-	-	-	-	-	-	-	514
3b.1.1.9	Missile shields	-	-	-	-	-	-	23	3	27	27	-	-	-	-	-	-	-	-	-	193
3b.1.1.10	Biological shield	-	-	-	-	-	-	62	9	71	71	-	-	-	-	-	-	-	-	-	514
3b.1.1.11	Steam generators	-	-	-	-	-	-	236	35	272	272	-	-	-	-	-	-	-	-	-	1,969
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	51	8	59	30	-	30	-	-	-	-	-	-	-	428
3b.1.1.13	Main Turbine	-	-	-	-	-	-	80	12	92	-	-	92	-	-	-	-	-	-	-	668

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed WL, Lbs.	Craft Manhours	Utility and Contractor Manhours
Detailed Work Procedures (continued)																					
3b.1.1.14	Main Condensers	-	-	-	-	-	-	80	12	92	-	-	92	-	-	-	-	-	-	-	668
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	140	21	161	145	-	16	-	-	-	-	-	-	-	1,168
3b.1.1.16	Reactor building	-	-	-	-	-	-	140	21	161	145	-	16	-	-	-	-	-	-	-	1,168
3b.1.1	Total	-	-	-	-	-	-	1,656	248	1,904	1,535	-	369	-	-	-	-	-	-	-	13,800
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	1,656	248	1,904	1,535	-	369	-	-	-	-	-	-	-	13,800
Period 3b Additional Costs																					
3b.2.1	Site Characterization	-	-	-	-	-	-	2,173	652	2,825	2,825	-	-	-	-	-	-	-	-	13,042	4,640
3b.2	Subtotal Period 3b Additional Costs	-	-	-	-	-	-	2,173	652	2,825	2,825	-	-	-	-	-	-	-	-	13,042	4,640
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	879	-	-	-	-	-	-	132	1,011	1,011	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,628	244	1,872	1,872	-	-	-	-	-	-	-	-	-	-
3b.3.3	Pipe cutting equipment	-	1,100	-	-	-	-	-	165	1,265	1,265	-	-	-	-	-	-	-	-	-	-
3b.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-	-	-	-	-	-
3b.3.5	Fixed Overhead	-	-	-	-	-	-	562	84	646	646	-	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	879	1,100	-	-	-	-	2,190	625	4,794	4,794	-	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	27	-	-	-	-	-	-	7	34	34	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	367	37	403	403	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	157	-	-	-	-	-	39	196	196	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	265	-	-	-	-	-	40	304	304	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	4	3	-	10	-	3	20	20	-	-	-	209	-	-	-	4,189	7	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	1,076	161	1,237	1,237	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC Fees	-	-	-	-	-	-	105	11	116	116	-	-	-	-	-	-	-	-	-	-
3b.4.9	NEI Fees	-	-	-	-	-	-	134	13	147	147	-	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	123	18	142	142	-	-	-	-	-	-	-	-	-	3,171
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	3,230	484	3,714	3,714	-	-	-	-	-	-	-	-	-	43,343
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	6,290	943	7,233	7,233	-	-	-	-	-	-	-	-	-	101,486
3b.4	Subtotal Period 3b Period-Dependent Costs	27	422	4	3	-	10	11,325	1,758	13,549	13,549	-	-	-	209	-	-	-	4,189	7	148,000
3b.0	TOTAL PERIOD 3b COST	906	1,522	4	3	-	10	17,345	3,283	23,073	22,703	-	369	-	209	-	-	-	4,189	13,049	166,440
PERIOD 3 TOTALS		906	2,324	11	9	-	26	43,067	7,240	53,584	52,934	-	651	-	573	-	-	-	11,465	13,061	404,043
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	10	37	8	8	51	62	-	40	216	216	-	-	201	213	-	-	-	46,608	1,055	-
4a.1.1.2	Pressurizer Relief Tank	4	17	5	5	34	38	-	22	125	125	-	-	133	133	-	-	-	29,424	480	-
4a.1.1.3	Reactor Coolant Pumps & Motors	9	58	34	118	-	657	-	204	1,079	1,079	-	-	-	2,396	-	-	-	555,300	1,924	80
4a.1.1.4	Pressurizer	7	51	344	88	-	805	-	265	1,559	1,559	-	-	-	2,937	-	-	-	214,354	1,495	750
4a.1.1.5	Steam Generators	44	3,064	1,212	3,539	1,871	3,421	-	2,581	15,753	15,753	-	-	26,258	12,483	-	-	-	2,143,159	9,661	1,125
4a.1.1.6	Retired Steam Generator Units	-	-	75	3,416	-	3,421	-	1,375	8,288	8,288	-	-	-	12,483	-	-	-	1,364,708	-	1,125
4a.1.1.7	CRDMs/ICIs/Service Structure Removal	25	67	180	50	64	118	-	94	599	599	-	-	753	2,540	-	-	-	74,266	1,893	-
4a.1.1.8	Reactor Vessel Internals	66	1,913	5,496	1,089	-	7,155	185	6,719	22,624	22,624	-	-	-	757	376	986	-	224,278	18,833	885
4a.1.1.9	Vessel & Internals GTCC Disposal	-	-	-	-	-	9,743	-	1,461	11,204	11,204	-	-	-	-	-	-	487	100,132	-	-
4a.1.1.10	Reactor Vessel	-	3,825	1,020	392	-	1,738	185	4,118	11,278	11,278	-	-	-	7,815	-	-	-	796,882	18,833	885
4a.1.1	Totals	166	9,052	8,375	8,705	2,021	27,157	370	16,880	72,725	72,725	-	-	27,344	41,757	376	986	487	5,549,111	54,174	4,851
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	239	93	23	482	-	-	145	982	982	-	-	4,881	-	-	-	-	209,740	5,215	-
4a.1.3	Main Condensers	-	834	109	27	571	-	-	309	1,850	1,850	-	-	5,513	-	-	-	-	248,093	18,250	-
Cascading Costs from Clean Building Demolition																					
4a.1.4.1	Containment	-	692	-	-	-	-	-	104	796	796	-	-	-	-	-	-	-	-	8,183	-
4a.1.4.2	Auxiliary	-	115	-	-	-	-	-	17	133	133	-	-	-	-	-	-	-	-	1,652	-
4a.1.4.3	Fuel Handling	-	52	-	-	-	-	-	8	60	60	-	-	-	-	-	-	-	-	663	-
4a.1.4.4	Miscellaneous Structures - Contaminated	-	5	-	-	-	-	-	1	6	6	-	-	-	-	-	-	-	-	76	-
4a.1.4.5	Radwaste Solidification	-	83	-	-	-	-	-	12	95	95	-	-	-	-	-	-	-	-	1,106	-

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
4a.1.4	Totals	-	948	-	-	-	-	-	142	1,090	1,090	-	-	-	-	-	-	-	-	11,679	-
Disposal of Plant Systems																					
4a.1.5.1	Amertap	-	76	-	-	-	-	-	11	87	-	-	87	-	-	-	-	-	-	1,847	-
4a.1.5.2	Auxiliary Feedwater	-	15	-	-	-	-	-	2	17	-	-	17	-	-	-	-	-	-	352	-
4a.1.5.3	Auxiliary Feedwater - Insulated	-	25	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	623	-
4a.1.5.4	Auxiliary Feedwater - Insulated - RCA	-	165	2	5	102	-	-	58	332	332	-	-	1,095	-	-	-	-	44,472	3,516	-
4a.1.5.5	Auxiliary Feedwater - RCA	-	35	0	1	23	-	-	12	72	72	-	-	244	-	-	-	-	9,925	728	-
4a.1.5.6	Auxiliary Steam	-	1	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	34	-
4a.1.5.7	Auxiliary Steam - Insulated	-	41	-	-	-	-	-	6	48	-	-	48	-	-	-	-	-	-	1,031	-
4a.1.5.8	Auxiliary Steam - Insulated - RCA	-	9	0	0	7	-	-	3	20	20	-	-	79	-	-	-	-	3,221	180	-
4a.1.5.9	Auxiliary Steam - RCA	-	0	0	0	0	-	-	0	0	0	-	-	1	-	-	-	-	59	5	-
4a.1.5.10	Breathing Air - Insulated - RCA	-	5	0	0	2	-	-	1	8	8	-	-	24	-	-	-	-	961	98	-
4a.1.5.11	Breathing Air - RCA	-	66	1	3	69	-	-	28	168	168	-	-	738	-	-	-	-	29,977	1,425	-
4a.1.5.12	Chemical & Volume Control	-	414	44	63	560	271	-	269	1,622	1,622	-	-	5,999	1,534	-	-	-	349,990	9,236	-
4a.1.5.13	Chemical & Volume Control - Insulated	-	415	19	28	51	191	-	165	870	870	-	-	550	835	-	-	-	97,197	8,874	-
4a.1.5.14	Circulating Water	-	110	-	-	-	-	-	17	127	-	-	127	-	-	-	-	-	-	2,697	-
4a.1.5.15	Component Cooling Water	-	193	-	-	-	-	-	29	222	-	-	222	-	-	-	-	-	-	4,791	-
4a.1.5.16	Component Cooling Water - RCA	-	449	15	36	769	-	-	234	1,504	1,504	-	-	8,229	-	-	-	-	334,203	9,421	-
4a.1.5.17	Condensate	-	196	-	-	-	-	-	29	225	-	-	225	-	-	-	-	-	-	4,701	-
4a.1.5.18	Condensate - Insulated	-	76	-	-	-	-	-	11	87	-	-	87	-	-	-	-	-	-	1,892	-
4a.1.5.19	Condensate Polishing	-	33	-	-	-	-	-	5	38	-	-	38	-	-	-	-	-	-	784	-
4a.1.5.20	Condensate Polishing - Ins	-	99	-	-	-	-	-	15	114	-	-	114	-	-	-	-	-	-	2,448	-
4a.1.5.21	Condensate Recovery	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	554	-
4a.1.5.22	Condensate Recovery - Insulated	-	4	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	99	-
4a.1.5.23	Condensate Recovery - Insulated - RCA	-	8	0	0	4	-	-	3	15	15	-	-	43	-	-	-	-	1,728	167	-
4a.1.5.24	Condensate Recovery - RCA	-	28	0	1	15	-	-	9	54	54	-	-	166	-	-	-	-	6,731	572	-
4a.1.5.25	Condensate Storage	-	71	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,651	-
4a.1.5.26	Condenser	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	636	-
4a.1.5.27	Containment Post Accident Eval	-	13	0	0	7	-	-	4	25	25	-	-	78	-	-	-	-	3,171	284	-
4a.1.5.28	Containment Post Accident Eval - Ins	-	21	0	1	11	-	-	7	40	40	-	-	121	-	-	-	-	4,898	422	-
4a.1.5.29	Containment Purge	-	42	2	4	91	-	-	25	164	164	-	-	972	-	-	-	-	39,455	864	-
4a.1.5.30	Electrical - Clean	-	2,034	-	-	-	-	-	305	2,339	-	-	2,339	-	-	-	-	-	-	47,559	-
4a.1.5.31	Extraction Steam	-	13	-	-	-	-	-	2	15	-	-	15	-	-	-	-	-	-	317	-
4a.1.5.32	Extraction Steam - Insulated	-	76	-	-	-	-	-	11	87	-	-	87	-	-	-	-	-	-	1,908	-
4a.1.5.33	Feedwater	-	137	-	-	-	-	-	20	157	-	-	157	-	-	-	-	-	-	3,134	-
4a.1.5.34	Feedwater - Insulated	-	227	-	-	-	-	-	34	261	-	-	261	-	-	-	-	-	-	5,619	-
4a.1.5.35	Feedwater - Insulated - RCA	-	98	3	6	134	-	-	46	287	287	-	-	1,437	-	-	-	-	58,357	2,084	-
4a.1.5.36	Feedwater - RCA	-	9	0	1	13	-	-	4	28	28	-	-	143	-	-	-	-	5,790	197	-
4a.1.5.37	Feedwater Heater Drains & Vents	-	50	-	-	-	-	-	7	57	-	-	57	-	-	-	-	-	-	1,202	-
4a.1.5.38	Feedwater Heater Drains & Vents - Ins	-	364	-	-	-	-	-	55	419	-	-	419	-	-	-	-	-	-	9,047	-
4a.1.5.39	Generator	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	126	-
4a.1.5.40	Generator - Insulated	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	47	-
4a.1.5.41	HVAC - Clean	-	157	-	-	-	-	-	24	181	-	-	181	-	-	-	-	-	-	4,217	-
4a.1.5.42	Instrument Air	-	21	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	501	-
4a.1.5.43	Instrument Air - Insulated	-	18	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	445	-
4a.1.5.44	Intake Cooling Water	-	200	-	-	-	-	-	30	230	-	-	230	-	-	-	-	-	-	4,964	-
4a.1.5.45	Main Steam - Insulated	-	194	-	-	-	-	-	29	223	-	-	223	-	-	-	-	-	-	4,732	-
4a.1.5.46	Main Steam - Insulated - RCA	-	53	2	4	87	-	-	27	173	173	-	-	934	-	-	-	-	37,923	1,134	-
4a.1.5.47	Nitrogen & Hydrogen	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	27	-
4a.1.5.48	Nitrogen & Hydrogen - RCA	-	1	0	0	1	-	-	0	3	3	-	-	10	-	-	-	-	396	25	-
4a.1.5.49	Safety Injection	-	184	7	17	360	-	-	103	672	672	-	-	3,857	-	-	-	-	156,645	4,107	-
4a.1.5.50	Safety Injection - Insulated	-	137	3	7	150	-	-	58	355	355	-	-	1,610	-	-	-	-	65,368	2,877	-
4a.1.5.51	Sample - NSSS	-	42	0	1	14	-	-	13	70	70	-	-	153	-	-	-	-	6,224	1,027	-
4a.1.5.52	Sample - NSSS - Ins	-	52	0	0	9	-	-	14	75	75	-	-	93	-	-	-	-	3,762	1,303	-
4a.1.5.53	Screen Wash	-	32	-	-	-	-	-	5	37	-	-	37	-	-	-	-	-	-	757	-
4a.1.5.54	Secondary Sample	-	4	-	-	-	-	-	1	4	-	-	4	-	-	-	-	-	-	87	-
4a.1.5.55	Secondary Sample - RCA	-	4	0	0	2	-	-	1	7	7	-	-	19	-	-	-	-	760	85	-
4a.1.5.56	Secondary Wet Layup	-	22	-	-	-	-	-	3	25	-	-	25	-	-	-	-	-	-	543	-
4a.1.5.57	Secondary Wet Layup - RCA	-	18	0	1	14	-	-	7	41	41	-	-	155	-	-	-	-	6,280	375	-
4a.1.5.58	Turbine Building HVAC	-	18	-	-	-	-	-	3	21	-	-	21	-	-	-	-	-	-	451	-
4a.1.5.59	Turbine Lube Oil	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	1,197	-
4a.1.5.60	Turbine Plant Chemical Addition	-	4	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	112	-
4a.1.5.61	Turbine Plant Cooling Water	-	99	-	-	-	-	-	15	114	-	-	114	-	-	-	-	-	-	2,416	-
4a.1.5.62	Turbine Plant Cooling Water - Insulated	-	58	-	-	-	-	-	9	67	-	-	67	-	-	-	-	-	-	1,440	-

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Llc. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
4a.1.5.63	Turbine Steam	-	87	-	-	-	-	-	13	100	-	-	100	-	-	-	-	-	-	2,165	-
4a.1.5.64	Turbine Steam - Insulated	-	40	-	-	-	-	-	6	46	-	-	46	-	-	-	-	-	-	1,009	-
4a.1.5	Totals	-	7,167	101	181	2,498	462	-	1,829	12,238	6,602	-	5,636	26,748	2,368	-	-	-	1,267,493	167,166	-
4a.1.6	Scaffolding in support of decommissioning	-	355	9	3	42	6	-	98	513	513	-	-	407	25	-	-	-	20,580	9,387	-
4a.1	Subtotal Period 4a Activity Costs	166	18,595	8,686	8,938	5,614	27,625	370	19,404	89,398	83,762	-	5,636	64,673	44,151	376	986	487	7,295,017	265,872	4,851
Period 4a Additional Costs																					
4a.2.1	License Termination Survey Planning	-	-	-	-	-	-	699	210	909	909	-	-	-	-	-	-	-	-	-	6,240
4a.2	Subtotal Period 4a Additional Costs	-	-	-	-	-	-	699	210	909	909	-	-	-	-	-	-	-	-	-	6,240
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	3	-	4	24	-	20	-	10	60	60	-	-	-	55	-	-	-	3,297	11	-
4a.3.3	Small tool allowance	-	220	-	-	-	-	-	33	253	228	-	25	-	-	-	-	-	-	-	-
4a.3.4	Florida LLRW Inspection Fee	-	-	-	-	-	-	95	10	105	105	-	-	-	-	-	-	-	-	-	-
4a.3.5	Fixed Overhead	-	-	-	-	-	-	1,336	200	1,536	1,536	-	-	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	3	220	4	24	-	20	1,431	253	1,954	1,929	-	25	-	55	-	-	-	3,297	11	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	65	-	-	-	-	-	-	16	81	81	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	872	87	959	959	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	2	0	2	2	-	0	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,546	-	-	-	-	-	387	1,933	1,933	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	2,595	-	-	-	-	-	389	2,984	2,984	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	55	42	-	127	-	44	268	268	-	-	-	2,780	-	-	-	55,595	91	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,431	365	2,796	2,796	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC Fees	-	-	-	-	-	-	558	56	614	614	-	-	-	-	-	-	-	-	-	-
4a.4.9	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	468	70	538	538	-	-	-	-	-	-	-	-	-	-
4a.4.10	NEI Fees	-	-	-	-	-	-	319	32	351	351	-	-	-	-	-	-	-	-	-	-
4a.4.11	Security Staff Cost	-	-	-	-	-	-	2,777	416	3,193	3,193	-	-	-	-	-	-	-	-	-	66,729
4a.4.12	ODC Staff Cost	-	-	-	-	-	-	13,226	1,984	15,209	15,209	-	-	-	-	-	-	-	-	-	172,329
4a.4.13	Utility Staff Cost	-	-	-	-	-	-	19,655	2,948	22,604	22,604	-	-	-	-	-	-	-	-	-	306,793
4a.4	Subtotal Period 4a Period-Dependent Costs	65	4,141	55	42	-	127	40,307	6,794	51,531	51,531	-	0	-	2,780	-	-	-	55,595	91	545,851
4a.0	TOTAL PERIOD 4a COST	234	22,956	8,745	9,004	5,614	27,772	42,807	26,661	143,792	138,130	-	5,662	64,673	46,985	376	986	487	7,353,909	265,973	556,942
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	360	39	152	81	-	600	-	367	1,600	1,660	-	-	-	2,621	-	-	-	235,217	1,023	-
Disposal of Plant Systems																					
4b.1.2.1	Auxiliary Bldg HVAC	-	213	6	15	325	-	-	105	666	666	-	-	3,485	-	-	-	-	141,520	4,170	-
4b.1.2.2	Containment Emergency Filter	-	4	0	0	4	-	-	2	11	11	-	-	47	-	-	-	-	1,929	99	-
4b.1.2.3	Containment Normal & Emerg Cooling	-	494	14	33	700	-	-	235	1,476	1,476	-	-	7,494	-	-	-	-	304,319	9,404	-
4b.1.2.4	Containment Normal & Emerg Cooling - Ins	-	5	0	0	3	-	-	2	11	11	-	-	37	-	-	-	-	1,521	95	-
4b.1.2.5	Containment Spray	-	68	2	4	77	-	-	29	179	179	-	-	827	-	-	-	-	33,587	1,390	-
4b.1.2.6	Containment Spray - Insulated	-	54	1	2	44	-	-	20	121	121	-	-	467	-	-	-	-	18,968	1,089	-
4b.1.2.7	Control Building HVAC	-	26	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	636	-
4b.1.2.8	EDG Building HVAC	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	79	-
4b.1.2.9	Electrical - Contaminated	-	298	4	11	223	-	-	110	646	646	-	-	2,386	-	-	-	-	96,905	6,013	-
4b.1.2.10	Electrical - Decontaminated	-	2,669	39	94	1,984	-	-	983	5,770	5,770	-	-	21,242	-	-	-	-	862,654	53,766	-
4b.1.2.11	Emergency Diesel Engine & Oil	-	71	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,676	-
4b.1.2.12	Emergency Diesel Engine & Oil - Ins	-	3	-	-	-	-	-	0	3	-	-	3	-	-	-	-	-	-	77	-
4b.1.2.13	Fire Protection	-	331	-	-	-	-	-	50	381	-	-	381	-	-	-	-	-	-	7,798	-
4b.1.2.14	Fire Protection - RCA	-	905	22	54	1,131	-	-	406	2,518	2,518	-	-	12,105	-	-	-	-	491,604	18,818	-
4b.1.2.15	Fuel Handling HVAC	-	46	1	3	65	-	-	22	138	138	-	-	697	-	-	-	-	28,296	908	-
4b.1.2.16	HVAC - Contaminated	-	44	1	3	62	-	-	21	131	131	-	-	659	-	-	-	-	26,782	832	-
4b.1.2.17	Instrument Air - Insulated - RCA	-	100	1	2	41	-	-	32	175	175	-	-	439	-	-	-	-	17,845	2,215	-
4b.1.2.18	Instrument Air - RCA	-	62	1	1	27	-	-	20	110	110	-	-	288	-	-	-	-	11,715	1,356	-
4b.1.2.19	Miscellaneous - RCA	-	6	0	1	19	-	-	4	31	31	-	-	206	-	-	-	-	8,368	128	-
4b.1.2.20	Primary Water Makeup	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,668	-
4b.1.2.21	Radwaste Building HVAC	-	99	3	6	133	-	-	46	287	287	-	-	1,428	-	-	-	-	58,000	1,892	-

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
4b.1.2.22	Reactor Coolant - Insulated	-	72	3	5	10	32	-	29	151	151	-	-	112	139	-	-	-	17,037	1,551	-
4b.1.2.23	Refueling Equipment	-	144	8	14	127	61	-	73	429	429	-	-	1,362	267	-	-	-	79,290	3,221	-
4b.1.2.24	Residual Heat Removal	-	75	47	67	231	413	-	171	1,003	1,003	-	-	2,476	1,805	-	-	-	262,436	1,717	-
4b.1.2.25	Residual Heat Removal - Insulated	-	274	27	42	183	245	-	166	937	937	-	-	1,961	1,073	-	-	-	175,833	5,899	-
4b.1.2.26	Safety Injection Accumulator	-	224	7	17	366	-	-	114	729	729	-	-	3,914	-	-	-	-	158,930	4,751	-
4b.1.2.27	Service Water	-	19	-	-	-	-	-	3	22	-	-	22	-	-	-	-	-	-	487	-
4b.1.2.28	Service Water - Insulated	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	204	-
4b.1.2.29	Service Water - Insulated - RCA	-	65	1	2	39	-	-	22	129	129	-	-	422	-	-	-	-	17,124	1,277	-
4b.1.2.30	Service Water - RCA	-	143	2	4	90	-	-	50	290	290	-	-	965	-	-	-	-	39,195	2,789	-
4b.1.2.31	Spent Fuel Pool Cooling	-	99	9	14	42	86	-	56	306	306	-	-	448	380	-	-	-	52,024	2,089	-
4b.1.2.32	Spent Fuel Pool Cooling - Insulated	-	50	4	6	15	36	-	25	136	136	-	-	164	158	-	-	-	20,838	1,048	-
4b.1.2.33	Steam Generator Wet Layup	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	25	-
4b.1.2.34	Steam Generator Wet Layup - RCA	-	1	0	0	1	-	-	0	3	3	-	-	10	-	-	-	-	396	25	-
4b.1.2.35	Waste Disposal	-	346	32	44	323	714	-	198	1,157	1,157	-	-	3,456	1,115	-	-	-	224,285	7,497	-
4b.1.2.36	Waste Disposal - Insulated	-	424	29	36	54	246	-	184	973	973	-	-	581	1,077	-	-	-	120,160	8,719	-
4b.1.2.37	Water Treatment Plant	-	128	-	-	-	-	-	19	147	-	-	147	-	-	-	-	-	-	3,065	-
4b.1.2.38	Water Treatment Plant - Insulated	-	95	-	-	-	-	-	14	109	-	-	109	-	-	-	-	-	-	2,338	-
4b.1.2	Totals	-	7,740	265	479	6,321	1,334	-	3,240	19,380	18,513	-	867	67,678	6,015	-	-	-	3,271,561	160,810	-
4b.1.3	Scaffolding in support of decommissioning	-	533	13	4	63	9	-	147	769	769	-	-	610	38	-	-	-	30,870	14,080	-
Decontamination of Site Buildings																					
4b.1.4.1	Containment	729	654	165	102	234	34	-	604	2,523	2,523	-	-	9,962	623	-	-	-	723,091	28,352	-
4b.1.4.2	Auxiliary	340	105	18	35	114	44	-	232	889	889	-	-	1,224	798	-	-	-	129,548	9,421	-
4b.1.4.3	Contaminated Soil - RPV Head Replacement	-	9	142	270	-	394	-	155	970	970	-	-	-	7,155	-	-	-	715,500	339	-
4b.1.4.4	Fuel Handling	285	316	5	9	128	6	-	244	994	994	-	-	1,375	106	-	-	-	66,395	12,739	-
4b.1.4.5	Miscellaneous Structures - Contaminated	8	2	1	1	0	1	-	5	19	19	-	-	2	27	-	-	-	2,806	213	-
4b.1.4.6	Radwaste Solidification	106	39	6	11	18	15	-	72	267	267	-	-	190	274	-	-	-	35,145	3,075	-
4b.1.4	Totals	1,469	1,126	336	429	495	494	-	1,312	5,661	5,661	-	-	12,753	8,983	-	-	-	1,672,485	54,138	-
4b.1	Subtotal Period 4b Activity Costs	1,830	9,439	766	993	6,880	2,436	-	5,066	27,410	26,543	-	867	81,042	17,658	-	-	-	5,210,133	230,051	-
Period 4b Additional Costs																					
4b.2.1	ISFSI License Termination	-	260	5	34	-	34	747	190	1,269	-	1,269	-	-	640	-	-	-	111,939	6,468	1,280
4b.2.2	Seaweed Remediation and Disposal	-	41	4	392	-	326	-	151	914	914	-	-	-	29,650	-	-	-	593,000	494	-
4b.2	Subtotal Period 4b Additional Costs	-	301	9	426	-	360	747	341	2,184	914	1,269	-	-	30,290	-	-	-	704,939	6,962	1,280
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	7	-	9	58	-	49	-	25	147	147	-	-	-	134	-	-	-	8,053	26	-
4b.3.3	Small tool allowance	-	184	-	-	-	-	-	28	211	211	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	127	47	621	85	-	134	1,015	1,015	-	-	6,000	373	-	-	-	303,507	88	-
4b.3.5	Florida LLRW Inspection Fee	-	-	-	-	-	-	103	10	113	113	-	-	-	-	-	-	-	-	-	-
4b.3.6	Fixed Overhead	-	-	-	-	-	-	2,929	439	3,369	3,369	-	-	-	-	-	-	-	-	-	-
4b.3	Subtotal Period 4b Collateral Costs	7	184	136	105	621	134	3,032	637	4,856	4,856	-	-	6,000	508	-	-	-	311,560	114	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	703	-	-	-	-	-	-	176	879	879	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	1,913	191	2,104	2,104	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	4	0	4	4	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	1,916	-	-	-	-	-	479	2,394	2,394	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	5,649	-	-	-	-	-	847	6,496	6,496	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	85	55	-	195	-	67	412	412	-	-	-	4,279	-	-	-	85,588	140	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	4,209	631	4,840	4,840	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	1,224	122	1,346	1,346	-	-	-	-	-	-	-	-	-	-
4b.4.9	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	1,026	154	1,180	1,180	-	-	-	-	-	-	-	-	-	-
4b.4.10	NEI Fees	-	-	-	-	-	-	699	70	769	769	-	-	-	-	-	-	-	-	-	-
4b.4.11	Security Staff Cost	-	-	-	-	-	-	7,219	1,083	8,301	8,301	-	-	-	-	-	-	-	-	-	172,321
4b.4.12	ODC Staff Cost	-	-	-	-	-	-	28,608	4,291	32,900	32,900	-	-	-	-	-	-	-	-	-	369,457
4b.4.13	Utility Staff Cost	-	-	-	-	-	-	42,384	6,358	48,741	48,741	-	-	-	-	-	-	-	-	-	650,686
4b.4	Subtotal Period 4b Period-Dependent Costs	703	7,564	85	65	-	195	87,286	14,470	110,369	110,369	-	-	-	4,279	-	-	-	85,588	140	1,192,464
4b.0	TOTAL PERIOD 4b COST	2,540	17,488	996	1,589	7,501	3,126	91,065	20,513	144,818	142,682	1,269	867	87,042	52,735	-	-	-	6,312,220	237,267	1,193,744

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license									a											
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	152	46	198	198	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	2,705	812	3,517	3,517	-	-	-	-	-	-	-	-	53,793	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	2,705	812	3,517	3,517	-	-	-	-	-	-	-	-	53,793	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,628	244	1,872	1,872	-	-	-	-	-	-	-	-	-	-
4f.3.2	Florida LLRW Inspection Fee	-	-	-	-	-	-	0	0	1	1	-	-	-	-	-	-	-	-	-	-
4f.3.3	Fixed Overhead	-	-	-	-	-	-	835	125	960	960	-	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	2,463	369	2,833	2,833	-	-	-	-	-	-	-	-	-	-
Period 4f Period-Dependent Costs																					
4f.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4f.4.2	Property taxes	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	333	-	-	-	-	-	83	417	417	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	5	4	-	11	-	4	24	24	-	-	-	247	-	-	-	4,938	8	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	320	48	368	368	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC Fees	-	-	-	-	-	-	365	37	402	402	-	-	-	-	-	-	-	-	-	-
4f.4.7	NEI Fees	-	-	-	-	-	-	199	20	219	219	-	-	-	-	-	-	-	-	-	-
4f.4.8	Security Staff Cost	-	-	-	-	-	-	517	78	594	594	-	-	-	-	-	-	-	-	-	11,786
4f.4.9	DOC Staff Cost	-	-	-	-	-	-	3,497	524	4,021	4,021	-	-	-	-	-	-	-	-	-	46,750
4f.4.10	Utility Staff Cost	-	-	-	-	-	-	4,079	612	4,691	4,691	-	-	-	-	-	-	-	-	-	56,964
4f.4	Subtotal Period 4f Period-Dependent Costs	-	333	5	4	-	11	8,979	1,406	10,738	10,738	-	-	-	247	-	-	-	4,938	8	115,500
4f.0	TOTAL PERIOD 4f COST	-	333	5	4	-	11	14,299	2,632	17,285	17,285	-	-	-	247	-	-	-	4,938	53,801	118,620
PERIOD 4 TOTALS		2,774	40,777	9,745	10,597	13,115	30,909	148,172	49,806	305,896	298,097	1,269	6,529	151,715	99,967	376	986	487	13,671,070	557,041	1,869,306
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Containment	-	3,981	-	-	-	-	-	597	4,578	-	-	4,578	-	-	-	-	-	-	47,324	-
5b.1.1.2	Auxiliary	-	1,038	-	-	-	-	-	156	1,193	-	-	1,193	-	-	-	-	-	-	14,864	-
5b.1.1.3	Control	-	118	-	-	-	-	-	18	136	-	-	136	-	-	-	-	-	-	1,773	-
5b.1.1.4	Fuel Handling	-	494	-	-	-	-	-	74	569	-	-	569	-	-	-	-	-	-	6,475	-
5b.1.1.5	Intake	-	124	-	-	-	-	-	19	143	-	-	143	-	-	-	-	-	-	1,577	-
5b.1.1.6	Miscellaneous Structures - Clean	-	2,578	-	-	-	-	-	387	2,965	-	-	2,965	-	-	-	-	-	-	41,531	-
5b.1.1.7	Miscellaneous Structures - Contaminated	-	95	-	-	-	-	-	14	109	-	-	109	-	-	-	-	-	-	1,447	-
5b.1.1.8	Radwaste Solidification	-	747	-	-	-	-	-	112	859	-	-	859	-	-	-	-	-	-	9,978	-
5b.1.1.9	Sealwell	-	96	-	-	-	-	-	14	110	-	-	110	-	-	-	-	-	-	1,251	-
5b.1.1.10	Security Improvements	-	291	-	-	-	-	-	44	335	-	-	335	-	-	-	-	-	-	2,380	-
5b.1.1.11	Turbine	-	411	-	-	-	-	-	62	472	-	-	472	-	-	-	-	-	-	6,750	-
5b.1.1.12	Turbine Pedestal	-	457	-	-	-	-	-	69	525	-	-	525	-	-	-	-	-	-	5,055	-
5b.1.1	Totals	-	10,430	-	-	-	-	-	1,565	11,995	-	-	11,995	-	-	-	-	-	-	140,405	-
Site Closeout Activities																					
5b.1.2	Remove Rubble	-	1,244	-	-	-	-	-	187	1,431	-	-	1,431	-	-	-	-	-	-	7,631	-
5b.1.3	Grade & landscape site	-	374	-	-	-	-	-	56	430	-	-	430	-	-	-	-	-	-	1,043	-
5b.1.4	Final report to NRC	-	-	-	-	-	-	80	12	92	92	-	-	-	-	-	-	-	-	-	668
5b.1	Subtotal Period 5b Activity Costs	-	12,049	-	-	-	-	80	1,819	13,948	92	-	13,856	-	-	-	-	-	-	149,079	668
Period 5b Additional Costs																					
5b.2.1	ISFSI Demolition and Site Restoration	-	692	-	-	-	-	24	107	824	-	824	-	-	-	-	-	-	-	4,727	80
5b.2.2	Concrete Crushing	-	501	-	-	-	-	6	76	583	-	-	583	-	-	-	-	-	-	2,295	-
5b.2.3	Intake Structure Cofferdam	-	210	-	-	-	-	-	31	241	-	-	241	-	-	-	-	-	-	1,896	-
5b.2.4	Discharge Structure Cofferdam	-	229	-	-	-	-	-	34	263	-	-	263	-	-	-	-	-	-	2,066	-
5b.2	Subtotal Period 5b Additional Costs	-	1,632	-	-	-	-	30	249	1,911	-	824	1,087	-	-	-	-	-	-	10,984	80

Table D-2
Turkey Point Nuclear Plant, Unit 4
SAFSTOR Decommissioning Cost Estimate
(thousands of 2010 dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	130	-	-	-	-	-	20	150	-	-	150	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	130	-	-	-	-	-	20	150	-	-	150	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.1	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	3	0	3	-	-	3	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	5,861	-	-	-	-	-	879	6,740	-	-	6,740	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	406	61	467	-	-	467	-	-	-	-	-	-	-	-
5b.4.5	Security Staff Cost	-	-	-	-	-	-	1,177	176	1,353	-	-	1,353	-	-	-	-	-	-	-	26,444
5b.4.6	DOC Staff Cost	-	-	-	-	-	-	8,526	1,279	9,805	-	-	9,805	-	-	-	-	-	-	-	105,697
5b.4.7	Utility Staff Cost	-	-	-	-	-	-	3,727	559	4,286	-	-	4,286	-	-	-	-	-	-	-	51,851
5b.4	Subtotal Period 5b Period-Dependent Costs	-	5,861	-	-	-	-	13,839	2,955	22,655	-	-	22,655	-	-	-	-	-	-	-	183,993
5b.0	TOTAL PERIOD 5b COST	-	19,672	-	-	-	-	13,949	5,043	38,664	92	824	37,748	-	-	-	-	-	-	160,063	184,741
PERIOD 5 TOTALS		-	19,672	-	-	-	-	13,949	5,043	38,664	92	824	37,748	-	-	-	-	-	-	160,063	184,741
TOTAL COST TO DECOMMISSION		6,957	68,788	10,521	11,558	18,450	31,869	654,089	130,211	932,442	682,128	205,386	44,927	175,047	109,500	376	986	487	15,162,690	796,565	6,065,445

TOTAL COST TO DECOMMISSION WITH 16.23% CONTINGENCY:	$932,442	thousands of 2010 dollars
TOTAL NRC LICENSE TERMINATION COST IS 73.16% OR:	$682,128	thousands of 2010 dollars
SPENT FUEL MANAGEMENT COST IS 22.03% OR:	$205,386	thousands of 2010 dollars
NON-NUCLEAR DEMOLITION COST IS 4.82% OR:	$44,927	thousands of 2010 dollars
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):	110,861	cubic feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	487	cubic feet
TOTAL SCRAP METAL REMOVED:	39,021	tons
TOTAL CRAFT LABOR REQUIREMENTS:	796,565	man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense.
a - indicates that this activity performed by decommissioning staff.
0 - indicates that this value is less than 0.5 but is non-zero.
a cell containing " - " indicates a zero value

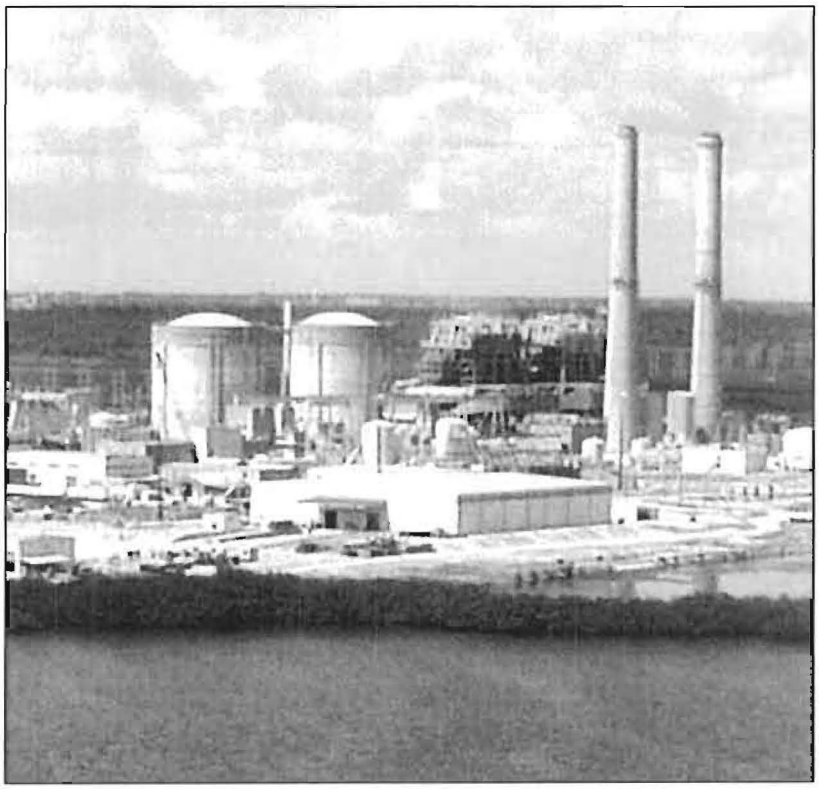
SECTION 11

COMPARISON REPORT
Comparative Analysis of Cost Studies
2005 & 2010 Cost Studies

COMPARISON REPORT 2004 - 2010

for the

TURKEY POINT NUCLEAR PLANT, UNITS 3 AND 4



prepared for

Florida Power & Light Company

prepared by

TLG Services, Inc.
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SUMMARY

This document provides a comparative discussion on decommissioning cost estimates prepared for the Turkey Point Nuclear Plant (Turkey Point) in 2005[1] and updated in 2010[2] by TLG Services, Inc. (TLG). The estimates described in this document were constructed for a prompt decommissioning scenario following the scheduled cessation of operations. The scope of the two estimates is consistent, including cost elements for license termination, spent fuel management and site restoration activities.

The estimates were generated in 2004 and 2010 dollars, respectively. For purposes of comparison, they are referred to by their financial bases. The 2010, or current estimate, was developed using the basic inventory and plant design information from the 2004 or previous cost model. The data, estimating assumptions and site-specific considerations were reviewed for the 2010 analysis. The cost model was modified where new information was available, updated site-specific information was obtained, or experience from past decommissioning programs justified such changes.

The overall estimate to decommission Turkey Point increased approximately 39.7% over the six-year period between estimates. The increase (or decrease) in the individual cost elements that comprise the estimates is shown in Table 1.

The cost elements were assigned to one of three subcategories: *NRC License Termination*, *Spent Fuel Management*, and *Site Restoration*. Delegation of cost elements into these categories was for the purpose of comparison (e.g., with NRC financial guidelines) or to permit specific financial treatment (e.g., ARO determinations). In reality, there can be considerable interaction or overlap between the activities in the three subcategories.

The subcategory *NRC License Termination* was used to accumulate costs that are consistent with the NRC's definition of decommissioning in its financial assurance regulations (i.e., 10 CFR Part 50.75). The cost reported for this subcategory is generally sufficient to terminate the operating licenses for the two reactors, recognizing that there may be some additional cost impact from spent fuel management. The cost associated with Turkey Point license termination activities increased 17.5% over the six years. Major contributors included higher site

1 "Decommissioning Cost Analysis for the Turkey Point Plant, Units 3 and 4," TLG Document F02-1512-003, Rev. 0, dated October 2005.
2 "Decommissioning Cost Analysis for the Turkey Point Nuclear Plant," TLG Document F02-1630-002, Rev. 0, dated November 2010.

operating costs for items related to energy, security, fees and insurance, and a general increase in the cost of labor and materials.

The *Spent Fuel Management* subcategory contains costs anticipated to be incurred once the nuclear units cease operation for the off-loading of the pools either directly to the Department of Energy (DOE) or to the Independent Spent Fuel Storage Installation (ISFSI) for interim storage, and the eventual transfer of fuel from the ISFSI to the DOE. Costs were also included for the operation of the ISFSI until such time that the transfer of all fuel from this facility to an off-site location (e.g., geologic repository or interim facility) is complete. The costs assigned to this subcategory increased 191.7% over the six years. This was a consequence of a 15-year delay in the assumed commencement of commercial spent fuel pickup by the DOE and a resulting 19-year longer ISFSI operating period. This delay resulted in more fuel being transferred at the ISFSI for interim storage (80 additional dry shielded canisters and horizontal storage modules) in the 2010 cost model. Higher site operating costs, including security, were compounded by the longer ISFSI operating period.

Site Restoration was used to capture costs associated with the dismantling and demolition of buildings and facilities demonstrated to be free from contamination. This includes structures never exposed to radioactive materials, as well as those facilities that have been decontaminated to appropriate levels. Structures are removed to a depth of three feet below grade and backfilled to conform to local grade. The costs assigned to this subcategory increased 13.4% over the six years. This modest increase is the result of increases in labor and material costs which were partially offset by savings resulting from a continuing optimization of the demolition management organization.

Cost Center	2004 ($1000s)	2010 ($1000s)	Delta ($1000s)	Percent Change	Annual Change
NRC License Termination	794,267	932,988	138,720	17.5	2.7
Spent Fuel Management	128,216	374,006	245,789	191.7	19.5
Site Restoration	69,842	79,223	9,381	13.4	2.1
Total	992,326	1,386,216	393,891	39.7	5.7

The rationale for specific changes in several major cost centers is discussed in more detail within the following narrative. Comparisons are focused on permutations in the technical work scope and modifications to assumptions that have affected the cost of decommissioning. Inflationary effects, while a factor, are generally ignored

for purposes of this analysis. Cost element discussions are arranged in decreasing order of overall financial impact between the estimates.

COMPARATIVE ANALYSIS

TLG completed a decommissioning cost analysis for Turkey Point in 2005. The analysis provided the Florida Power & Light Company (FPL), the operator of the nuclear units, with the projected costs (in 2004 dollars) to completely decontaminate and dismantle the station following the normal cessation of plant operations. For purposes of this comparison, this analysis is referred to as the 2004 estimate or previous analysis.

In 2010, TLG updated the cost analysis for FPL. The current analysis uses the physical plant inventory and design information from the previous analysis. This data was reviewed, along with the assumptions and other site-specific considerations, and modified or updated where new information was available or experience from ongoing decommissioning programs justified such changes. Since the update relied upon 2010 economic data, the analysis is referred to as the 2010 estimate or current analysis.

Generally, escalation of the various cost components in a decommissioning analysis (with the exception of those costs associated with radioactive waste disposal), follows "standard" cost indices. However, such indices can only be applied successfully to a static model, *i.e.*, where the bases against which the indices are applied have not undergone significant change. In the period between the last two analyses (the 2004 and 2010 financial years), new cost elements have been added and older cost elements revised. With this in mind, the following discussion encompasses the major areas of difference between the two estimates.

In 2004, the estimate to promptly decommission Turkey Point was estimated at approximately $992.3 million (in 2004 dollars). The comparable cost in 2010 is $1,386.2 million (in 2010 dollars). This represents a 39.7% increase in the overall cost. Major areas of change in the two estimates are shown in Table 1.

The decommissioning scope of the current cost estimate has not significantly changed from that evaluated presented in 2004. However, the current estimate delays the completion of the spent fuel transfer process by approximately 19 years. This was done in response to the continuing lack of progress by the Department of Energy (DOE) in developing a geologic repository (or interim facility) for the spent fuel. The longer schedule (primarily in the post-decommissioning dry spent fuel storage period), increased the period-dependent costs (e.g., staffing, fees, insurance, and other site operating costs), reported for spent fuel management.

The following cost element discussions are arranged in decreasing order of overall financial impact between the estimates.

1. Spent Fuel Management (ISFSI Related)

For purposes of generating a comprehensive post-shutdown cost, the cost to manage the spent fuel generated over the operating life of Turkey Point was included within the decommissioning estimate (a NRC requirement) until such time that the DOE can complete the transfer of the assemblies off-site. The current (2010) analysis assumes that the DOE will begin the process of removing spent fuel from the Turkey Point site in 2031 (based upon a 2030 industry-wide start date). This is 15 years later than the 2015 date assumed in 2004. The delay is due several factors including DOE's delay in submitting a license application to the NRC for construction of a permanent repository and more recent efforts by the current administration to eliminate funding for the project.

As a result of the delay, the physical infrastructure for on-site storage of spent fuel has been expanded to permit continued operations. It is expected that the current storage facilities will need to be expanded/augmented to permit decommissioning operations to proceed. The impact of the delay can be seen in the variables listed in Table 2; less fuel shipped directly to the DOE, more fuel placed designated for on-site storage, and a prolonged period of storage before the transfer process is completed. As indicated by the line "maximum number of HSMs on ISFSI," the capacity of the on-site fuel storage facility required to support decommissioning is three times larger than that envisioned in 2004.

2. Program Management

The organization identified to oversee the decommissioning project and manage the day-to-day activities is similar in structure to the operating organization, although much reduced in size.

The cost category includes several contributors:

- Plant Staff: comprised of the decision-making individuals at the site, administrative, secretarial and/or clerical support, plant management responsible for the facility's operation, maintenance, as well as compliance with the existing operating license and technical specifications during the initial preparation phase, quality assurance and quality surveillance, engineering support, planning and cost control personnel, health physics and radiation protection, industrial safety, waste management, procurement, document control, and field superintendents for work force direction

- Engineering: supplemental workforce employed in the preparation stages to support the reconfiguration of the plant for decommissioning, develop specifications, procedures and work packages for both in-house and subcontracted activities, and perform related studies and supporting analyses
- Security: personnel comprising the on-site, plant security force including surveillance personnel, access/egress control and processing personnel, a rapid response contingent, training and supervisory personnel
- Decommissioning Operations Contractor (DOC): organization contracted to manage the execution of the decontamination and dismantling activities including direct supervision of trades and oversight of subcontractors engaged in specialty activities such as reactor vessel segmentation

Table 3 provides a comparison of the peak staffing levels for each decommissioning period and corresponding cost per month. Staffing levels are relatively consistent for the major decommissioning periods with alterations in the 2010 organization resulting in a slight decrease in personnel. Re-evaluation of the site restoration phase (based upon industry experience) resulted in a greater change (decrease) in supervisory/ management personnel.

Exclusive of the adjustments to the organization and general increase in wages and benefits over the six year period, two changes in the modeling assumptions combined to contribute to the $175.4 million increase in the cost of program management: a longer schedule and a larger security force.

The length of the decommissioning schedule (from the cessation of operations to the termination of the site licenses) in the 2010 cost model is approximately 19 years longer than in 2004 (Table 4). This increase is primarily in the post-decommissioning dry spent fuel storage duration (discussed below). This increase not only impacted plant staff and security costs, but other site operating costs as well.

In January 2007, the NRC approved a final rule that enhanced its security regulations governing the design basis threat (DBT). This rule imposed security requirements similar to those previously imposed by the Commission's April 29, 2003, DBT Orders. However, the new rule also modified and enhanced the DBT based on experience and insights gained by the Commission during implementation of the Orders, and extensive consideration of the factors specified in the Energy Policy Act of 2005.

Consequently, based upon the industry's response to the NRC's rulemaking, the security cost model for decommissioning was adjusted to increase the size of the security force (Table 5). The cost impact due to the adjustment was compounded by the lengthening of the spent fuel storage period and the increased cost of the security force in the 2010 estimate.

3. Removal

Contract labor is used to decontaminate, remove, and package the plant inventory, as well as to support the dismantling and demolition of the physical structures. The dismantling process is labor-intensive and the cost model assumes that a common laborer performs a majority of the required tasks, with support from the various skilled trades. Wage rates for the laborer and craftsman increased approximately 19% and 25% respectively over the six year period, as shown in Table 6. The rate increase is consistent with the overall increase in the "Removal" cost shown in Table 1.

4. Insurance and Regulatory Fees

Nuclear and property insurance is maintained throughout the active decommissioning phase. Current operating premiums are reduced throughout the active decommissioning phase based upon the guidance and the limits for coverage defined in the NRC's proposed rulemaking "Financial Protection Requirements for Permanently Shutdown Nuclear Power Reactors." Therefore any change in the cost identified for insurance between the two estimates is due to a corresponding change in the starting premiums. As shown below, the starting (operating) premiums for nuclear liability and property insurance increased significantly.

NRC fees are associated with the Part 50 operating license(s) and for the oversight and regulatory review anticipated (based upon industry experience) for a decommissioning project. As shown below, the annual licensing cost has decreased over the past six years, but the hourly rate increased.

Emergency planning fees are included while spent fuel remains on site. FEMA fees are discontinued shortly after the cessation of operations and defueling. However, state fees are applied until such time that the fuel has been removed from the site. The state fees increased significantly in the 2010 estimate.

	2004	2010
Annual Cost (per unit)		
Nuclear Liability Insurance Premium	$602,484	$1,014,569
Nuclear Property Insurance Premium	$985,930	$2,011,976
NRC License Fee	$203,000	$122,000
Annual Cost (site)	**2004**	**2010**
Emergency Planning Fee (state and county)	$250,000	$816,808
Other	**2004**	**2010**
NRC Hourly Rate	$156	$257

5. Property Taxes

Property taxes continue to be included as a site operating cost during decommissioning. The 2004 estimate assumed that taxes would continue to be assessed on existing plant structures and equipment until they were physically removed. By comparison, the 2010 estimate assumes no significant value for the site structures and includes only a value on the land (protected area) during active decommissioning and only on ISFSI footprint thereafter.

Property taxes decreased $23.5 million in the 2010 estimate (Table 1), primarily due to the change in assumptions on how the tax would be assessed.

6. Energy

Energy costs are included for critical plant systems, temporary power, offices and other facilities housing site personnel, security and other site services. The increase in energy costs in the 2010 estimate is a direct result of the purchase power rate increasing from $.043 per kilowatt hour in 2004 to $.117 per kilowatt hour in 2010.

7. Low-Level Radioactive Waste Disposal

Consistent with the 2004 cost estimating model regarding waste disposal, the current cost model assumes that the low-level radioactive waste requiring controlled disposal is sent to EnergySolutions' facility in Clive, Utah.

While the previous estimate was based upon negotiated rates, the current estimate reflects the lower rates afforded by the "Life of Plant Disposal Agreement" entered into by FPL with EnergySolutions. With the volume of containerized waste and bulk debris from the decontamination and dismantling of the plant systems and structures, classified as "Class A" material (in accordance with 10 CFR §61.55), increasing between the estimates, the cost to dispose of plant systems and structures decreased in the 2010 estimate, due to the aforementioned lower burial rate structure.

8. Packaging

Craft labor is used to prepare the waste containers for transport so the higher 2010 labor rates contributed to the overall increase. Higher container costs for the highly activated GTCC dry shielded containers and the need for additional containers to transport the larger volume of low-level radioactive waste for controlled disposal were also contributing factors to the cost increase of $10.7 million in the 2010 estimate.

9. Site Characterization and License Termination Surveys

Additional hours (for plant personnel and contractors) were added to support the initial site characterization survey and the planning and execution of the final license termination survey. The supplemental workforce, combined with the higher cost of labor, contributed to the overall increase in this cost category.

10. Transportation

It was assumed in both the 2004 and 2010 cost models that the low-level radioactive waste requiring controlled disposal would be sent to EnergySolutions' burial facility in Clive, Utah. The increase in transportation costs is due to a combination of higher tariffs, fuel surcharges, and the increase in the waste volume designated for controlled disposal (e.g., contaminated soil and from the decommissioning of the larger ISFSI).

11. Fixed Overhead

Overhead charges were updated from the 2004 estimate, resulting in a $5.12 million dollar increase. The annual site cost for Turkey Point increased from approximately $800 thousand in 2004 to $1.108 million in 2010. The increase was applied across the active decommissioning periods.

12. Off-Site Waste Processing

Off-site waste processing rates increased slightly over the six-year period costs. Contributing to the cost increase was the additional material designated for processing (recycling) in the 2010 estimate (from the steam generators, turbines and condensers) as shown in Table 7.

13. Decontamination

An increase in labor-related costs (approximately 15%), mitigated by a smaller increase (2%) in the costs of equipment and materials, resulted in an overall 8% increase associated with the decontamination activity.

The volume of the primary system components (reactor vessel, steam generators, reactor coolant pumps, etc.) is used to estimate the cost to decontaminate the system. Based on past experience, the volume of wetted surfaces was adjusted in the 2010 estimate to exclude filling the reactor vessel. As a result, the volume decreased from approximately 70,000 gallons in the 2004 model to 23,000 gallons in the 2010 model. This impacted (lowered) the cost of the chemicals used to decontaminate the primary loop as well as the processing costs (filters and resin).

14. Spent Fuel Pool Isolation

The isolation cost includes the engineering, facility modifications, and the capital improvements necessary to segregate the pool areas and reduce the protected boundary, so that decommissioning operations can proceed expeditiously. The 2010 value for this cost element represents an annual increase of 2% over the six year period, consistent with increase in the cost of engineering (personnel salaries) and craft labor.

TABLE 1
COST COMPARISON
DECON ALTERNATIVE

Cost Center	2004 ($1000s)	2010 ($1000s)	Delta ($1000s)	Percent Change	Annual Change
Decontamination	19,443	20,913	1,469	7.6	1.2
Removal [1]	134,573	162,823	28,250	21.0	3.2
Packaging	23,002	33,709	10,707	46.6	6.6
Transportation	28,352	32,737	4,385	15.5	2.4
Radioactive Waste Disposal	131,711	116,586	(15,126)	-11.5	-2.0
Off-site Waste Processing	29,849	33,548	3,699	12.4	2.0
Program Management [2]	452,569	627,925	175,356	38.7	5.6
Spent Fuel Pool Isolation	16,856	19,129	2,273	13.5	2.1
Spent Fuel Management [3]	67,079	219,653	152,574	227.5	21.9
Insurance and Regulatory Fees, INPO and NEI fees, and Florida LLRW Inspection Fee	29,315	53,400	24,085	82.2	10.5
Energy	10,305	29,101	18,797	182.4	18.9
Characterization/Surveys	12,220	17,988	5,768	47.2	6.7
Property Taxes	23,745	277	(23,469)	-98.8	-52.4
Fixed Overhead	13,308	18,429	5,122	38.5	5.6
Total [4]	992,326	1,386,216	393,891	39.7	5.7

Cost Center	2004 ($1000s)	2010 ($1000s)	Delta ($1000s)	Percent Change	Annual Change
License Termination	794,267	932,988	138,720	17.5	2.7
Spent Fuel Management [5]	128,216	374,006	245,789	191.7	19.5
Site Restoration	69,842	79,223	9,381	13.4	2.1
Total [4]	992,326	1,386,216	393,891	39.7	5.7

[1] Includes Miscellaneous Equipment costs
[2] Includes engineering costs
[3] Excludes program management costs (staffing) but includes costs for dry shielded storage canisters and horizontal storage modules, spent fuel loading/transfer/spent fuel pool O&M and EP fees
[4] Columns may not add due to rounding
[5] Includes period-dependent costs such as Program Management costs

TABLE 2
SPENT FUEL VARIABLES

	2004	2010
DOE Start Date (year)	2015	2030
DSC's or TADs Required to Empty Spent Fuel Pools		
DOE Direct (TADs)	28	24
ISFSI (DSCs)	27	54
Maximum Number of HSMs on ISFSI	40	120
Final Year of DOE Pickup	2053	2072
ISFSI Operating Period (post-Unit 4 shutdown) (years)	20	39
GTCC Canisters	6	6

TABLE 3
DECOMMISSIONING STAFFING COMPARISON

		2004 Peak Staffing (persons)	2004 Peak Cost/Month ($1000s)	2010 Peak Staffing (persons)	2010 Peak Cost/Month ($1000s)
Unit 3					
Period 1 – Preparations	FPL	211	2,021	204	2,254
	DOC	61	709	61	829
Period 2 – Decommissioning	FPL	149	1,454	141	1,592
	DOC	76	849	76	1,034
Period 3 – Site Restore	FPL	14	147	17	206
	DOC	24	265	27	372
Unit 4					
Period 1 – Preparations	FPL	211	2,021	166	1,782
	DOC	61	709	45	594
Period 2 – Decommissioning	FPL	149	1,454	141	1,591
	DOC	76	849	76	1,034
Period 3 – Site Restore	FPL	32	383	17	206
	DOC	40	470	27	372

TABLE 4
PROJECT SCHEDULE COMPARISON

	2004 (months)	2010 (months)
Unit 3		
Period 1 – Preparations	18	18
Period 2 – Decommissioning Operations	73	73
Period 3 – Site Restoration	23	23
ISFSI Operations	143	371
ISFSI Decommissioning and Demolition	6	6
TOTAL	263	491
Unit 4		
Period 1 – Preparations	20	20
Period 2 – Decommissioning Operations	63	63
Period 3 – Site Restoration	23	23
ISFSI Operations	143	371
ISFSI Decommissioning and Demolition	6	6
TOTAL	255	483

TABLE 5
SECURITY FORCE COMPARISON

	2004	2010
	Peak Guard Force	
	(no. of full-time equivalents)	
Unit 3 [1]		
Period 1 – Preparations	13.0	75.5
Period 2 – Decommissioning Operations	35.3	53.1
Period 3 – Site Restoration	7.0	16.9
ISFSI Operations [2]	5.3	13.5
ISFSI Decommissioning and Demolition	2.6	3.6
Unit 4		
Period 1 – Preparations	28.3	22.4
Period 2 – Decommissioning Operations	35.3	63.3
Period 3 – Site Restoration	15.5	16.9
ISFSI Operations [2]	5.3	13.5
ISFSI Decommissioning and Demolition	2.6	3.6

Notes:

1. Unit 3 is assigned a supplemental guard force until such time that Unit 4 ceases operations (i.e., Unit 4 is responsible for site security during active plant operations)
2. The guard force is allocated equally between the units during the ISFSI Operations period (post-decommissioning)

TABLE 6
WAGES and PERSON-HOUR COMPARISON

Labor Costs				
	Labor	**2004**	**2010**	**Change**
	Category	**($/hour)**	**($/hour)**	
	Laborers	27.45	32.61	19%
	Craft	41.18	51.38	25%
	Foreman	42.63	55.88	32%
		2004	**2010**	**Change**
Person-Hours		**(hours)**	**(hours)**	**(%)**
	Laborer/Craft	1,411,939	1,381,816	-2%

TABLE 7
DECOMMISSIONING WASTE SUMMARY

				2004	2010
Waste Class	Waste Form	Cost Basis	Class [1]	Waste Volume (cubic feet)	Waste Volume (cubic feet)
Low-Level Radioactive Waste (at near-surface disposal facility)	Containerized and Bulk Debris	EnergySolutions	A	159,388	202,374
		Barnwell	B	20,022	2,346
		Barnwell	C	1,952	1,952
	Contaminated Seaweed	EnergySolutions	A	59,300	59,300
Greater than Class C (geologic repository)	Modified DSCs	Spent Fuel Equivalent	GTCC	975	975 [2]
Total Disposal Volume				241,637	266,946
Processed/Conditioned (at off-site recycling center)		Recycling Vendors	A	216,518	252,302

Notes:

1. Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55
2. Includes legacy (highly activated) waste from spent fuel pool in addition to the highly-activated reactor vessel components

CONCLUSION

The total cost to decommission the Turkey Point units increased 39.7% over the six year period between estimates. The value is not indicative of the majority of the cost drivers, but skewed with the large increase in spent fuel management costs. (The spent fuel management increase is a direct result of the DOE's non-performance rather than changes in the cost estimating methodology.)

As shown in Table 1, license termination costs (or the cost associated with "decommissioning" as defined by the NRC in its financial assurance regulations) increased 17.5% over the six year period (for an average annual increase of 2.7%). As discussed in the previous narrative, cost drivers for the increase included additional security and higher site operating costs (e.g., energy, insurance, and emergency planning fees).

The spent fuel management category contains costs associated with the interim storage of fuel at the Turkey Point site until such time that the DOE is able to take possession. The costs estimated for this activity increased 191.7% from 2004 to 2010. While increases were realized in hardware and labor costs (for onsite storage and transfer of the fuel assemblies), the underlying reason for the increase was DOE's non-performance in meeting its contractual commitments. As a result, the assumed start date for fuel acceptance (for commercial generators) was delayed an additional 15 years for the 2010 estimate (from 2015 to 2030).[3] The outcome was a 19 year longer period of ISFSI operations and significantly more fuel in storage at the Turkey Point site. An additional $245.8 million was added to the 2010 estimate as a result.

If the 2010 spent fuel management costs are reduced by the $265.4 million in estimated DOE reimbursements (identified in Tables 3.6 and 3.7 of the 2010 cost study), the 2010 result would be a 15.3% decrease from the spent fuel management costs reported in 2004 (from approximately $128.2 million in 2004 to $108.6 million in 2010).

Site restoration (used to capture costs associated with the dismantling and demolition of buildings and facilities demonstrated to be free from contamination) showed only a modest increase (13.4%) over the six years. This was primarily a result of streamlining the organizations (plant and contractor) managing the site activities.

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[3] FPL's position is that the DOE has a contractual obligation to accept Turkey Point's fuel far earlier than the projections used as an estimating basis. No assumption used in the decommissioning study should be interpreted to be inconsistent with this claim.