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COMMISSION
CLERK

August 25, 2008

VIA HAND DELIVERY

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

*Re: Petition for approval of revised underground residential distribution tariffs, by
Progress Energy Florida, Inc.; Docket No. 080186-EI*

Dear Ms. Cole:

Please find enclosed for filing on behalf of Progress Energy Florida, Inc. ("PEF") the responses to Staff's data request dated July 23, 2008 in the above referenced docket.

Thank you for your assistance in this matter. Please call me at (727) 820-5184 should you have any questions.

Sincerely,

John T. Burnett
John T. Burnett

DOCUMENT NUMBER-DATE

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FPSC-COMMISSION CLERK

**PROGRESS ENERGY FLORIDA, INC.'S RESPONSES TO STAFF'S SECOND DATA REQUEST
DOCKET NO. 080186-EI**

General questions:

- Q1. Please provide a general discussion as to why non-storm operational costs are higher for underground than overhead facilities.**

Answer: The materials for underground repairs are more expensive than their overhead counterparts. The repair of underground equipment is a more lengthy process than overhead. In repairing underground equipment, PEF must first find and isolate the fault, and this requires opening several pieces of equipment. Once this is completed, fault finding equipment is used to actually locate the bad area, holes are dug, and splices installed. Once completed, the underground cable needs to be switched back into service, and this process is a reverse of the isolating process. Underground failures are mostly permanent faults that require repairs, and a larger percentage of overhead faults are temporary in nature and clear by themselves or require little extra work. When overhead equipment requires work, the fault is generally of the type where the line isolates itself, locating the fault is more easily identified visually, and the repairs are generally less time consuming.

- Q2. The Phase 3 PURC Report which was presented to the Commission at the June 16, 2008, Internal Affairs, states on page 56 that an underground feasibility study shows that the O&M costs for overhead and direct buried underground systems are comparable. Please comment on this conclusion and discuss why PEF analysis shows a different result, i.e., operational costs are higher for underground than overhead. The report can be read at:
http://www.cba.ufl.edu/purc/docs/initiatives_UndergroundingAssessment3.pdf**

Answer: The reference made by Quanta Technology on page 56 of the Phase 3 PURC Report is to a study conducted by the North Carolina Disaster Preparedness Task Force in 2003. This report concludes that in more urban environments (as is Florida), the costs to maintain underground lines can be significantly higher. The report also concludes that underground systems have an expected life of 30 years while their overhead counterparts have an expected life of 50 years. The net present value of the maintenance of these assets was not taken into consideration in the North Carolina report when calculating the per mile maintenance costs cited in the Phase 3 PURC Report.

Q3. Rule 25-6.078 (4), Florida Administrative Code, requires each utility to establish sufficient record keeping and accounting measures to separately identify operational costs for underground and overhead facilities, including storm related costs. Please provide a discussion on where PEF stands with respect to this rule requirement.

Answer: The Company's accounting systems for overhead and underground costs for capital and O&M excluding storm restoration costs are as follows. Both the Company's management accounting system and the FERC accounts general ledger system include distinctions for overhead vs. underground facilities. The Company's current management accounting system is a project (or job) oriented system which includes accounting for separate work streams (detailed work requests) associated with each project. These work requests distinguish overhead and underground work. After being aggregated to a project level, each project is driven to specific FERC accounts based on the work included in each project.

As for the accounting requirements associated with storm restoration – the Company has developed accounting practices to distinguish overhead and underground storm restoration. For each major storm, the Company establishes a separate project within its project accounting system. For each project, there is a series of tasks assigned to designate the major work streams and support activities taking place during storm restoration. These tasks distinguish costs first by functional areas; for the transmission and distribution functions, overhead and underground line work is separately accounted for by unique task.

Q4. Please provide a detailed explanation as to how the \$21.4 million annual storm damage costs were calculated. Is that number based on actual historical costs? For which years? Does this number include assumptions as to how often a storm even will occur?

Answer: The \$21.4 million annual storm damage costs were calculated using a model simulation that contains many data points for hurricane hazards over the last 100 years. The model also contains historical data from losses to PEF service territory. The frequency and intensity of the storms are included in the model because the data points include such information. The value of the assets on PEF's system is also input into the model. A simulation is then run which predicts the annual storm damage costs. More details about the model's assumptions can be found in the attached Hurricane Risk Profile, which was originally an exhibit in PEF's last rate case. This model, the USWIND model, has also been approved by the Florida Public Service Commission for Hurricane Loss Projection Methodology. The submission and more information on the model can be found at <http://www.sbafla.com/methodology/> under the submission from EQECAT, Inc.

Q5. Order No. PSC-06-0947-PAA-EI, issued on November 13, 2006 in Docket No. 060198-EI, states that PEF estimated an incremental annual cost of \$5 million for its vegetation management plan compared to the 2005 base year costs.

- a. Is the \$5 million still an accurate reflection of PEF's incremental annual vegetation management plan costs?**

Answer: Yes, the \$5 million is an accurate reflection.

- b. Does PEF agree that since PEF used 2002-2006 data in this petition, any incremental vegetation management plans costs would not be captured in the URD differential?**

Answer: No, the \$5 million incremental costs began in 2006, therefore, they are reflected in the submitted URD differential.

- c. Which account in the workpapers provided in Attachment D of PEF's responses to staff's first data request includes vegetation management?**

Answer: D7108.

- d. Does PEF agree that any incremental vegetation management costs are strictly overhead costs, and would therefore decrease the differential between underground and overhead? If not, please explain why.**

Answer: No. There is some vegetation management maintenance work required at UG substation exits and at overhead to underground transition points.

Q6. Please explain PEF's basis for allocating 80% of the storm damage costs to distribution. Is it based on actual experience?

Answer: The allocation of 80% of storm damage to distribution was based on the Company's actual experience of prior storm damage and, most recently from the 2004 and 2005 storm seasons.

For the following questions, please refer to Attachment D of PEF's responses to staff's first data request.

Q7. The historical operational costs were based on the period 2002 through 2006. Why did PEF not include 2007?

Answer: The Company used the period of 2002 through 2006 in its development of the life cycle operating costs based on the timing of the reporting requirements for which this data was developed. In accordance with Rule 25-6.078 (3), the Company was required to review its underground cost differentials for residential subdivisions (URD) and report those differentials (in relation to its currently approved differentials) to the Commission by October 15, 2007. Given this requirement, the Company evaluated its operating costs using the 5 year period of 2002-2006. This October 15, 2007 filing requirement gave rise to the further requirement to file the complete cost support for the Company's URD schedule of charges due April 1, 2008. It was an extensive effort to develop this 5 year average NPV of operational costs including storm restoration costs from the Company's detailed accounting records. Based on this fact, and the fact that these differentials are reviewed and potentially revised on an annual basis, the Company determined that it would not be necessary to update this exercise to include calendar year 2007 accounting data.

Q8. Overhead operational cost appear to be significantly higher in 2003 (\$135,915,758) compared to 2002 and 2004-2006. Please explain why.

Answer: From 2002 through 2004, Progress Energy Florida was involved in its Commitment to Excellence (CTE) program geared towards significantly improving our system reliability. There were significant additional dollars spent during these years in the maintenance of capital investment items and operational costs such as vegetation management and outage response. As a result, Progress Energy Florida improved their System Average Interruption Duration Index (SAIDI) by almost 13 minutes between these years.

Q9. The following summarizes the total operational underground costs:

2002 - \$83,506,066,
2003 - \$111,094,609,
2004 - \$50,594,200,
2005 - \$47,381,048,
2006 - \$61,732,840.

Please explain the higher totals in 2002 and 2003.

Answer: Please see response to question 8 above.

Q10. Please explain why in 2002-2004, a small percentage of account D7105, *Replace Poles Id'd by inspection*, was allocated to underground. Why are pole-related costs not 100 percent overhead?

Answer: The materials charged to a job (when available) were used as a proxy for determining the percentage splits between overhead and underground maintenance

investments. The majority of the equipment contained in overhead to underground transition poles is classified as underground equipment which leads to some allocation of dollars for primarily overhead activities as underground.

Q11. Please explain what costs are included in account D7101, *Maintain Overhead Lines – PM*. Attachment D shows that in 2002, 31% were allocated to underground, and 69% to overhead. For 2003-2006, all the costs were allocated to underground. Why would costs from a *Maintain Overhead Lines* account be allocated to underground, and why is 2002 treated differently?

Answer: This code was used in 2002 to capture costs relating to overhead and underground equipment failures. Since 2003 however, this code has been used primarily for overhead maintenance activities. This has been reflected in the current revisions to PEF's calculations of the NPV of life cycle costs attached.

Q12. PEF's petition shows that the NPV of life cycle operational costs, including storm restoration, for the low density subdivision is \$268 per lot.

a. Please confirm that this number is derived in the following manner: $\$16,566 \times 3.4$ circuit miles / 210 lots.

Answer: Correct - $\$16,566 \times 3.4$ miles / 210 lots = \$268 per lot. In the current revisions attached the calculations has been provided and are revised to show the breakdown between overhead and underground as the miles are slightly different depending on construction design.

b. Please calculate the impact on the URD charge of the non-storm operational cost.

Answer: See attached revised summary of NPV of life cycle costs per mile and per lot broken down between total, non-storm and storm components and overhead and underground.

c. Please calculate the impact on the URD charge of the storm restorations cost.

Answer: See attached revised summary of NPV of life cycle costs per mile and per lot broken down between total, non-storm and storm components and overhead and underground.

Q13. PEF's petition shows that the NPV of life cycle operational costs, including storm restoration, for the low density subdivision is \$158 per lot.

a. Please confirm that this number is derived in the following manner: $\$16,566 \times 1.7$ circuit miles / 176 lots.

Answer: Correct - $\$16,566 * 1.7 \text{ miles} / 176 \text{ lots} = \158 per lot . In the current revisions attached the calculations has been provided and are revised to show the breakdown between overhead and underground as the miles are slightly different depending on construction design.

- b. Please calculate the impact on the URD charge of the non-storm operational cost.**

Answer: See attached revised summary of NPV of life cycle costs per mile and per lot broken down between total, non-storm and storm components and overhead and underground.

- c. Please calculate the impact on the URD charge of the storm restorations cost.**

Answer: See attached revised summary of NPV of life cycle costs per mile and per lot broken down between total, non-storm and storm components and overhead and underground.

Q14. The following questions refer to the discount factor used to calculate the NPV of the operational costs:

- a. Please state the formula used to derive the discount factor for year 1 (0.961805271).**

Answer: The formula is $1/(1+.0810)^{((2007-2007)+.05)}$ where .0810 is the discount rate (WACC) and 2007 is the current year – 2007 as the base year +.05 for ½ year convention. This formula is adjusted each year for the variable raised to the power of: the current year less the base year +.05. E.g. for 2010 the formula would be: $1/(1+.0810)^{((2010-2007)+.05)}$.

- b. Please explain PEF's basis for using a "mid-year" discount factor as opposed to an "end of each period" discount factor (i.e., stand Excel NPV formula).**

Answer: The Company's standard method of evaluating the NPV of projects with annual expenditure assumptions (as opposed to monthly) is to assume that the expenditures would be spent ratably during the year. Using a mid-year convention in the NPV calculations simulates expenditures made ratably throughout the year as opposed to beginning of the year or end of the year conventions.

- c. Please re-calculate the underground vs. overhead NPV (currently \$16,566.33) using the standard Excel NPV formula.**

Answer: Using the NPV Excel function, which assumes all costs would be outlaid at the year-end as opposed to ratably throughout the year would result in a differential of (\$15,933.59) compared to the (\$16,566.13) calculated by PEF's mid-year convention NPV method. The revised calculations show the NPV of the life cycle cost differentials

per mile to be (\$5,968) (underground more expensive than overhead). This would be (\$5,740) using the excel NPV function.

Q15. Do both the overhead and underground low density subdivisions have 3.4 circuit miles of distribution lines, or is that number specific to an underground design (with an overhead low density subdivision having a different number of circuit miles)? If that number is specific to an underground low density subdivision only, please state what the circuit miles would be for the same overhead division. Provide the same response for the high density subdivision.

Answer: The miles used in the Company's original differential calculations were specific to underground construction – 3.4 miles for low density and 1.7 miles for high density.

The overhead designs have the following circuit miles:

Low Density 3.65 miles, High Density Individual services 1.57 miles, High Density Gang Services 1.51 miles. In the current revisions attached the calculations has been provided and are revised to show the breakdown between overhead and underground since the miles are slightly different depending on construction design.

Progress Energy Florida
 Actuals for 5 Year Period of 2002-2006
 Summary of NPV Life Cycle Costs per mile for Overhead and Underground Distribution
 Revised 8/22/08

	Including Storm	Excluding Storm	Storm
5 year average OH Unit Costs in 2007 Dollars - Annual	\$ 4,692	\$ 4,030	\$ 662
5 year average UG Unit Costs in 2007 Dollars - Annual	\$ 5,072	\$ 4,902	\$ 170
Differential in 2007 Dollars - OH more (less) than UG	\$ (380)	\$ (872)	\$ 492

NPV of 38 Year Life Cycle

Overhead	\$ 73,648	\$63,258	\$10,390
Underground	\$ 79,616	\$76,946	\$2,670
Differential - OH more (less) than UG	\$ (5,968)	\$ (13,688)	\$ 7,720

NPV Life Cycle Costs - Per Lot Differentials

	OHD	UG			
Low Density					
Feet of Line	19,272	17,920			
Miles of Line	3.65	3.4			
Number of Lots	210	210			
Per Lot - OHD			\$ 1,280	\$ 1,099	\$ 181
Per Lot - UG			\$ 1,287	\$ 1,244	\$ 43
Per Lot - Differential			\$ 7	\$ 144	\$ (137)
High Density-IND					
Feet of Line	8,290	8,850			
Miles of Line	1.57	1.7			
Number of Lots	176	176			
Per Lot - OHD			\$ 657	\$ 564	\$ 93
Per Lot - UG			\$ 758	\$ 733	\$ 25
Per Lot - Differential			\$ 101	\$ 169	\$ (67)
High Density-GNG					
Feet of Line	7,973	8,850			
Miles of Line	1.51	1.7			
Number of Lots	176	176			
Per Lot - OHD			\$ 632	\$ 543	\$ 89
Per Lot - UG			\$ 758	\$ 733	\$ 25
Per Lot - Differential			\$ 126	\$ 190	\$ (64)

0.276615206	0.255888257	0.236714391	0.218977235	0.202589135	0.187390504	0.173349218	0.160360053	0.148344175	0.137228654	0.126946026	0.117433882	0.108634488	0.100494439	0.092964328	0.085998453	0.079554536	0.073593465	0.068079061	0.062977855	0.058258885	0.053893511
2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
-545.42	-557.69	-570.24	-583.07	-596.19	-609.60	-623.32	-637.34	-651.68	-666.34	-681.34	-696.67	-712.34	-728.37	-744.76	-761.51	-778.65	-796.17	-814.08	-832.40	-851.13	-870.28
-545.42	-557.69	-570.24	-583.07	-596.19	-609.60	-623.32	-637.34	-651.68	-666.34	-681.34	-696.67	-712.34	-728.37	-744.76	-761.51	-778.65	-796.17	-814.08	-832.40	-851.13	-870.28

Progress Energy Florida
 Calculation of NPV for Life Cycle
 Overhead based 5 yr Avg Unit Cost of Circuit Miles

Discount Rate	Florida WACC	8.10%															
Tax Rate		0.00%															
Discount Factor		0.961805271	0.889736606	0.823068091	0.761395089	0.704343283	0.651566404	0.60274413	0.557580138	0.515800313	0.477151076	0.44139785	0.408323636	0.377727692	0.349424322	0.323241741	0.299021037
	NPV	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Total Cost w/Storm Costs		4,691.98	4,809.29	4,929.52	5,040.43	5,153.84	5,269.80	5,388.37	5,509.61	5,633.58	5,760.33	5,889.94	6,022.47	6,157.97	6,296.53	6,438.20	6,583.06
NPV using Discount Factor(mid-yr convention)	\$73,648	4,691.98	4,809.29	4,929.52	5,040.43	5,153.84	5,269.80	5,388.37	5,509.61	5,633.58	5,760.33	5,889.94	6,022.47	6,157.97	6,296.53	6,438.20	6,583.06
NPV using NPV Function (EOY convention)	\$70,835																

Circuit Miles fr FRAME	Overhead				
	2002	2003	2004	2005	2006
	24,377	24,605	24,828	24,930	25,238
Grand Totals with Entire (All Depts) including Major Storm Costs	92,889,132	159,310,060	82,050,290	78,531,509	89,637,131
Costs in 2007 Dollars	\$ 114,965,680	\$ 193,214,173	\$ 94,762,306	\$ 85,670,737	\$ 91,814,299
Unit Costs (in Circuit Miles) in 2007 Dollars	\$ 4,716	\$ 7,853	\$ 3,817	\$ 3,436	\$ 3,638
5 year average Costs in 2007 Dollars	\$ 116,085,439				
5 year average Unit Costs in 2007 Dollars	\$ 4,692				

0.276615206	0.255888257	0.236714391	0.218977235	0.202569135	0.187390504	0.173349218	0.160360053	0.148344175	0.137228654	0.126946026	0.117433882	0.108634488	0.100494439	0.092964328	0.085998453	0.079554536	0.073593465	0.068079061	0.062977855	0.058258885	0.053893511
2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
6,731.18	6,882.63	7,037.49	7,195.83	7,357.74	7,523.29	7,692.56	7,865.64	8,042.62	8,223.58	8,406.61	8,597.80	8,791.25	8,989.06	9,191.31	9,398.11	9,609.57	9,825.79	10,046.87	10,272.92	10,504.06	10,740.40
6,731.16	6,882.63	7,037.49	7,195.83	7,357.74	7,523.29	7,692.56	7,865.64	8,042.62	8,223.58	8,406.61	8,597.80	8,791.25	8,989.06	9,191.31	9,398.11	9,609.57	9,825.79	10,046.87	10,272.92	10,504.06	10,740.40

Progress Energy Florida
 Calculation of NPV for Life Cycle
 Overhead based 5 yr Avg Unit Cost of Circuit Miles

Discount Rate	Florida WACC	8.10%															
Tax Rate		0.00%															
Discount Factor		0.961805271	0.889736606	0.823068091	0.761395089	0.704343283	0.651666404	0.60274413	0.557580138	0.515800313	0.477151076	0.44139785	0.408323636	0.377727692	0.349424322	0.323241741	0.299021037
	NPV	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Total Cost w/Storm Costs		4,030.04	4,130.79	4,234.06	4,329.33	4,426.74	4,526.34	4,628.18	4,732.32	4,838.79	4,947.67	5,058.99	5,172.82	5,289.20	5,408.21	5,529.90	5,654.32
NPV using Discount Factor(mid-yr convention)	\$63,258	4,030.04	4,130.79	4,234.06	4,329.33	4,426.74	4,526.34	4,628.18	4,732.32	4,838.79	4,947.67	5,058.99	5,172.82	5,289.20	5,408.21	5,529.90	5,654.32
NPV using NPV Function (EOY convention)	\$60,842																

Circuit Miles fr FRAME	Overhead				
	2002	2003	2004	2005	2006
	24,377	24,605	24,828	24,930	25,238
Grand Totals with Entire (All Depts) Excluding Major Storm Costs	79,457,971	145,778,696	67,940,690	63,488,013	73,615,195
Costs in 2007 Dollars	\$ 98,554,593	\$ 176,603,086	\$ 78,351,219	\$ 69,259,650	\$ 75,403,212
Unit Costs (in Circuit Miles) in 2007 Dollars	\$ 4,043	\$ 7,186	\$ 3,156	\$ 2,778	\$ 2,988
5 year average Costs in 2007 Dollars	\$ 99,674,352				
5 year average Unit Costs in 2007 Dollars	\$ 4,030				
	86%				

0.276615206	0.255886257	0.236714391	0.218977235	0.202569135	0.187390504	0.173349218	0.160360053	0.148344175	0.137228654	0.126946026	0.117433882	0.108634488	0.100494439	0.092964328	0.085998453	0.079554536	0.073593465	0.068079061	0.062977855	0.058258885	0.053893511
2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
5,781.54	5,911.62	6,044.64	6,180.64	6,319.71	6,461.90	6,607.29	6,755.96	6,907.96	7,063.39	7,222.32	7,384.82	7,550.98	7,720.88	7,894.60	8,072.23	8,253.85	8,439.56	8,629.45	8,823.62	9,022.15	9,225.15
5,781.54	5,911.62	6,044.64	6,180.64	6,319.71	6,461.90	6,607.29	6,755.96	6,907.96	7,063.39	7,222.32	7,384.82	7,550.98	7,720.88	7,894.60	8,072.23	8,253.85	8,439.56	8,629.45	8,823.62	9,022.15	9,225.15

Progress Energy Florida
Calculation of NPV for Life Cycle
Underground based 5 yr Avg Unit Cost of Circuit Miles

Discount Rate	Florida WACC	8.10%															
Tax Rate		0.00%															
Discount Factor		0.961805271	0.889736606	0.823068091	0.761395089	0.704343283	0.651566404	0.60274413	0.557580138	0.515800313	0.477151076	0.44139785	0.408323636	0.377727692	0.349424322	0.323241741	0.299021037
	NPV	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Total Cost w/Storm Costs		5,072.17	5,198.98	5,328.95	5,448.85	5,571.45	5,696.81	5,824.99	5,956.05	6,090.06	6,227.09	6,367.19	6,510.46	6,656.94	6,806.72	6,959.87	7,116.47
NPV using Discount Factor(mid-yr convention)	\$79,616	5,072.17	5,198.98	5,328.95	5,448.85	5,571.45	5,696.81	5,824.99	5,956.05	6,090.06	6,227.09	6,367.19	6,510.46	6,656.94	6,806.72	6,959.87	7,116.47
NPV using NPV Function (EOY convention)	\$76,575																

Circuit Miles fr FRAME

Underground				
2002	2003	2004	2005	2006
14,186	14,949	15,993	17,199	18,488
77,354,149	103,964,336	52,924,485	48,316,088	59,135,323
95,945,146	126,089,860	61,124,053	52,708,458	60,571,642
\$ 6,763	\$ 8,435	\$ 3,822	\$ 3,065	\$ 3,276

Grand Totals with Entire (All Depts) Including Major Storm Costs
 Costs in 2007 Dollars
 Unit Costs (in Circuit Miles) in 2007 Dollars
 5 year average Costs in 2007 Dollars
 5 year average Unit Costs in 2007 Dollars

79,287,832
 \$ 5,072

0.276615206	0.255888257	0.236714391	0.218977235	0.202569135	0.187390504	0.173349218	0.160360053	0.148344175	0.137228654	0.126946026	0.117433882	0.108634488	0.100494439	0.092964328	0.085998453	0.079554536	0.073593465	0.068079061	0.062977855	0.058258885	0.053893511
2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
7,276.59	7,440.32	7,607.72	7,778.90	7,953.92	8,132.88	8,315.87	8,502.98	8,694.30	8,889.92	9,089.94	9,294.47	9,503.59	9,717.42	9,936.07	10,159.63	10,388.22	10,621.95	10,860.95	11,105.32	11,355.19	11,610.68
7,276.59	7,440.32	7,607.72	7,778.90	7,953.92	8,132.88	8,315.87	8,502.98	8,694.30	8,889.92	9,089.94	9,294.47	9,503.59	9,717.42	9,936.07	10,159.63	10,388.22	10,621.95	10,860.95	11,105.32	11,355.19	11,610.68

Progress Energy Florida
 Calculation of NPV for Life Cycle
 Underground based 5 yr Avg Unit Cost of Circuit Miles

Discount Rate	Florida WACC	8.10%															
Tax Rate		0.00%															
Discount Factor		0.961805271	0.889736606	0.823068091	0.761395089	0.704343283	0.651566404	0.60274413	0.557580138	0.515800313	0.477151076	0.44139785	0.408323636	0.377727692	0.349424322	0.323241741	0.299021037
	NPV	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Cost w/Storm Costs		4,902.04	5,024.60	5,150.21	5,266.09	5,384.58	5,505.73	5,629.61	5,756.28	5,885.79	6,018.22	6,153.63	6,292.09	6,433.66	6,578.42	6,726.43	6,877.78
NPV using Discount Factor(mid-yr convention)	\$76,946	4,902.04	-5,024.60	5,150.21	5,266.09	5,384.58	5,505.73	5,629.61	5,756.28	5,885.79	6,018.22	6,153.63	6,292.09	6,433.66	6,578.42	6,726.43	6,877.78
NPV using NPV Function (EOY convention)	\$74,007																

Circuit Miles fr FRAME

Underground				
2002	2003	2004	2005	2006
14,186	14,949	15,993	17,199	16,488
74,644,152	101,231,670	50,014,085	48,316,086	55,853,722
92,583,839	122,775,633	57,762,746	52,708,458	57,210,335
\$ 6,526	\$ 8,213	\$ 3,612	\$ 3,065	\$ 3,094

Grand Totals with Entire (All Depts) Excluding Major Storm Costs
 Costs in 2007 Dollars
 Unit Costs (in Circuit Miles) in 2007 Dollars
 5 year average Costs in 2007 Dollars
 5 year average Unit Costs in 2007 Dollars

76,608,202
 \$ 4.902

0.276615206	0.255888257	0.236714391	0.218977235	0.202569135	0.187390504	0.173349218	0.160360053	0.148344175	0.137228654	0.126946026	0.117433882	0.108634488	0.100494439	0.092964328	0.085998453	0.079554536	0.073593465	0.068079061	0.062977855	0.058258885	0.053893511
2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
7,032.53	7,190.76	7,352.55	7,517.98	7,687.14	7,860.10	8,036.95	8,217.78	8,402.68	8,591.74	8,785.06	8,982.72	9,184.83	9,391.49	9,602.80	9,818.86	10,039.79	10,265.68	10,496.66	10,732.83	10,974.32	11,221.25
7,032.53	7,190.76	7,352.55	7,517.98	7,687.14	7,860.10	8,036.95	8,217.78	8,402.68	8,591.74	8,785.06	8,982.72	9,184.83	9,391.49	9,602.80	9,818.86	10,039.79	10,265.68	10,496.66	10,732.83	10,974.32	11,221.25



Historical Unit Cost Summary
2002 to 2006 Comparison Cost per Circuit Mile (OH vs. UG)

Activities	Replacements																			
	OH																			
	%	2002	Capital	O&M	%	2003	Capital	O&M	%	2004	Capital	O&M	%	2005	Capital	O&M	%	2006	Capital	O&M
D5201 - CONSTRUCT OH SYS IMPROVEMENTS	77%	13,883,871	13,883,871	-	78%	20,783,229	20,783,229	-	61%	8,187,532	8,187,532	-	77%	4,648,641	4,648,641	-	71%	7,694,105	7,694,105	-
D5304 - INSTALL/REMOVE METERS	1%	67,971	-	67,971	40%	3,915,799	-	3,915,799	53%	2,647,627	-	2,647,627	100%	5,296,966	-	5,296,966	26%	1,509,094	-	1,509,094
D7105 - REPLACE POLES ID'D BY INSPECTN	97%	2,759,820	2,759,820	-	91%	3,343,180	3,343,180	-	96%	573,068	573,068	-	89%	506,214	506,214	-	97%	3,164,490	3,164,490	-
D7201 - PROV AL/SL LAMPS/PHOT CTLs-MTL	84%	2,361,046	2,361,046	-	59%	3,256,249	3,256,249	-	43%	908,193	908,193	-	49%	1,353,292	1,353,292	-	51%	1,490,114	1,490,114	-
D7211 - AREA&SL CABLE REPLACE-CAP (Start 07)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D7212 - AREA & STREET LIGHT OH/UG-CAP (Start 07)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D7213 - OUTAGE RESTORE - OH REPLACE (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	110%	2,402,529	2,402,529	-	92%	2,359,018	2,359,018	-
D7214 - OUTAGE RESTORE - U/G REPLACE (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	2%	28,103	28,103	-	2%	34,114	34,114	-

Activities	Operations																			
	OH																			
	%	2002	Capital	O&M	%	2003	Capital	O&M	%	2004	Capital	O&M	%	2005	Capital	O&M	%	2006	Capital	O&M
B6102 - MODIFY IT	50%	154,381	-	154,381	50%	46,133	-	46,133	50%	50,270	-	50,270	50%	61,830	-	61,830	50%	478,292	-	478,292
D5401 - LOCATE UNDERGROUND LINES	10%	179,668	17,967	161,701	10%	391,111	39,111	352,000	10%	250,030	25,003	225,027	10%	257,419	25,742	231,677	10%	274,775	27,478	247,299
D6102 - PERFORM LINE OPERATIONS	0%	-	-	-	26%	937,153	-	937,153	72%	2,953,696	-	2,953,696	0%	-	-	-	100%	1,866,696	-	1,866,696
D6103 - PERFORM SUBSTATION OPERATIONS	50%	2,089	1,045	1,045	50%	1,492	746	746	50%	1,009	505	505	50%	1,626	813	813	50%	-	-	-
D6206 - PERF DISTRIBUTION DISPATCHING	50%	2,412,333	-	2,412,333	50%	4,409,716	-	4,409,716	50%	2,413,763	-	2,413,763	50%	2,048,853	-	2,048,853	50%	1,905,791	-	1,905,791
D6208 - SD-99 ORDERS (Start 07)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D7108 - PERF ROW MAINT - DISTRIBUTION	90%	11,894,813	-	11,894,813	90%	24,426,017	-	24,426,017	90%	14,042,076	-	14,042,076	90%	12,922,147	-	12,922,147	90%	15,992,640	-	15,992,640

Activities	Maintenance																			
	OH																			
	%	2002	Capital	O&M	%	2003	Capital	O&M	%	2004	Capital	O&M	%	2005	Capital	O&M	%	2006	Capital	O&M
D5202 - CONSTRUCT UG SYS IMPROVEMENTS	2%	284,014	272,654	11,361	2%	313,481	300,941	12,539	2%	117,871	113,156	4,715	34%	4,024,422	3,863,445	160,977	34%	6,367,646	6,112,940	254,706
D6101 - PROVIDE OPERATIONS ENGINEERING	30%	6,060,299	-	6,060,299	45%	9,554,042	-	9,554,042	37%	513,385	-	513,385	40%	624,911	-	624,911	66%	1,069,110	-	1,069,110
D7101 - MAINTAIN OVERHEAD LINES - PM	54%	219,639	65,892	153,747	98%	269,943	80,983	188,960	100%	(1,908.00)	(572)	(1,336)	100%	181,477	54,443	127,034	99%	238,827	71,648	167,179
D7102 - MAINTAIN UG LINES - PM	2%	3,174	-	3,174	0%	-	-	-	0%	-	-	-	0%	-	-	-	0%	-	-	-
D7103 - INSPECT DISTRIBUTN FACILITIES	54%	1,687,656	-	1,687,656	98%	3,243,292	-	3,243,292	100%	30,197	-	30,197	0%	-	-	-	35%	294,469	-	294,469
D7104 - REINFORCE POLES	100%	194,864	-	194,864	100%	431,890	-	431,890	100%	112,074	-	112,074	100%	15,224	-	15,224	100%	6,853	-	6,853
D7106 - TREAT POLES - GROUND LINE	100%	549,946	-	549,946	100%	978,976	-	978,976	100%	351,085	-	351,085	100%	155,156	-	155,156	100%	2,300,531	-	2,300,531
D7107 - MAINT METERS/METERNG EQPMT- PM	50%	8,526	-	8,526	50%	224,877	-	224,877	50%	351,835	-	351,835	50%	311,648	-	311,648	50%	326,444	-	326,444
D7203 - OUTAGE RESTORE - OH REPAIR	73%	15,211,382	-	15,211,382	79%	29,439,367	-	29,439,367	78%	15,537,801	-	15,537,801	82%	10,420,531	-	10,420,531	88%	8,454,824	-	8,454,824
D7204 - OUTAGE RESTORE - U/G REPAIR	4%	606,464	139,487	466,977	6%	1,475,069	339,266	1,135,803	2%	318,898	73,346	245,551	8%	632,443	145,462	486,981	5%	391,823	90,119	301,704
D7205 - REPAIR TRANSFORMERS	50%	16,256	-	16,256	50%	336,650	-	336,650	50%	151,320	-	151,320	50%	41,737	-	41,737	50%	273,467	-	273,467
D7207 - REPAIR STREET LIGHTS	66%	2,913,082	-	2,913,082	80%	6,953,429	-	6,953,429	84%	4,893,891	-	4,893,891	85%	3,956,305	-	3,956,305	86%	3,687,853	-	3,687,853
D7208 - REPAIR METERS & METERING EQPMT	92%	904,742	-	904,742	82%	1,093,030	-	1,093,030	96%	246,389	-	246,389	93%	287,374	-	287,374	96%	367,121	-	367,121
D7209 - CLEAN UP OIL SPILLS	75%	605,563	-	605,563	87%	1,430,074	-	1,430,074	114%	1,127,317	-	1,127,317	97%	651,676	-	651,676	79%	695,101	-	695,101
D7210 - CORRECT MAINT - LIGHTING CABLE	8%	391	-	391	28%	103,511	-	103,511	2%	5,602	-	5,602	4%	19,449	-	19,449	4%	15,227	-	15,227
D7215 - CORRECT MAINT - OH REPAIR (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	50%	1,147,658	-	1,147,658	59%	1,194,612	-	1,194,612
D7216 - CORRECT MAINT - U/G REPAIR (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	2%	33,030	-	33,030	1%	40,915	-	40,915
D7217 - CORRECT MAINT - OH REPLACE (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	82%	905,289	905,289	-	65%	1,254,111	1,254,111	-
D7218 - CORRECT MAINT - U/G REPLACE (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	2%	62,986	62,986	-	1%	40,713	40,713	-



Historical Unit Cost Summary
2002 to 2006 Comparison Cost per Circuit Mile (OH vs. UG)

	% Impact	Indirectly Impacts																			
		OH																			
		%	2002	Capital	O&M	%	2003	Capital	O&M	%	2004	Capital	O&M	%	2005	Capital	O&M	%	2006	Capital	O&M
B1302 - SUPPORT EMPLOYEE SAFETY	30%	26%	131,888	-	131,888	8%	101,875	-	101,875	25%	302,568	-	302,568	48%	494,314	-	494,314	61%	635,174	-	635,174
B1404 - ATTEND TRAINING	15%	50%	490,484	-	490,484	100%	1,292,124	-	1,292,124	81%	674,634	-	674,634	100%	817,212	-	817,212	81%	538,046	-	538,046
B1501 - PROVIDE MGMT/PROJECT SUPERVSN	25%	50%	1,544,768	417,087	1,127,681	50%	1,249,313	337,315	911,998	50%	1,719,665	464,310	1,255,356	50%	1,764,251	476,348	1,287,903	50%	2,487,449	671,611	1,815,837
B1504 - PROVIDE OFFICE SVCS SUPPORT	25%	51%	951,531	275,944	675,587	67%	1,674,189	485,515	1,188,674	74%	1,162,014	336,984	825,030	50%	1,616,527	468,793	1,147,734	71%	2,403,732	697,082	1,706,650
B7206 - PRE-CHARGE MATERIALS	50%	57%	1,819,093	545,728	1,273,365	59%	3,633,452	1,090,036	2,543,417	66%	1,512,203	453,661	1,058,542	63%	1,501,143	450,343	1,050,800	60%	1,106,275	331,882	774,392
C0200 - ANALYZE POWER QUALITY	80%	50%	129,413	93,178	36,236	50%	98,144	70,664	27,480	50%	584,403	420,770	163,633	50%	359,724	259,001	100,723	50%	294,477	212,023	82,453
D6205 - PROV GENL DISTRIBUTION SYS SPT	50%	75%	11,408,801	4,563,520	6,845,281	81%	20,371,889	8,148,756	12,223,133	57%	6,102,178	2,440,871	3,661,307	66%	3,935,907	1,574,363	2,361,544	86%	2,361,263	944,505	1,416,758

Major Storms																				
OH																				
%	2002	Capital	O&M	%	2003	Capital	O&M	%	2004	Capital	O&M	%	2005	Capital	O&M	%	2006	Capital	O&M	
Major Storm Costs (Per the Rapid Update Study)	83%	13,231,161	1,851,097	11,380,064	83%	13,531,364	1,893,097	11,638,267	83%	14,209,600	1,987,985	12,221,615	83%	15,043,497	2,104,651	12,938,846	83%	16,021,936	2,241,539	13,780,397

	Totals	Overhead														
		2002		2003		2004		2005		2006						
		Capital	O&M	Capital	O&M	Capital	O&M	Capital	O&M	Capital	O&M					
Replacements		19,072,708	19,004,737	67,971	31,298,457	27,382,658	3,915,799	12,316,421	9,668,794	2,647,627	14,235,745	8,938,779	5,296,966	16,250,936	14,741,841	1,509,094
Operations		14,643,285	19,012	14,624,273	30,211,622	39,857	30,171,765	19,710,845	25,508	19,685,337	15,291,876	26,555	15,265,321	20,518,195	27,478	20,490,717
Maintenance		29,266,000	478,032	28,787,967	55,847,631	721,190	55,126,441	23,755,758	185,930	23,569,828	23,471,315	5,031,625	18,439,690	27,019,649	7,569,532	19,450,117
Indirectly Impacts		16,475,979	5,895,457	10,580,522	28,420,987	10,132,285	18,288,702	12,057,666	4,116,596	7,941,070	10,489,077	3,228,847	7,260,230	9,826,415	2,857,104	6,969,311
Grand Totals		79,457,971	25,397,238	54,060,733	145,778,696	38,275,990	107,502,707	67,840,690	13,996,827	53,843,862	63,488,013	17,225,806	46,262,206	73,615,195	25,195,956	48,419,239

Circuit Miles fr FRAME	%	Overhead														
		2002		2003		2004		2005		2006						
		Capital	O&M	Capital	O&M	Capital	O&M	Capital	O&M	Capital	O&M					
Unit Cost (in Circuit Miles) Excluding Major Storm Costs	38%	\$ 79,457,971	\$ 25,397,238	\$ 54,060,733	\$ 145,778,696	\$ 38,275,990	\$ 107,502,707	\$ 67,840,690	\$ 13,996,827	\$ 53,843,862	\$ 63,488,013	\$ 17,225,806	\$ 46,262,206	\$ 73,615,195	\$ 25,195,956	\$ 48,419,239
Grand Totals with Rapid Study Estimated Major Storm Costs	41%	\$ 92,689,132	\$ 27,248,336	\$ 65,440,797	\$ 159,310,060	\$ 40,169,087	\$ 119,140,973	\$ 82,050,290	\$ 15,984,813	\$ 66,065,477	\$ 78,531,509	\$ 19,330,458	\$ 59,201,052	\$ 89,637,131	\$ 27,437,495	\$ 62,199,636
Unit Costs (in Circuit Miles)	41%	\$ 3,802	\$ 1,118	\$ 2,685	\$ 6,475	\$ 1,633	\$ 4,842	\$ 3,305	\$ 644	\$ 2,661	\$ 3,150	\$ 775	\$ 2,375	\$ 3,552	\$ 1,087	\$ 2,465



Historical Unit Cost Summary
2002 to 2006 Comparison Cost per Circuit Mile (OH vs. UG)

Activities	Replacements																			
	UG				UG				UG				UG							
	%	2002	Capital	O&M	%	2003	Capital	O&M	%	2004	Capital	O&M	%	2005	Capital	O&M	%	2006	Capital	O&M
D5201 - CONSTRUCT OH SYS IMPROVEMENTS	23%	4,231,786	4,231,786	-	22%	5,896,743	5,896,743	-	39%	5,311,507	5,311,507	-	23%	1,402,001	1,402,001	-	29%	3,187,178	3,187,178	-
D5304 - INSTALL/REMOVE METERS	99%	5,829,474	-	5,829,474	60%	5,964,216	-	5,964,216	47%	2,337,191	-	2,337,191	0%	-	-	-	74%	4,303,967	-	4,303,967
D7105 - REPLACE POLES ID'D BY INSPECTN	3%	92,995	92,995	-	9%	324,570	324,570	-	4%	21,075	21,075	-	11%	59,577	59,577	-	3%	104,710	104,710	-
D7201 - PROV AL/SL LAMPS/PHOT CTLS-MTL	16%	463,908	463,908	-	41%	2,286,691	2,286,691	-	57%	1,205,014	1,205,014	-	51%	1,386,407	1,386,407	-	49%	1,450,221	1,450,221	-
D7211 - AREA&SL CABLE REPLACE-CAP (Start 07)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D7212 - AREA & STREET LIGHT OH/UG-CAP (Start 07)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D7213 - OUTAGE RESTORE - O/H REPLACE (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	-10%	(227,005)	(227,005)	-	8%	197,734	197,734	-
D7214 - OUTAGE RESTORE - U/G REPLACE (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	98%	1,379,917	1,379,917	-	98%	1,566,432	1,566,432	-

Activities	Operations																			
	UG				UG				UG				UG							
	%	2002	Capital	O&M	%	2003	Capital	O&M	%	2004	Capital	O&M	%	2005	Capital	O&M	%	2006	Capital	O&M
B6102 - MODIFY IT	50%	154,381	-	154,381	50%	46,133	-	46,133	50%	50,270	-	50,270	50%	61,830	-	61,830	50%	478,292	-	478,292
D5401 - LOCATE UNDERGROUND LINES	90%	1,617,008	161,701	1,455,308	90%	3,520,000	352,000	3,168,000	90%	2,250,267	225,027	2,025,241	90%	2,316,772	231,677	2,085,095	90%	2,472,987	247,299	2,225,688
D6102 - PERFORM LINE OPERATIONS	100%	1,625,776	-	1,625,776	74%	2,630,309	-	2,630,309	28%	1,161,949	-	1,161,949	100%	1,833,492	-	1,833,492	0%	-	-	-
D6103 - PERFORM SUBSTATION OPERATIONS	50%	2,089	1,045	1,045	50%	1,492	746	746	50%	1,009	505	505	50%	1,626	813	813	50%	-	-	-
D6206 - PERF DISTRIBUTION DISPATCHING	50%	2,412,333	-	2,412,333	50%	4,409,716	-	4,409,716	50%	2,413,763	-	2,413,763	50%	2,048,853	-	2,048,853	50%	1,905,791	-	1,905,791
D6208 - SD-99 ORDERS (Start 07)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D7108 - PERF ROW MAINT - DISTRIBUTION	10%	1,321,646	-	1,321,646	10%	2,714,002	-	2,714,002	10%	1,560,231	-	1,560,231	10%	1,435,794	-	1,435,794	10%	1,776,960	-	1,776,960

Activities	Maintenance																			
	UG				UG				UG				UG							
	%	2002	Capital	O&M	%	2003	Capital	O&M	%	2004	Capital	O&M	%	2005	Capital	O&M	%	2006	Capital	O&M
D5202 - CONSTRUCT UG SYS IMPROVEMENTS	98%	12,185,488	11,698,068	487,420	98%	16,236,420	15,586,963	649,457	98%	5,168,447	4,961,709	206,738	66%	7,966,698	7,648,030	318,668	66%	12,487,147	11,987,661	499,486
D6101 - PROVIDE OPERATIONS ENGINEERING	70%	13,874,146	-	13,874,146	55%	11,453,965	-	11,453,965	63%	857,121	-	857,121	60%	942,925	-	942,925	34%	552,137	-	552,137
D7101 - MAINTAIN OVERHEAD LINES - PM	46%	186,696	56,009	130,687	2%	6,643	1,993	4,650	0%	-	-	-	0%	646	194	452	1%	3,471	1,041	2,430
D7102 - MAINTAIN UG LINES - PM	98%	193,494	-	193,494	100%	181,557	-	181,557	100%	-	-	-	100%	-	-	-	100%	-	-	-
D7103 - INSPECT DISTRIBUTN FACILITIES	46%	1,423,323	-	1,423,323	2%	82,752	-	82,752	0%	-	-	-	100%	106,681	-	106,681	65%	546,872	-	546,872
D7104 - REINFORCE POLES	0%	-	-	-	0%	-	-	-	0%	-	-	-	0%	-	-	-	0%	-	-	-
D7106 - TREAT POLES - GROUND LINE	0%	-	-	-	0%	-	-	-	0%	-	-	-	0%	-	-	-	0%	-	-	-
D7107 - MAINT METERS/METERNG EQPMT- PM	50%	8,526	-	8,526	50%	224,877	-	224,877	50%	351,835	-	351,835	50%	311,648	-	311,648	50%	326,444	-	326,444
D7203 - OUTAGE RESTORE - O/H REPAIR	27%	5,754,647	-	5,754,647	21%	7,798,001	-	7,798,001	22%	4,262,274	-	4,262,274	18%	2,357,345	-	2,357,345	12%	1,189,163	-	1,189,163
D7204 - OUTAGE RESTORE - U/G REPAIR	96%	12,907,571	2,968,741	9,938,830	94%	24,066,988	5,535,407	18,531,580	98%	12,629,412	2,904,765	9,724,647	92%	7,525,707	1,730,913	5,794,794	95%	7,625,102	1,753,774	5,871,329
D7205 - REPAIR TRANSFORMERS	50%	16,256	-	16,256	50%	336,650	-	336,650	50%	151,320	-	151,320	50%	41,737	-	41,737	50%	273,467	-	273,467
D7207 - REPAIR STREET LIGHTS	34%	1,527,845	-	1,527,845	20%	1,750,500	-	1,750,500	16%	939,489	-	939,489	15%	694,522	-	694,522	14%	609,567	-	609,567
D7208 - REPAIR METERS & METERING EQPMT	8%	76,969	-	76,969	18%	232,286	-	232,286	4%	10,625	-	10,625	7%	20,609	-	20,609	4%	15,138	-	15,138
D7209 - CLEAN UP OIL SPILLS	25%	205,312	-	205,312	13%	205,363	-	205,363	-14%	(142,658)	-	(142,658)	3%	20,468	-	20,468	21%	190,321	-	190,321
D7210 - CORRECT MAINT - LIGHTING CABLE	92%	4,567	-	4,567	72%	265,448	-	265,448	98%	343,145	-	343,145	96%	486,133	-	486,133	96%	349,304	-	349,304
D7215 - CORRECT MAINT - O/H REPAIR (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	50%	1,160,638	-	1,160,638	41%	819,225	-	819,225
D7216 - CORRECT MAINT - U/G REPAIR (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	98%	1,509,316	-	1,509,316	99%	3,231,952	-	3,231,952
D7217 - CORRECT MAINT - O/H REPLACE (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	18%	200,975	200,975	-	35%	661,917	661,917	-
D7218 - CORRECT MAINT - U/G REPLACE (Start 05)	-	-	-	-	-	-	-	-	-	-	-	-	98%	2,991,280	2,991,280	-	99%	4,110,832	4,110,832	-



Historical Unit Cost Summary
2002 to 2006 Comparison Cost per Circuit Mile (OH vs. UG)

% Impact	Indirectly Impacts																				
	UG																				
	%	2002	Capital	O&M	%	2003	Capital	O&M	%	2004	Capital	O&M	%	2005	Capital	O&M	%	2006	Capital	O&M	
B1302 - SUPPORT EMPLOYEE SAFETY	30%	74%	366,912	-	366,912	92%	1,251,961	-	1,251,961	75%	902,814	-	902,814	52%	544,041	-	544,041	39%	406,792	-	406,792
B1404 - ATTEND TRAINING	15%	50%	490,484	-	490,484	0%	-	-	-	19%	163,218	-	163,218	0%	-	-	-	19%	130,172	-	130,172
B1501 - PROVIDE MGMT/PROJECT SUPERVSN	25%	50%	1,544,768	417,087	1,127,681	50%	1,249,313	337,315	911,998	50%	1,719,665	464,310	1,255,356	50%	1,764,251	476,348	1,287,903	50%	2,487,449	671,611	1,815,837
B1504 - PROVIDE OFFICE SVCS SUPPORT	25%	49%	926,227	268,606	657,621	33%	808,936	234,592	574,345	26%	401,220	116,354	284,866	50%	1,616,527	468,793	1,147,734	29%	975,273	282,829	692,444
B7206 - PRE-CHARGE MATERIALS	50%	43%	1,360,960	408,288	952,672	41%	2,526,793	758,038	1,768,755	34%	786,594	235,978	550,616	37%	881,603	264,481	617,122	40%	731,251	219,375	511,876
C0200 - ANALYZE POWER QUALITY	80%	50%	129,413	93,178	36,236	50%	98,144	70,664	27,480	50%	584,403	420,770	163,633	50%	359,724	259,001	100,723	50%	294,477	212,023	82,453
D6205 - PROV GENL DISTRIBUTION SYS SPT	50%	25%	3,709,150	1,483,660	2,225,490	19%	4,661,200	1,864,480	2,796,720	43%	4,572,884	1,829,154	2,743,730	34%	2,032,150	812,860	1,219,290	14%	391,976	156,790	235,186

Major Storm Costs (Per the Rapid Update Study)	Major Storms																			
	UG																			
	%	2002	Capital	O&M	%	2003	Capital	O&M	%	2004	Capital	O&M	%	2005	Capital	O&M	%	2006	Capital	O&M
	17%	2,709,997	379,140	2,330,856	17%	2,732,666	382,312	2,350,354	17%	2,910,400	407,178	2,503,222	17%	3,081,198	431,073	2,650,125	17%	3,281,601	459,110	2,822,491

Totals	Underground														
	2002			2003			2004			2005			2006		
	Capital	O&M	Total	Capital	O&M	Total	Capital	O&M	Total	Capital	O&M	Total	Capital	O&M	Total
Replacements	10,618,163	4,788,689	15,406,852	14,472,220	8,508,004	22,980,224	8,874,787	6,537,596	15,412,383	4,000,898	4,000,898	8,001,796	10,810,242	6,506,275	17,316,517
Operations	7,133,235	162,746	7,295,981	13,321,652	352,746	13,674,398	7,437,489	225,531	7,663,020	7,698,368	232,490	7,930,858	6,634,029	247,299	6,881,328
Maintenance	48,364,839	14,722,818	63,087,657	62,841,450	21,124,363	83,965,813	24,571,011	7,866,474	32,437,485	26,337,327	13,765,936	40,103,263	32,992,061	18,515,226	51,507,287
Indirectly Impacts	8,527,915	2,670,819	11,198,734	10,596,348	3,265,088	13,861,436	9,130,798	3,066,566	12,197,364	7,198,296	2,281,483	9,479,779	5,417,390	1,542,629	6,960,019
Grand Totals	74,644,152	22,345,072	96,989,224	101,231,670	33,250,201	134,481,871	50,014,085	17,696,167	67,710,252	45,234,888	19,086,262	64,321,150	55,853,722	26,811,429	82,665,151

Circuit Miles fr FRAME	Underground															
	2002			2003			2004			2005			2006			
	Capital	O&M	Total	Capital	O&M	Total	Capital	O&M	Total	Capital	O&M	Total	Capital	O&M	Total	
Unit Cost (in Circuit Miles) Excluding Major Storm Costs	74,644,152	22,345,072	96,989,224	101,231,670	33,250,201	134,481,871	50,014,085	17,696,167	67,710,252	45,234,888	19,086,262	64,321,150	55,853,722	26,811,429	82,665,151	
Grand Totals with Rapid Study Estimated Major Storm Costs	77,354,149	22,724,212	100,078,361	103,964,336	33,632,513	137,596,849	52,924,485	18,103,344	71,027,829	48,316,086	19,517,335	67,833,421	59,135,323	27,270,539	86,405,862	
Unit Costs (in Circuit Miles)	59%	\$ 5,453	\$ 1,602	\$ 3,851	52%	\$ 6,954	\$ 2,250	\$ 4,705	50%	\$ 3,309	\$ 1,132	\$ 2,177	47%	\$ 2,809	\$ 1,135	\$ 1,674

**Progress Energy Florida
NPV Life Cycle Cost Analysis
Data Inputs and Assumptions**

Storm Costs used from 2005 Rapid Response Study	\$	21,400,000	Expected Annual Storm Costs in 2004 dollars per Steve Harris rebuttal before the FPSC
Percentage of T&D storm costs allocated to Distribution		80%	Based on per 2004 / 2005 Actual Experience
Base Year Storm Costs Rate	\$	17,120,000	Distribution Expected Annual Storm Costs in 2004 dollars
Percentage of storm costs allocated to overhead		83%	Based on per 2004 / 2005 Actual Experience
Underground life used based on Depreciation Study	38 years		
Corporate Std Inflation Rate 2008-2009	1.025		Based on Corporate standard for 2008
Corporate Std Inflation Rate 2010-2044	1.0225		Based on Corporate standard for 2010-2044
2002 TREND Data	1.19	Used to calculate 2002 costs to 2007 dollars	based on JEDOMMS index
2003 TREND Data	1.217	Used to calculate 2003 costs to 2007 dollars	based on JEDOMMS index
2004 TREND Data	1.278	Used to calculate 2004 costs to 2007 dollars	based on JEDOMMS index
2005 TREND Data	1.353	Used to calculate 2005 costs to 2007 dollars	based on JEDOMMS index
2006 TREND Data	1.441	Used to calculate 2006 costs to 2007 dollars	based on JEDOMMS index
2007 TREND Data	1.476		based on JEDOMMS index
2003 TREND Data Inflation Rate	1.023	2003 TREND/2002 TREND	
2004 TREND Data Inflation Rate	1.050	2004 TREND/2003 TREND	
2005 TREND Data Inflation Rate	1.059	2005 TREND/2004 TREND	
2006 TREND Data Inflation Rate	1.065	2006 TREND/2005 TREND	
2007 TREND Data Inflation Rate	1.024	2007 TREND/2006 TREND	

Material previously classified as underground that has been properly allocated to overhead in this Version

Reclosers

- Equipment used in overhead lines to minimize outages resulting from temporary faults

Regulators

- Equipment used in overhead lines to regulate the voltage at the end of a feeder within the regulatory requirements

Capacitors

- Materials used in overhead lines to increase efficiency

Material previously classified as overhead that has been properly allocated to underground in this version

Streetlights Poles & Equipment

- Various types of streetlights used only in conjunction with underground distribution facilities

Some other minor material (nuts & bolts) were also shifted from OH to UG or vice versa and additional minor material previously unclassified, was classified as underground