

State of Florida



Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: October 8, 2008
TO: Ann Cole, Commission Clerk - PSC, Office of Commission Clerk
FROM: John W. Baxter, Regulatory Analyst II, Division of Economic Regulation *JWB*
RE: Docket No. 070231-EI - URD Tariff

Please file the following documents received from FPL in the above docket:

FPL 9-26-08 Response to URD Staff Data Request
FPL 9-26-08 Response to URD Staff Data Request –Attachment A – 2008 Economic
Evaluation Book

Thank you.

JWB:kb

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2008 ECONOMIC EVALUATION BOOK

INTRODUCTION

This book is designed to assist Florida Power & Light Company personnel in making economic evaluations. The information it contains includes standard assumptions to be used when evaluating the economics of new projects, capital additions and expense alternatives. The assumptions are appropriate for projects planned specifically for the utility.

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FINANCIAL ASSUMPTIONS

Table 1 provides FPL's cost of capital for short and long term investment decisions.

Table 1 - INCREMENTAL COST OF CAPITAL ⁽⁴⁾

<u>Source of Capital</u>	<u>Capitalization Ratio</u> ⁽¹⁾	<u>Working Capital Short Term Average Cost</u> ⁽²⁾	<u>Long Term Average Cost</u> ⁽³⁾
Debt	44.2%	5.08%	6.60%
Preferred Costs	0%	0.0	0.0
Common Equity	<u>55.8%</u>	<u>11.75%</u>	<u>11.75%</u>
Total	100%		
Discount Rate for working capital and <u>short term</u> investment decisions ⁽⁴⁾ -----			7.94%
Discount Rate for <u>long term</u> investment decisions ⁽⁴⁾ -----			8.35%
Discount Rate for discounting <u>short term</u> (<5 years) lease cash flows -----			3.62%
Discount Rate for discounting <u>long term</u> (>5 years) lease cash flows -----			4.05%

Table 2 - OTHER ASSUMPTIONS

Income Taxes:

State	=	5.50%
Federal ⁽⁵⁾	35% x (1 - 0.055) =	<u>33.08%</u>
Composite Income Tax Rate		38.575%
Property Taxes ⁽⁶⁾		1.69%
Property Insurance ⁽⁷⁾		0.061%

⁽¹⁾ Represents approximate mix of capital likely to be used in raising needed funds to finance incremental projects.

⁽²⁾ Costs should be used in evaluating working capital decisions and projects with useful lives less than five years.

⁽³⁾ Long term = Represents estimated average incremental cost for long term sources of capital over the next 20 years. These costs should be used in evaluating projects with useful life greater than five years.

⁽⁴⁾ Discount rates are based on the after-tax incremental weighted cost of capital and are not calculated in the same manner as the Company's allowed rate of return.

⁽⁵⁾ State income taxes are deductible for federal tax purposes and thus effectively reduce the 35% federal tax rate

⁽⁶⁾ Represents 2007 average millage rate to be applied to net book value.

⁽⁷⁾ Property insurance is provided by the Risk Management Department. This rate is an approximation and may not apply to projects with a value under \$10 million. Insurers are notified of projects in excess of \$10 million and additional premium, if any, is priced at that time. New or major construction projects usually require a builder's risk policy. This rate is for preliminary estimation only and may not reflect the true cost of insurance, as property insurance pricing is very sensitive to market conditions, the company's loss history, type of asset being insured and many other factors. For further information, contact the Risk Management Department.

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FINANCIAL ASSUMPTIONS

Table 3 provides projected annual rates of change, definitions, and guidance for eight different indices.

The escalation rates are useful in economic analyses for estimating future expenditures that are based on current or historical prices. The inflation forecast is provided by the Resource Assessment Planning Department and is based on the Global Insight Price Indices, 2000 – 2038; Data from March 2008 Trend Forecast.

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Inflation Index Definitions and Guidance Regarding Use – Table 3

Consumer Price Index (All Urban Consumers): Measures the average rate of inflation related to a weighted average basket of goods and services purchased by urban consumers.

Consumer Price Index (Services Only): Measures the average rate of inflation related to a weighted average basket of services such health, transportation, education, recreation, legal etc., purchased by urban consumers. This index can be used as a general measure of inflation related to professional services.

Producer Price Index (All Commodities): Measures the weighted average rate of inflation related to wholesale prices.

Producer Price Index (Intermediate Materials): Measures the weighted average rate inflation of commodities that have been processed but require further processing before being sold to the final user.

Producer Price Index (Finished Producer Goods): Measures the average price level for a fixed basket of capital and consumer goods received by producers. The forecast of this index shows relatively modest expected increases because the Finished Producer Goods index includes computers which are expected to continue to decline in price.

Public Utility Private Fixed Investment (Except telecommunications): Measures the weighted average rate of inflation for fixed investment including investment in power plants, distribution lines, substations, transmission lines, and local natural gas pipelines. This index can be used as a general measure of inflation related to average utility capital investment.

GDP Deflator (Implicit Base 2000): Measures the general, weighted average rate of inflation for all goods and services. Use this index to convert nominal, current dollars to constant dollars.

Compensation Per Hour (Non-farm Business Sector): Measures the average rate of increase in total wage and benefit compensation for non farm business labor. Use this as a general measure of expected total hourly labor cost. This index can be used as a general measure of inflation related to construction labor. Note: Expected future labor cost escalation should also take into account expected gains in productivity. In other words if compensation is expected to increase 3.5% and productivity is expected to increase 1.3%, net labor cost would be expected to increase 2.2% (e.g. $3.5\% - 1.3\% = 2.2\%$).

INFLATION INDICES - TABLE 3

Year	Consumer Price Index - All Urban %	Producer Price Index - Commodities %	Producer Price Index - Intermed Material %	Producer Price Index - Finished Goods %	Pub Util Priv Fixed Investment %	GDP Deflator %	Compensation Per Hour%
2008	2.5%	3.2%	3.9%	1.6%	3.8%	2.2%	3.9%
2009	1.6%	1.2%	0.8%	1.8%	3.0%	1.8%	3.5%
2010	1.9%	1.1%	1.2%	1.3%	2.7%	1.8%	3.5%
2011	1.8%	0.9%	1.1%	1.1%	3.0%	2.0%	3.8%
2012	1.9%	0.8%	0.7%	1.0%	3.1%	2.1%	4.1%
2013	1.8%	0.2%	0.0%	0.7%	2.9%	2.0%	4.1%
2014	1.9%	0.9%	0.6%	0.7%	2.9%	2.0%	3.9%
2015	2.0%	1.1%	0.8%	0.7%	3.0%	1.9%	3.8%
2016	1.9%	1.1%	0.9%	0.7%	2.9%	1.9%	3.7%
2017	1.9%	1.0%	0.8%	0.7%	2.8%	1.9%	3.7%
2018	1.9%	1.1%	0.9%	0.7%	2.9%	1.9%	3.7%
2019	1.9%	0.9%	0.7%	0.7%	2.8%	1.9%	3.6%
2020	1.9%	0.8%	0.7%	0.7%	2.8%	1.9%	3.5%
2021	1.8%	0.7%	0.6%	0.6%	2.8%	1.9%	3.5%
2022	1.8%	0.7%	0.6%	0.6%	2.8%	1.8%	3.3%
2023	1.8%	0.8%	0.6%	0.6%	2.7%	1.8%	3.3%
2024	1.8%	0.8%	0.6%	0.6%	2.8%	1.8%	3.3%
2025	1.8%	0.6%	0.5%	0.6%	2.7%	1.8%	3.3%
2026	1.9%	0.7%	0.5%	0.6%	2.7%	1.8%	3.4%
2027	1.9%	0.7%	0.6%	0.6%	2.8%	1.9%	3.4%
2028	1.9%	0.7%	0.5%	0.5%	2.8%	1.8%	3.3%
2029	1.9%	0.7%	0.5%	0.5%	2.7%	1.8%	3.3%
2030	1.9%	0.7%	0.6%	0.5%	2.7%	1.8%	3.3%
2031	2.0%	1.0%	0.8%	0.5%	2.7%	1.8%	3.2%
2032	1.9%	0.9%	0.7%	0.5%	2.7%	1.7%	3.2%
2033	1.9%	0.9%	0.7%	0.5%	2.6%	1.7%	3.2%
2034	1.9%	0.9%	0.7%	0.5%	2.6%	1.7%	3.3%
2035	1.9%	0.9%	0.7%	0.5%	2.6%	1.7%	3.3%
2036	2.0%	1.0%	0.8%	0.5%	2.7%	1.7%	3.4%
2037	2.0%	0.9%	0.8%	0.5%	2.7%	1.7%	3.4%
2038	2.0%	0.8%	0.7%	0.5%	2.6%	1.7%	3.4%

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FINANCIAL ASSUMPTIONS

Table 4

DEPRECIATION/AMORTIZATION RATES

<u>Depreciation Asset Category</u>	<u>Whole Life Book Depreciation Rate %</u>	<u>Book Life</u>	<u>Tax Life</u>
Production:			
Fossil Plants:			
Oil/Gas	(2)	40 Years	20 Years
Coal/Orimulsion	(2)	40	20
Combined Cycle	(2)	25	20
Combustion Turbines in Simple Cycle	(2)	25	15
Gas Turbines (15-year tax life if not operated in combined cycle mode)	(2)	35	20
Nuclear Plant	(2)	40	15
Transmission:			
Substation	2.6	36	15
Lines	3.1	43	15
Clearing/Grading	2.3	50	20
Distribution:			
Substation	2.9	39	20
Lines	3.8	33	20
Clearing/Grading	2.6	50	20
Communications Equipment (Non-Fiber Optics)	14.3	7	7
Fiber Optics (Electronics)	9.5	10	7
Office Building	2.6	38	39
Transportation: ⁽³⁾			
Automobiles	11.3	8	5
Light Trucks	9.4	9	5
Heavy Trucks	8.2	11	5

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FINANCIAL ASSUMPTIONS

Table 4 (Cont.)

DEPRECIATION/AMORTIZATION RATES

<u>Depreciation Asset Category</u>	<u>Whole Life Book Depreciation Rate %</u>	<u>Book Life</u>	<u>Tax Life</u>
<u>Amortization Asset Category</u> ⁽⁴⁾			
Information Systems (Computers & peripheral equip):			
Mainframe	20.0	5	5
PC	33.3	3	5
Office Furniture and Fixtures	14.3	7	7
Office Accessories	20.0	5	5
Office Equipment incl. Duplicating & Mailing Equipment	14.3	7	5
Stores, Shop & Laboratory Equipment	14.3	7	7

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The product of book depreciation rates and book lives may not equal 100%. This is generally due to over/under depreciating to take into account the estimated salvage and removal costs.

For specific assets, please consult the Accounting Department (Dave Huss, 552-2331) for the appropriate book depreciation rates and lives.

(2) For revenue requirement calculations use straight-line depreciation rate (1/book life) and account for capital replacement in O&M expenses.

(3) Certain special transportation equipment has a three-year tax life. For analysis of specific vehicles, please consult the Accounting and/or Tax Department for appropriate rates.

(4) Certain property is now amortized for book purposes over a period equal to, or less than, its tax life.

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FINANCIAL ASSUMPTIONS – TAX DEPRECIATION RATES

Table 5 below represents annual tax depreciation rates for different asset life classes. For specific cases, it is recommended that the Corporate Tax Department (Jay Beaupre 694-6452) be consulted to ensure that the correct rates are used.

Table 5

<u>Year</u>	<u>5 Year Class (%)</u>	<u>7 Year Class (%)</u>	<u>15 Year Class (%)</u>	<u>20 Year Class (%)</u>	<u>39 Year Class (%)</u>
1	20.0	14.29	5.00	3.750	1.391
2	32.00	24.49	9.50	7.219	2.564
3	19.20	17.49	8.55	6.677	2.564
4	11.52	12.49	7.70	6.177	2.564
5	11.52	8.93	6.93	5.713	2.564
6	5.76	8.92	6.23	5.285	2.564
7		8.93	5.90	4.888	2.564
8		4.46	5.90	4.522	2.564
9			5.91	4.462	2.564
10			5.90	4.461	2.564
11			5.91	4.462	2.564
12			5.90	4.461	2.564
13			5.91	4.462	2.564
14			5.90	4.461	2.564
15			5.91	4.462	2.564
16			2.95	4.461	2.564
17				4.462	2.564
18				4.461	2.564
19				4.462	2.564
20				4.461	2.564
21				2.231	2.564
22-39					2.564
40					1.177

Note: FPL's capital expenditures generally do not fall into the 10-year tax asset class.

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ALTERNATIVE ANALYTICAL APPROACH AND INDICATORS

When evaluating capital investment projects, the capital investment can be classified into one of three general categories:

1. Projects required by regulators, or mandatory investments, such as compliance with the Clean Air Act.
2. Load growth projects, or on-going investments.
3. All other projects, or discretionary investments.

Since the degree of discretion in undertaking the first two categories of projects is limited, the analytical approach should focus on selecting the least cost alternative to satisfy the regulatory requirement or load growth. FPL has complete discretion in undertaking all other project types. Therefore, the analysis should be focused on the economic benefits those projects provide. Discretionary projects should be pursued only if found to provide tangible economic benefits.

There are two analytical methodologies available:

- the revenue requirement approach (PVRR) and
- the discounted cash flow method (DCF).

Both the PVRR and DCF methods yield a consistent decision recommendation; however, their focuses are different.

The PVRR approach

- Measures the least cost option from alternatives developed by the analyst and should be utilized for evaluating regulatory requirement and load growth projects. These types of projects may be considered non-discretionary, therefore, the question is how can we satisfy the regulatory or load growth requirement at the least cost?
- Revenue Requirements is a key determinant of the price of electricity and FPL's competitive position. The approach simulates the manner in which revenue needed to recover capital and operating costs is collected from ratepayers. Although the approach makes simplifying assumptions that are not 100% realistic, it is a good analytical framework to evaluate the long-term cost of making capital and operating investments.
- In a PVRR analysis, the financial indicator that is used is the present value of projected revenue requirements. Projects with the lowest present value figure should be favored.

The DCF method

- Compares the projected economic benefits associated with a project to its costs.
- This approach should be used to evaluate projects that are not required by regulators or are not required to meet load growth.
- A DCF analysis identifies projects that by themselves provide economic benefits to FPL and as such is a useful tool in evaluating whether a project should be undertaken or not.
- This is different from PVRR analyses where alternatives are compared.
- The main assumption in a DCF analysis is that no additional revenue will be collected from FPL's customers. The no revenue assumption forces a particular project to generate economic savings to offset the incremental costs.

The following are the financial indicators used in a DCF analysis:

- **Net Present Value:** The difference between the present value of economic benefits and the present value of project costs. If the NPV is positive, the economic benefits are greater than the costs, and the project should be undertaken.
- **Discounted Pay-Back Period:** The number of years it takes to recover the initial investment in a project, expressed in present value terms. As the pay-back period increases, the risk of recovering the initial investment also increases. This relationship holds because the further out in time costs and benefits are projected, the lower the accuracy of those projections.

It should be noted that in evaluating a project we consider only incremental costs and benefits and therefore calculate the incremental revenue requirements associated with that project. The incremental cost is assumed to be recovered from the general body of ratepayers. Using the EDM spreadsheet will simultaneously calculate the Present Value Revenue Requirement (PVRR) for least cost evaluations and a Discounted Cash Flow (DCF) for measuring profitability.

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USING THE EDM MODEL

INTRODUCTION:

The EDM Spreadsheet was designed to allow the user to simultaneously perform a Discounted Cash Flow (DCF) analysis and a Revenue Requirements (PVRR) analysis based on a common set of assumptions. The model is capable of analyzing projects that have the following characteristics:

- Projects with up to six different streams of operating savings or revenue.
- Projects with up to six different streams of operating cost.
- Projects with up to 360 capital investments that do not require construction.
- Projects with up to 3 capital investments that require construction.
- Projects with up to 90 investments in land.

The spreadsheet allows the user to select from three different inflation indices, a constant annual rate of inflation or no escalation for the different cost/benefit inputs. Also, the spreadsheet computes AFUDC, property taxes, insurance, depreciation expense, net present value, discounted payback period and present value revenue requirements. All computations are based on the latest economic assumptions. The following are instructions on how to use the EDM Spreadsheet.

FPL EDM Project Information

Project Title:

<p>Step 1) Determine Project Type</p> <p><i>Mandatory</i></p> <p><input checked="" type="radio"/> Mandatory Project</p> <p style="text-align: center;">OR</p> <p><i>Discretionary</i></p> <p><input type="radio"/> Discretionary Project</p>	<p>Step 2) Input Keys</p> <p>I. Enter Project Name <input type="text" value="Title"/></p> <p>II. Enter Savings / Revenue <input type="text" value="Savings"/></p> <p>III. Enter Expenses <input type="text" value="Expenses"/></p> <p>IV. Enter Capital < 1 Yr Construction Period <input type="text" value="Capital 1 Yr"/></p> <p>V. Enter Capital > 1 Yr Construction Period <input type="text" value="Capital 1 Yr"/></p>
<p>Step 3) Review Results</p> <p><i>Mandatory</i></p> <p>Revenue Requirements Results <input type="text" value="\$0"/></p> <p><i>Discretionary</i></p> <p>Net Present Value <input type="text" value="N/A"/></p> <p>Discounted Pay-Back Period <input type="text" value="N/A"/></p>	<p>Step 4) Function Keys</p> <p>Reset input values to zero <input type="button" value="Reset"/></p> <p>Print Input Worksheets <input type="button" value="Print"/></p> <p>Print Mandatory Results <input type="button" value="Print"/></p> <p>Print Discretionary Results <input type="button" value="Print"/></p> <p>EDM Purpose <input type="text" value=""/></p> <p>Capital expenditure defined <input type="text" value=""/></p> <p>Project Follow up <input type="text" value=""/></p>

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BASIC LAYOUT OF THE EDM SPREADSHEET:

The EDM Spreadsheet has numerous spreadsheets joined together to form one file. To go to a specific spreadsheet, simply click on the desired sheet with the mouse or select the sheet from the **Control Menu**.

The EDM Spreadsheet also has six input sheets and two result sheets. The following is a description of the function of each of these sheets:

1) INPUT #1 - GENERAL ASSUMPTIONS: This spreadsheet contains the cost of capital, inflation rates, income tax, property tax & insurance rates, and tax depreciation rate assumptions. Typically users do not make changes to the general assumptions.

2) INPUT #2 - OPERATING SAVINGS: This spreadsheet contains the input area for all economic savings associated with the project being analyzed. Up to six different cost savings or incremental revenues can be entered in this sheet. Escalation assumptions relating to the six cost savings are entered in this spreadsheet.

3) INPUT #3 - OPERATING COSTS: This spreadsheet contains the input area for all incremental operating costs associated with the project being analyzed. Up to six different costs can be entered in this sheet. Escalation assumptions relating to the six costs are entered in this spreadsheet.

4) INPUT #4 - NO CONST. CAPITAL: This spreadsheet accepts cost information relating to capital investments that do not require a construction period; in other words, the assets are purchased ready for use. Capital investments that require a construction period are entered in INPUT SHEET #5. Up to twelve different capital investment can be entered for each year. Escalation assumptions relating to the capital investments are entered in this spreadsheet. Also, useful life, book depreciation rate, bonus depreciation eligibility and tax depreciation life assumptions are entered in this sheet.

5) INPUT #5 - CONSTRUCTION CAPITAL: This spreadsheet accepts cost information relating to capital investments that require a construction period. Capital investments that do not require a construction period are entered in INPUT SHEET #4. Up to three different capital investments can be entered with a construction period lasting up to ten years. Escalation assumptions relating to the capital investments are entered in this spreadsheet. Also, useful life, book depreciation rate, bonus depreciation eligibility and tax depreciation life assumptions are entered in this sheet.

6) INPUT #6 – INVESTMENTS IN LAND: This spreadsheet accepts cost information relating to investments in land. Up to three different investments can be entered for each year. Escalation assumptions relating to the capital investments are entered in this spreadsheet. Land is not depreciable and has an indefinite life. If your project includes an investment in land, you should input real estate taxes on Input #3 – Operating Costs. *Note: it is assumed EDM modeling excludes land held for future use.*

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BASIC LAYOUT OF THE EDM SPREADSHEET (Continued):

RESULTS SHEETS

RESULTS - CASH FLOWS:

The spreadsheet computes the annual cash flows, net present value, and the discounted pay-back period.

RESULTS - REVENUE REQUIREMENTS

The spreadsheet computes the annual revenue requirements to FPL customers assuming perfect rate-making. The present value of revenue requirements is also computed.

HOW TO PERFORM AN ECONOMIC ANALYSIS:

The most critical part of any economic analysis is gathering the necessary cost and benefit projections associated with the particular decision at hand. The second most critical task in performing an analysis is to test the sensitivity of results to the cost/benefit projections made. Computations for the economic analysis are greatly simplified by the EDM Spreadsheet.

Cost/benefit projections are entered in the EDM Spreadsheet in six input sheets. Once all assumptions are entered into the model, the results can be seen in one of the two result sheets (Cash Flows & Revenue Requirements).

The following describes the input requirements for each of the Input Sheets:

- CONTROL MENU** – This sheet is setup to assist you in navigating the input requirements of the model.

2)

The screenshot shows the 'FFL EDM Project Information' spreadsheet. The 'Project Title' is 'EDM MODRL'. The spreadsheet is divided into four main steps:

- Step 1) Determine Project Type:**
 - Mandatory:** Radio button for 'Mandatory Project'.
 - OR**
 - Discretionary:** Radio button for 'Discretionary Project'.
- Step 2) Input Keys:**
 - I. Enter Project Name: Button 'Title' (Callout: 'Select to enter title').
 - II. Enter Savings / Revenue: Button 'Savings' (Callout: 'Select to input Economic benefits associated with the project.').
 - III. Enter Expenses: Button 'Expenses' (Callout: 'Select to input Economic costs associated with the project.').
 - IV. Enter Capital < 1 Yr Construction Period: Button 'Capital < 1yr' (Callout: 'Select for capital investments that do not require a construction period greater than one year.').
 - V. Enter Capital > 1 Yr Construction Period: Button 'Capital > 1yr' (Callout: 'Select for capital investments that require a construction period greater than one year.').
- Step 3) Review Results:**
 - Mandatory:** 'Revenue Requirements Results' (30).
 - Discretionary:** 'Net Present Value' (N/A), 'Discounted Pay-Back Period' (N/A).
- Step 4) Function Keys:**
 - Reset input values to zero: Button 'Reset'.
 - Print Input Worksheets: Button 'Print'.
 - Print Mandatory Results: Button 'Print'.
 - Print Discretionary Results: Button 'Print'.
 - Print Results: Button 'Print' (Callout: 'Select for printing results.').
 - EDM Purpose: Dropdown menu.
 - Capital expenditure defined: Dropdown menu.
 - Project Follow up: Dropdown menu.

Additional callouts and notes:

- Callout pointing to 'Mandatory Project': 'ect for required projects that are implemented for the least alternative that are essential providing electric service to electric utility customers.'
- Callout pointing to 'Discretionary Project': 'ect for projects that are NOT essential in providing electric service to FFL electric utility customers.'
- Callout pointing to the bottom of the spreadsheet: 'Select to save model to C:\HOME\EXCEL folder'.

INPUT #1 - GENERAL ASSUMPTIONS: The information contained in the spreadsheet is updated once a year. EDM Model users typically do not change these assumptions.

Figure 1

INPUT SHEET #1
GENERAL ASSUMPTIONS

PROJECT TITLE: EDM MODEL

ESTIMATES STATED IN 2001 DOLLARS

COMPOSITE INCOME TAX RATE: 38.58%
 FALSE: 5.50%
 FEDERAL INCOME TAX RATE: 35.00%

COST OF CAPITAL AS OF: April 2001

INFLATION FORECAST AS OF: WEFA 12/01

YEAR	CPI	HRLY COMP	PPI CAPITA
2001	2.72%	4.89%	1.39
2002	2.49%	3.85%	1.10
2003	2.79%	4.39%	1.30
2004	2.81%	3.84%	0.72
2005	2.74%	3.44%	0.53
2006	2.60%	3.41%	0.87
2007	2.58%	3.52%	0.91
2008	2.56%	3.83%	0.95
2009	2.54%	4.03%	1.00
2010	2.52%	4.24%	1.04
2011	2.50%	4.45%	1.08
2012	2.50%	4.45%	1.08
2013	2.50%	4.45%	1.08
2014	2.50%	4.45%	1.08
2015	2.50%	4.45%	1.08
2016	2.50%	4.45%	1.08
2017	2.50%	4.45%	1.08
2018	2.50%	4.45%	1.08
2019	2.50%	4.45%	1.08
2020	2.50%	4.45%	1.08
2021	2.50%	4.45%	1.08
2022	2.50%	4.45%	1.08
2023	2.50%	4.45%	1.08

LONG LIVE ASSETS

SOURCE	WEIGHT	COST	WTD COST	AFTER TAX
DEBT	45.0%	7.4%	3.3%	2.0%
PREFERRED	0.0%	0.0%	0.0%	0.0%
COMMON	55.0%	11.7%	6.4%	6.4%
TOTAL	100.0%		9.8%	8.5%

DISCOUNT RATE: 8.5%

PROPERTY TAXES: 2.09%

PROPERTY INSURANCE: 0.37%

TAX DEPRECIATION RATES

YEAR	5	7	10	15	20
1	20.00%	14.29%	10.00%	5.00%	3.750%
2	32.00%	24.49%	18.00%	9.50%	7.219%

2) INPUT #2 - OPERATING SAVINGS: This spreadsheet is used to input economic benefits associated with the project. Typical economic benefits include savings in labor costs, material costs, additional revenues to the company and reductions in maintenance costs. Up to six different economic benefits can be entered in the spreadsheet. The user must input the following information:

- Name or title of savings stream. The title is used in the result sheets.
- Instructions on how to escalate the different economic benefits stream.
- The estimated dollar amount of the benefit itself.

To have the model escalate the benefit stream, enter all dollar amounts in the year they will occur expressed in current dollars. In the top box, under the column titled "Escalate " (see Figure 2), select "YES" next to the benefit stream you want the model to escalate. Also in the top box under the column titled "Index", select the appropriate inflation index.

Figure 2

The screenshot shows an Excel spreadsheet with the following structure:

- Top Section:** A box for "EDM MODEL" with a title input field. Below it, a table with columns: Title, Escalate, Index, Constant Rate.

Item #	Title	Escalate	Index	Constant Rate
Item #1		YES	CPI	0.00%
Item #2		YES	CPI	0.00%
Item #3		YES	CPI	0.00%
Item #4		YES	CPI	0.00%
Item #5		YES	CPI	0.00%
Item #6		YES	CPI	0.00%
- Bottom Section:** A timeline table with columns: Line No., Year, Item #1, Item #2, Item #3, Item #4, Item #5, Item #6.

Line No.	Year	Item #1	Item #2	Item #3	Item #4	Item #5	Item #6
1	2001						
2	2002						
3	2003						
4	2004						
5	2005						
6	2006						
7	2007						
8	2008						
9	2009						
10	2010						
11	2011						
12	2012						
13	2013						
14	2014						
15	2015						
16	2016						

The inflation indices are as follows:

Consumer Price Index, typically used to escalate O&M cost.

Average Hourly Compensation, typically used to escalate labor cost.

Producer Price Index - Finished Goods, typically used to escalate capital goods

Constant annual Inflation rate. If this option is selected, input the annual inflation rate under the column titled " Constant Rate" in the top Box.

Make sure that benefits are entered in each and every year they occur. Also, make sure that economic benefits are entered in the appropriate column. This is important to ensure proper escalation consistent with selections made by the user.

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3) INPUT #3 - OPERATING COSTS: This spreadsheet is used to input operating costs associated with the project. Typical operating costs include incremental labor costs, material costs, and maintenance costs. Up to six different costs can be entered in the spreadsheet. As in the Operating Savings Sheet, the user must input the following information:

- Name or title of cost stream. The title is used in the result sheet.
- Instructions on how to escalate the different economic cost streams.
- The estimated dollar amount of the cost itself.

Figure 3

The screenshot shows a Microsoft Excel spreadsheet with the following structure:

EDM MODEL INPUT SHEET #3 - OPERATING COSTS

Input Section:

- Title:** A text box for entering a descriptive title.
- Escalate:** A dropdown menu with 'YES' selected.
- Index:** A dropdown menu with 'CPI' selected.
- Constant Rate:** A dropdown menu with '0.00%' selected.

Annual Cost Table:

Line No.	Year	Item #1	Item #2	Item #3	Item #4	Item #5	Item #6
1	2001						
2	2002						
3	2003						
4	2004						
5	2005						
6	2006						
7	2007						
8	2008						
9	2009						
10	2010						
11	2011						
12	2012						
13	2013						
14	2014						
15	2015						
16	2016						

Callout Boxes:

- "Enter a descriptive title." (points to the Title field)
- "Indicate if the model should adjust costs for inflation. If YES indicate the index to apply. If a CONSTANT indicate the annual rate." (points to the Escalate, Index, and Constant Rate dropdowns)
- "Enter amount of annual costs under the appropriate column. Costs must be entered every year they occur." (points to the Annual Cost Table)

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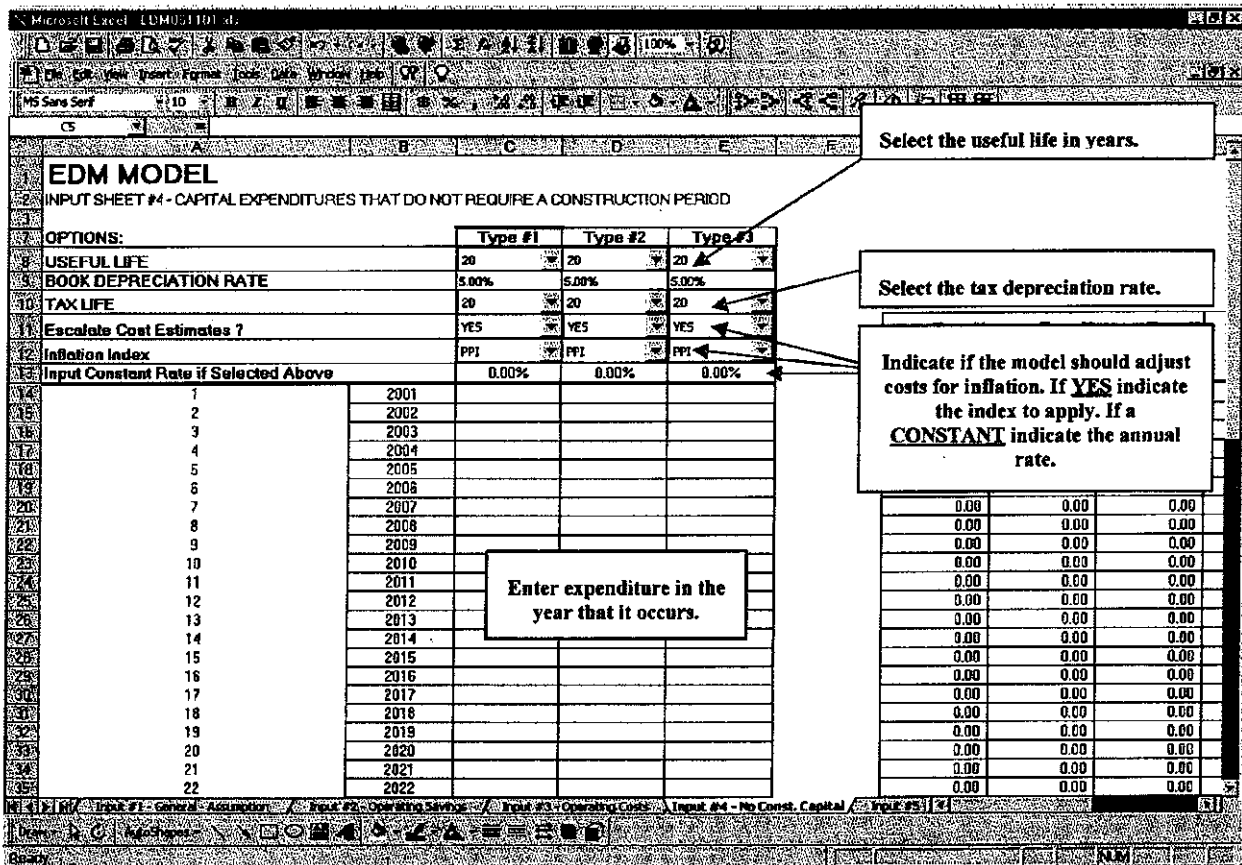
4) INPUT #4 - NO CONST. CAPITAL: This spreadsheet and INPUT #5 - CONSTRUCTION CAPITAL sheets are used to input capital investments associated with the project. Enter required investments that **do not require a construction period**⁴ in every year that they occur. The spreadsheet allows for three different types of investments⁵.

Define the investment type by entering the useful life, book depreciation rate, tax depreciation class, and escalation instructions in the appropriate boxes (see Figure 4).

⁴ Projects that do not require construction periods are those that are purchased ready for service. Projects that are constructed over a period of time accrue AFUDC (allowance for funds used during construction), require different treatment and are entered in INPUT #5 - CONSTRUCTION CAPITAL.

⁵ An investment type refers to assets with common useful life, book depreciation rate and tax depreciation class.

Figure 4



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5) INPUT #5 - CONSTRUCTION CAPITAL: This sheet is used to enter cost information for capital investments that require a construction period. The capital investments may have a construction

period up to ten years. Three different capital investments with a construction phase are possible. The user must input the following information (see Figure 5):

- Descriptive Title.
- Escalation Instructions.
- AFUDC Instructions.
- Construction start and end dates.
- In-service date.
- Useful life of investment.
- Book depreciation rate.
- Tax depreciation class.
- Annual construction cash flows with the following components:
 - Labor cost.
 - Material cost.

Figure 5

The screenshot shows an Excel spreadsheet titled "EDM MODEL" with the following sections and callouts:

- INPUT SHEET #5 - CAPITAL INVESTMENTS THAT REQUIRE CONSTRUCTION**: Includes a box for "Enter a descriptive title." and a table for investment titles:

TITLE FOR INVESTMENT #1	Project #1
TITLE FOR INVESTMENT #2	Project #2
TITLE FOR INVESTMENT #3	Project #3
- ASSUMPTIONS:** A list of input fields with callouts:
 - ESTIMATES IN 2001 DOLLARS
 - ESCALATE CONSTRUCTION CASH FLOWS
 - COMPUTE AFUDC
 - CONSTRUCTION START MONTH
 - CONSTRUCTION START YEAR
 - CONSTRUCTION END MONTH
 - CONSTRUCTION END YEAR
 - IN-SERVICE MONTH
 - IN-SERVICE YEAR
 - USEFUL LIFE
 - BOOK DEPRECIATION RATE
 - TAX DEPRECIATION CLASS
- INVESTMENT SPECIFICS:** Three columns labeled INV. #1, INV. #2, and INV. #3 with callouts:
 - Indicate if the model should adjust costs for inflation (YES/NO)
 - Indicate if the model should compute AFUDC (YES/NO)
 - Select the Start, End and Inservice dates (Month and Year)
 - Select the Useful life and Tax Depreciation Class (Useful Life and Tax Class)
- CASH FLOWS:** A table with columns for LABOR and MATERIALS for years 2001 through 2007. A callout points to the "Enter Expenditures in the year they occur." field.

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6) INPUT # 6 – INVESTMENT IN LAND

- This worksheet handles real estate investments other than land held for future use.
- The user may enter 3 separate investments with distinct timing and inflation assumptions.

TITLE

INPUT SHEET #6 - INVESTMENTS IN LAND

Enter titles for Land Purchases ==>	Property #1	Property #2	Property #3
Select whether you choose to escalate cash flows ==>	NO ▼	NO ▼	NO ▼
Select an escalation index or select constant rate ==>	CONSTANT ▼	CONSTANT ▼	CONSTANT ▼
Input constant rate if selected above ==>	5.00%	5.00%	5.00%
1	Year	Purchase Price	Purchase Price
1	2004		
2	2005		
3	2006		
4	2007		
5	2008		
6	2009		
7	2010		
8	2011		
9	2012		
10	2013		
11	2014		
12	2015		
13	2016		
14	2017		
15	2018		

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7) RESULTS - CASH FLOW

The results of the discounted cash flow analysis are in the "Results - Cash Flow" spreadsheet that is organized into several sections.

Operating Savings - represents the amounts you input from worksheet *Input #2*

Operating Costs - represents the amounts you input from worksheet *Input #3*

Capital Investments - represents the amounts you input from worksheet *Input #4* and/or *Input #5*

Investment in Land – represents the amounts you input from worksheet *Input #6*

The Net Present Value amount represents the present value of economic benefits and the present value of project costs.

The Discounted Pay-Back Period represents the number of years it will take for the Company to recover its initial investment in a project, expressed in present value terms. As the pay back period increases, the risk of recovering the initial investment also increases.

8) RESULTS - REVENUE REQUIREMENTS

The results of the revenue requirement analysis are located in the "Results - Revenue Requirements" spreadsheet.

The sheet provides the minimum of revenue the investment must generate to recover capital and operating costs.

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Staff Informal Data Requests - URD

1. In "FPL's Quantification of Benefits for the Governmental Adjustment Factor (GAF) Waiver," in Docket No. 060150-EI, FPL introduces two cases for average storm frequency, a base case and a sensitivity case. For the URD, why did FPL select the sensitivity case, with a frequency of one storm event every five years, given that the Average Cost per Customer was determined based upon a 2 year period with 7 storm events

A. This analysis uses a conservative assumption for storm frequency of 1 event every 5 years which represents the 100-year historical average. The purpose of the calculations in the GAF Docket was to quantifiably justify the 25% adjustment factor. As such, two sensitivities were analyzed, the 100-year average and also a higher average frequency reflecting the reported opinions of meteorologists that we were entering a period of heightened storm activity. The "base" and "sensitivity" labels were more a matter of delineation rather than indication of preference of one v. the other.

The cost per customer represents the estimated expected average cost of a single event. These 7 storms were used as the basis for this since they represented the best and most current data (for a number of year preceding 2004, there were no storm events). The time period over which these events occurred, as well as, the quantity of events used in this calculation of single event cost, has no relationship to the expected future frequency of events. This merely provided the expected average cost basis for an event that was then applied at 5-year intervals in the analysis.

2. What does the company define as a "storm event"? Does it include tropical storms and tropical depressions? If tropical storms or depressions are not included, please explain why. Does the definition of storm event include all storms rated 1-5 on the Saffir-Simpson Hurricane Scale? If FPL does not include all storms rated 1-5 on the Saffir-Simpson Scale, what category of storm is the cutoff point and why?

A. FPL uses the definition of a "storm event" from the Florida Administrative Code 25-6.0455, (4)(b), Annual Distribution Service Reliability Report. In essence, this includes all storms that are named by the National Hurricane Center (i.e., hurricanes and tropical storms).

3. The Florida Commission on Hurricane Loss Projection Methodology has for its historical value a frequency of a storm event in Florida of approximately 66% chance per year. Their information can be found at the following link: <http://www.sbafla.com/methodology/pdf/2008/2007%20ROA.pdf>, under Form M-1, Annual Occurrence Rates. Given FPL's current hurricane projections, what is the annual percentage chance of each hurricane category occurring in FPL's service area?

A. See Response to Question 1. The assumption used for this analysis is an average of 1 storm every 5 years impacting FPL's territory, as opposed to

Staff Informal Data Requests - URD

using an average annual probability. During 2004-2005, the storm strengths ranged from Category 1 to 4.

4. FPL's Fourth Revised Sheet No. 9725, titled "Underground Facilities Conversion Agreement – Governmental Adjustment Factor Wavier," in Docket # 060150 lists eligibility criteria. Some of these include "a minimum of 3 pole line miles, or approximately 200 detached dwelling units within contiguous or closely proximate geographic areas." In Appendix 2 of the URD, titled "Explanation of Proposed Revisions," FPL states that Tier 1 projects must meet "the GAF size and uniformity requirements." Does an area with approximately 200 detached dwelling units within contiguous or closely proximate geographic areas qualify for Tier 1 of the URD, even if the project is less 3 pole line miles? If no, please explain why. If yes, please state why 299 total service laterals are the maximum number of laterals allowed for Tier 2 for High Density and Metered Pedestal locations instead of 199 total service laterals.
 - A. **It is intended that the amount of pole-line miles is the basic qualification for an Avoided Storm Restoration Costs (ASRC) tier. Due to the structure of the URD tariff, it is necessary to translate figures to a "per lot" basis. This is what gives rise to the lot quantity differences between the Low Density and the High Density/Meter Pedestal for a given ASRC tier. Therefore, it is expected that this translation means that a given number of lots will result in the required pole-line miles of facilities. The approximation incorporated into the GAF for the number of dwelling units represented by 3 pole-line miles was based on the Low Density subdivision model.**
5. Why do FPL's non-storm operational costs of \$223 for low density subdivisions and \$197 for high density and grouped meter subdivisions not vary by tier as the storm costs do? Although FPL is assigning the storm costs based on percentages that the company believes best reflect the avoided storm cost benefits for each tier, would not the absolute operational costs scale depending upon the size of the project and number of service laterals?
 - A. **Given a sufficiently large geographic footprint, there are expected economies of scale during storm restoration that impact the ASRC. The avoided cost benefits result from FPL's ability to avoid deploying crews to an area. However, these expected benefits decline with the smaller sized areas because the crews must be deployed anyway – though potentially in lesser numbers or for a shorter duration. By contrast, the day-to-day operational costs for operating the system are either: (a) sporadic device-by-device restoration of geographically dispersed outages; or (b) centralized operations such as dispatch, scheduling, and the like. The costs of these activities are not driven by the particular geographic size of local infrastructure and, therefore, do not lend themselves to a "tiered" approach.**
6. On the Inputs spreadsheet of FPL's submitted Operational Cost Differential NPV series of spreadsheets, an amount listed as "Avoided Storm Restoration" is used in the calculation of the O&M expenses (although the item is shown as a negative amount). How much of the O&M costs for avoided storms are capitalized and how much are expensed? How much of

Staff Informal Data Requests - URD

ASRC costs are capitalized and how much are expensed? What is the difference between the costs are embedded in the storm costs used in the calculation of O&M and the ASRC?

A. 100% of the ASRC is treated as an expense item, though shown as a reduction due to being an “avoided” cost.

7. Was the error that was made in the service labor without c/o line item on the 2007 UG High Density Layout also made on the 2005 UG High Density Layout? If not, why has the UG High Density labor without c/o increased from \$28,323.46 in 2005 to \$47,707.27 in 2008? If so, what should the proper amount have been for UG HD labor without c/o in 2005?

A. Upon further investigation and review, it appears now that the error also occurred in the 2005 filing. Adjusting for that error would change the 2005 UG High Density labor without c/o from \$28,323 (as filed) to \$37,547.

8. Please provide complete copies of all source documents, reports, etc. that support the selection of the assumed present worth discount rate.

A. See Attachment A – 2008 Economic Evaluation Book.

9. Please provide the capital components, amounts, relative ratios, and cost rates that produce the 9.47 percent discount rate (incremental cost of capital) used in FPL's analysis. For purposes of this response, please show the before tax and after-tax cost of capital.

A.

	<u>Ratio</u>	<u>Cost</u>	<u>Weighted Average</u>	
			<u>Pre-Tax</u>	<u>After-Tax</u>
Debt	44.2%	6.60%	2.92%	1.79%
Common	<u>55.8%</u>	11.75%	<u>6.56%</u>	<u>6.56%</u>
Total	<u>100.0%</u>		<u>9.47%</u>	<u>8.35%</u>

10. Please explain why the 9.47 percent discount rate in the net present value analysis is different from the discount rate presented in FPL's recent need determinations. (The need determinations being referred to are Dockets 070098-EI, 070602-EI, and 070650-EI.)

A. The primary difference is the use in this analysis of the pre-tax rate v. the after-tax rate used in the referenced Dockets. For simplicity, this analysis used pre-tax cash flows, therefore, it was appropriate to apply the pre-tax discount rate.