**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**

 **September 26, 1996**

**TO: DIRECTOR, DIVISION OF RECORDS AND REPORTING (BAYO)**

**FROM: DIVISION OF AUDITING & FINANCIAL ANALYSIS (BASS, LEE, HICKS)**

 **DIVISION OF ELECTRIC & GAS (COLSON)**

 **DIVISION OF LEGAL SERVICES (V. JOHNSON)**

**RE: DOCKET NO. 960527 - FLORIDA POWER & LIGHT COMPANY - REQUEST FOR APPROVAL OF SITE SPECIFIC DEPRECIATION STUDIES**

**AGENDA: OCTOBER 8, 1996 - REGULAR AGENDA - PROPOSED AGENCY ACTION - INTERESTED PERSONS MAY PARTICIPATE**

**CRITICAL DATES: NONE**

**SPECIAL INSTRUCTIONS: S:\PSC\AFA\WP\960527EI.RCM**

 **DISCUSSION OF ISSUES**

**ISSUE 1:** What are the appropriate depreciation rates for Florida Power & Light's (FPL or Company) investment relating to combined cycle units?

**RECOMMENDATION:** The appropriate depreciation rates for investment relating to the FPL combined cycle generating plants are listed on Attachment A, pages 7 - 9. These are the same rates approved for preliminary implementation in this docket at the Agenda conference held March 5, 1996. For information, the preliminary implementation resulted in an increase of approximately $20.4 million relating to depreciation expense, based on actual January 1, 1996 investments. The amortization of any related investment tax credit, or flowback of any deferred income tax credit, should be adjusted accordingly. (BASS, HICKS)

**STAFF ANALYSIS:** FPL operates combined cycle units for power generation at three sites: Fort Lauderdale, Martin and Putnam. As part of the initial filing in this docket, the Company requested preliminary implementation of its proposed rates for those units

at January 1, 1996. Preliminary implementation was granted by Order No. PSC-96-0841-FOF-EI, issued July 1, 1996. Staff has completed the review of FPL's proposals and has found them to be reasonable.

 Primarily, the Company requested the change in depreciation rates in response to two developments. First, FPL has completed the process of classifying plant in service to the retirement unit level for each location. Prior to the completion of this unitization project, the best available information was an estimate of investment by account, based on final construction reports obtained from contractors.

 Second, expectations for both performance and life characteristics relating to the combined cycle installations are changing as a result of actual operating experience. These installations include some "leading edge" applications of technology. There is no "full life cycle" history for some of the equipment involved, which is to say that no similar installations have been in service long enough to establish expectations for performance or life patterns. Design improvements and retrofit solutions to problems are part of the routine operation.

 Staff concludes that the Company proposed depreciation rates are a reasonable and conservative response to these developments, based on review of information currently available. The components shown on Attachment A are those proposed by FPL, including the book reserve percentage calculated to a single decimal place. Although it is staff's standard practice to use two decimal places for reserve percentage calculation, our review indicates that the proposed depreciation rates are reasonable and we recommend their acceptance. Following is a discussion of primary points of the review.

 The unitization process includes physical verification of systems, as well as the reconciliation of indirect construction costs and overheads. This process supports a high level of confidence in the resulting account balances, which for some accounts differ significantly from the estimates previously available. The resulting records can provide a sound basis for assessment of future trends.

 The actual operation of the FPL combustion turbines and heat recovery steam generators have revealed advantages and disadvantages, compared to design projections. Three noteworthy situations have evolved from operating experience. First, the units have operated at higher capacity and lower heat rate than was expected. Using state-of-the-art design and materials, working temperatures in excess of 2300 degrees F have allowed for the attainment of a net heat rate in the range of 7,100 BTU/KWH.

 These achievements have come at a price, as documented by other aspects of the operation. In the second situation, problems developed with the heat recovery steam boiler tubes, resulting from the impact of high temperature gas exhaust from the turbines; and, third, the row one turbine blades will require additional maintenance procedures, as compared to design planning. The boiler tube situation required retrofit design modifications soon after operation began, but unit function was restored.

 From the record developed thus far, it cannot be ascertained whether these changes in life parameters and depreciation rates are adequate to match investment recovery with the life of the related equipment. The questions which naturally arise from these circumstances can only be answered in the future, as more experience is gained from the operation of installations such as these. The activity and planning related to these installations should be carefully monitored, so that appropriate action can be taken as soon as revisions in capital recovery needs are indicated. Monitoring should include not only maintenance and replacement records, but comparisons with newer technologies which may dictate obsolescence. More so than ever before, the current state of the power industry strongly indicates that investor owned utilities cannot afford any delay in responding to capital recovery needs.

 Further, revision of a utility's depreciation rates usually results in a change in its rate of ITC amortization and flowback of excess deferred income taxes of the related investment. Section 46(f)(6) of the Internal Revenue Code (IRC) states that the amortization of ITC's should be determined by the period of time used in computing depreciation expense for purposes of reflecting regulated operating results of the utility. Therefore, it is also appropriate to change the amortization of ITC's, in those instances where amortization of ITC's exist.

 Section 203(e) of the Tax Reform Act of 1986 (TRA) prohibits rapid writeback of protected (depreciation related) deferred taxes. In addition, Rule 25-14.013, Accounting for Deferred Income Taxes under SFAS 109, Florida Administrative Code (F.A.C.) prohibits, without good cause shown, excess deferred income taxes associated with temporary differences from being reversed any faster than allowed under Section 203(e). Therefore, both the TRA and Rule 25-14.013, F.A.C., prohibit faster write-off of protected excess deferred taxes. Consequently, staff believes that the flowback of excess deferred taxes should be altered to comply with the TRA and Rule 25-14.013, F.A.C.

 If FPL is currently amortizing ITC's and/or flowing back excess deferred income taxes related to the above-mentioned combined cycle units, the utility should make an adjustment to reflect the new depreciation rates. The adjustment to the amortization of ITC's and/or the flowback of excess deferred taxes should be reflected in the next surveillance report.

 The estimated increase to depreciation expenses by plant site, based on January 1, 1996 investments, are as follows:

 Fort Lauderdale $ 15.1 M

 Martin $ 4.2 M

 Putnam $ 1.1 M

 Total $ 20.4 M

**ISSUE 2:** What is the appropriate amortization period for FPL investment related to personal computer equipment?

**RECOMMENDATION:** The appropriate amortization period for this investment is three years, based on Company planning. Based on estimated 1996 purchases, an annual increase of approximately $2 M in amortization expense results. (BASS)

**STAFF ANALYSIS:** Currently, all investment relating to computer equipment is amortized over a five year period. While this is considered adequate for mainframe type equipment, the Company's operations and planning imply an alternate pattern for personal computer type equipment.

 Throughout its operations, FPL utilizes software packages which are continually subject to update. The 386 technology which was standard for 1990 technology became obsolete with the coming of 486 technology in 1992-1993. Replacement by the next generation, the Pentium chip, is already underway; and the next generation is over the horizon. This process is expected to continue indefinitely. The proposed three-year amortization period is appropriate as a reasonable match of recovery period with useful life.

 By this recommendation, the personal computer type equipment purchased on or after January 1, 1996, will be subject to this three year amortization. Based on estimated 1996 purchases, the change in amortization period will increase the annual accrual by approximately $ 2 M. This increase in annual accrual was included in the preliminary implementation, approved March 5, 1996.

**ISSUE 3:** What should be the implementation date of the recommended rates and amortization?

**RECOMMENDATION:** Staff recommends approval of the Company's proposed January 1, 1996, date of implementation for the depreciation rates and amortization. (BASS)

**STAFF ANALYSIS:** Company data and related calculations abut the January 1, 1996, date. Since the Company's request for preliminary implementation of the proposed rates and amortizations at that date was granted, the accruals will continue at the same level, upon approval of this recommendation.

**ISSUE 4:** Should this docket be closed?

**RECOMMENDATION:** Yes. If no substantially affected person timely files a protest to the Commission's notice of proposed agency action, this docket should be closed. (BASS)

**STAFF ANALYSIS:** If no substantially affected person files a timely request for a Section 120.57, Florida Statutes, hearing within twenty-one days, no further action will be required and this docket should be closed.

 FLORIDA POWER AND LIGHT COMPANY

 1996 DEPRECIATION STUDY

 COMBINED CYCLE INSTALLATIONS

 ESTIMATE OF EXPENSES

 C U R R E N T A P P R O V E D I N T E R I M,

 C O M P A N Y P R O P O S E D,

 and S T A F F R E C O M M E N D E D

 AVERAGE REMAINING

 1‑1‑96 1‑1‑96 REMAINING NET BOOK LIFE

 ACCOUNT INVESTMENT RESERVE LIFE SALVAGE RESERVE RATE EXPENSE

 $ $ (yrs) (%) (%) (%) ($)

 FORT LAUDERDALE COMBINED CYCLE

 Fort Lauderdale Common

 341 Structures and Improvements 73,301,663 2,941,373 19.6 (2) 4.0 5.0 3,665,083

 342 Fuel Holders, Producers & Access. 6,429,815 894,961 19.8 (2) 13.9 4.4 282,912

 343 Prime Movers 15,313,434 1,526,807 3.1 (2) 10.0 29.7 4,548,090

 344 Generators 313,512 39,506 20.0 (2) 12.6 4.5 14,108

 345 Accessory Electric Equipment 11,573,974 1,035,521 22.0 (1) 8.9 4.2 486,107

 346 Misc. Power Plant Equipment 1,286,865 302,385 12.4 (1) 23.5 6.3 81,072

 Total 108,219,263 6,740,553 9,077,372

 Fort Lauderdale Unit 4

 341 Structures and Improvements 4,654,679 2,828,818 22.0 (2) 60.8 1.9 88,439

 342 Fuel Holders, Producers & Access. 60,052 46,887 18.4 (2) 78.1 1.3 781

 343 Prime Movers 146,645,610 14,288,859 12.6 (2) 9.7 7.3 10,705,130

 344 Generators 24,581,760 2,141,946 22.0 (2) 8.7 4.2 1,032,434

 345 Accessory Electric Equipment 26,470,589 3,407,503 21.0 (1) 12.9 4.2 1,111,765

 346 Misc. Power Plant Equipment 2,192,007 326,784 13.3 (1) 14.9 6.5 142,480

 Total 204,604,697 23,040,797 13,081,029

 Fort Lauderdale Unit 5

 341 Structures and Improvements 2,887,727 915,092 22.0 (2) 31.7 3.2 92,407

 342 Fuel Holders, Producers & Access. 16,204 567 19.1 (2) 3.5 5.2 843

 343 Prime Movers 144,381,613 16,599,570 12.3 (2) 11.5 7.4 10,684,239

 344 Generators 24,986,360 3,502,717 22.0 (2) 14.0 4.0 999,454

 345 Accessory Electric Equipment 22,135,721 3,472,999 22.0 (1) 15.7 3.9 863,293

 346 Misc. Power Plant Equipment 1,732,515 77,015 13.7 (1) 4.4 7.1 123,009

 Total 196,140,140 24,567,960 12,763,245

 TOTAL FORT LAUDERDALE 508,964,100 54,349,310 34,921,646

 FLORIDA POWER AND LIGHT COMPANY

 1996 DEPRECIATION STUDY

 COMBINED CYCLE INSTALLATIONS

 ESTIMATE OF EXPENSES

 C U R R E N T A P P R O V E D I N T E R I M,

 C O M P A N Y P R O P O S E D,

 and S T A F F R E C O M M E N D E D

 1‑1‑96 1‑1‑96 AVERAGE REMAINING

 ACCOUNT INVESTMENT RESERVE REMAINING NET BOOK LIFE

 $ $ LIFE SALVAGE RESERVE RATE EXPENSE

 MARTIN COMBINED CYCLE (yrs) (%) (%) (%) ($)

 Martin Common

 341 Structures and Improvements 40,057,273 6,584,184 20.0 (2) 16.4 4.3 1,722,463

 342 Fuel Holders, Producers & Access. 2,720,120 503,774 21.0 (2) 18.5 4.0 108,805

 343 Prime Movers 24,197,451 4,811,722 5.1 (2) 19.9 16.1 3,895,790

 344 Generators 0 0 0.0 0 0 0 0

 345 Accessory Electric Equipment 4,580,781 844,768 24.0 (1) 18.4 3.4 155,747

 346 Misc. Power Plant Equipment 4,079,523 688,490 11.1 (1) 16.9 7.6 310,044

 Total 75,635,148 13,432,938 6,192,849

 Martin Combined Cycle Unit 3

 341 Structures and Improvements 1,918,202 535,847 24.0 (2) 27.9 3.1 59,464

 342 Fuel Holders, Producers & Access. 867,282 49,963 19.4 (2) 5.8 5.0 43,364

 343 Prime Movers 148,820,261 4,125,538 15.8 (2) 2.8 6.3 9,375,676

 344 Generators 24,476,951 2,153,729 23.0 (2) 8.8 4.1 1,003,555

 345 Accessory Electric Equipment 19,054,209 1,997,991 13.1 (1) 10.5 6.9 1,314,740

 346 Misc. Power Plant Equipment 532,349 89,323 24.0 (1) 16.8 3.5 18,632

 Total 195,669,254 8,952,391 11,815,431

 Martin Combined Cycle Unit 4

 341 Structures and Improvements 1,873,410 492,139 24.0 (2) 26.3 3.2 59,949

 342 Fuel Holders, Producers & Access. 653,322 74,011 19.6 (2) 11.3 4.6 30,053

 343 Prime Movers 144,813,816 10,510,583 16.4 (2) 7.3 5.8 8,399,201

 344 Generators 29,263,816 2,412,954 23.0 (2) 8.2 4.1 1,199,816

 345 Accessory Electric Equipment 15,198,695 1,410,576 13.1 (1) 9.3 7.0 1,063,909

 346 Misc. Power Plant Equipment 475,879 74,851 24.0 (1) 15.7 3.6 17,132

 Total 192,278,938 14,975,114 10,770,060

 TOTAL MARTIN 463,583,340 37,360,443 28,778,340

 FLORIDA POWER AND LIGHT COMPANY

 1996 DEPRECIATION STUDY

 COMBINED CYCLE INSTALLATIONS

 ESTIMATE OF EXPENSES

 C U R R E N T A P P R O V E D I N T E R I M,

 C O M P A N Y P R O P O S E D,

 and S T A F F R E C O M M E N D E D

 1‑1‑96 1‑1‑96 AVERAGE REMAINING

 ACCOUNT INVESTMENT RESERVE REMAINING NET BOOK LIFE

 $ $ LIFE SALVAGE RESERVE RATE EXPENSE

 PUTNAM COMBINED CYCLE (yrs) (%) (%) (%) ($)

 Putnam Common

 341 Structures and Improvements 11,296,271 6,669,915 10.7 (2) 59.0 4.0 451,851

 342 Fuel Holders, Producers & Access. 7,458,083 3,950,215 11.8 (2) 53.0 4.2 313,239

 343 Prime Movers 10,039,430 5,461,852 11.8 (2) 54.4 4.0 401,577

 344 Generators 36,487 28,535 12.5 (2) 78.2 1.9 693

 345 Accessory Electric Equipment 1,721,222 886,280 11.5 (1) 51.5 4.3 74,013

 346 Misc. Power Plant Equipment 1,081,079 731,898 10.2 (1) 67.7 3.3 35,676

 Total 31,632,572 17,728,695 1,277,049

 Putnam Unit 1

 341 Structures and Improvements 34,624 24,564 12.5 (2) 70.9 2.5 866

 342 Fuel Holders, Producers & Access. 61,742 25,842 8.4 (2) 41.9 7.2 4,445

 343 Prime Movers 48,779,325 17,201,390 11.5 (2) 35.3 5.8 2,829,201

 344 Generators 5,382,575 3,739,686 12.3 (2) 69.5 2.6 139,947

 345 Accessory Electric Equipment 6,509,413 4,276,893 11.3 (1) 65.7 3.1 201,792

 346 Misc. Power Plant Equipment 387,624 264,064 12.5 (1) 68.1 2.6 10,078

 Total 61,155,303 25,532,439 3,186,329

 Putnam Unit 2

 341 Structures and Improvements 34,624 25,018 11.5 (2) 72.3 2.6 900

 342 Fuel Holders, Producers & Access. 61,685 27,675 8.2 (2) 44.9 7.0 4,318

 343 Prime Movers 49,241,908 18,623,840 10.6 (2) 37.8 6.1 3,003,756

 344 Generators 5,382,575 3,802,317 11.3 (2) 70.6 2.8 150,712

 345 Accessory Electric Equipment 6,663,199 4,263,877 10.3 (1) 64.0 3.6 239,875

 346 Misc. Power Plant Equipment 373,512 250,923 11.5 (1) 67.2 2.9 10,832

 Total 61,757,503 26,993,650 3,410,393

 TOTAL PUTNAM 154,545,378 70,254,784 7,873,771

 TOTAL COMBINED CYCLE INSTALLATIONS 1,127,092,818 161,964,537