State of Florida

Public Service Commission

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RECORDS AND REPORTING

DATE: JANUARY 6, 2000

TO: DIRECTOR, DIVISION OF RECORDS AND REPORTING (BAYÓ)

FROM: DIVISION OF WATER AND WASTEWATER (WILLIS, BETHEA, MERCHANT, CROUCH, BINFORD, KYLE, G. EDWARDS, FLINCO)
DIVISION OF AUDITING AND FINANCIAL ANALYSIS (MAUREY, SAMAAN)
DIVISION OF LEGAL SERVICES (JAEGER, FUDGE)

RE: DOCKET NO. 990535-WU - REQUEST FOR APPROVAL OF INCREASE IN WATER RATES IN NASSAU COUNTY BY FLORIDA PUBLIC UTILITIES COMPANY (FERNANDINA BEACH SYSTEM).
COUNTY: NASSAU

AGENDA: 01/18/2000 - REGULAR AGENDA - PROPOSED AGENCY ACTION - INTERESTED PERSONS MAY PARTICIPATE

CRITICAL DATES: 5-MONTH EFFECTIVE DATE: 01/18/2000 (PAA RATE CASE)

SPECIAL INSTRUCTIONS: NONE

FILE NAME AND LOCATION: S:\PSC\WAW\WP\990535.RCM

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CASE BACKGROUND

Florida Public Utilities Company (FPUC or utility) is a class A utility providing electric, gas, and water service to various areas in Florida. The Fernandina Beach division in Nassau County, furnished electricity and water service to approximately 12,500 electric customers and 6,400 water customers as of December 31, 1998. In its 1998 annual report, the utility recorded operating revenues of $2,160,904 for its water service and a net operating income of $442,115. FPUC is located in a critical use area as designated by the St. Johns River Water Management District. The Fernandina Beach division is the sole division within the company providing water service. Water rates were last established for this utility in Order No. 17441, issued April 20, 1987, in Docket No. 860662-WU.

On July 19, 1999, FPUC filed its Application for a Rate Increase in Nassau County. However, there were several deficiencies in the Minimum Filing Requirements (MFRs). These deficiencies were corrected, and August 6, 1999 was established as the official filing date. The utility requested that this application be processed using the Commission's Proposed Agency Action (PAA) procedure, and did not request interim rates. The utility's rate case is based on the projected test year ending December 31, 2000, with an historical base year of December 31, 1998. The Commission suspended the rates requested by the utility pending final action by Order No. PSC-99-2113-PCO-WU, issued October 25, 1999. The utility is requesting revenues of $2,893,351. These revenues exceed test year revenues by $649,855 (28.97%).

As part of the PAA process, staff held a customer meeting on November 3, 1999, in Fernandina Beach, Florida. Staff discusses the meeting in Issue 1.

DISCUSSION OF ISSUES

ISSUE 1: Is the quality of service satisfactory?

RECOMMENDATION: Yes, the quality of service is satisfactory. (EDWARDS)

STAFF ANALYSIS: In order to determine the overall quality of service provided by a utility, the Commission evaluates three separate components of water operations. These are (1) the quality of the utility's product, (2) the operating conditions of the utility's plants and facilities, and (3) customer satisfaction. The rule also states that sanitary surveys, outstanding citations, violations, and consent orders on file with the Department of Environmental Protection (DEP) and County Health Department over the preceding three year period will be considered. DEP and health department officials' input as well as customer comments will also be considered.

FPUC's water treatment facilities consist of two plants and one distribution system. The plants are parallel in construction type (pump, aerate and chlorinate).

Quality of the Product

The quality of the product is very good. At the customer meeting which was held on November 3, 1999 in the Fernandina Beach Recreation Center Auditorium, there was a relatively small representation of the total customer base in attendance (of more than 6,000 customers, only four customers attended). Only two customers spoke at the customer meeting and only one customer indicated that the water pressure was inadequate and the water was unsafe. The other customer expressed concerns regarding the continued flow of water at the end of the lines.

Staff acknowledges that the finished product meets standards, and both staff and DEP engineers concur that the finished product is satisfactory. However, all of the agencies involved have concerns regarding the unaccounted for water.

After reviewing the Monthly Operation Reports (MORs) and the complaint logs, staff concluded that the majority of the low water pressure complaints were unfounded. The water pressure tests, which were performed by the utility, indicated the water pressure greatly exceeded the continuous water flow requirement of 20 pounds per

square inch (psi) required by the Department of Environmental Protection (DEP). Several customers listed in the complaint log expressed concerns regarding unpleasant odors from the water. While conducting the field investigation, the staff engineer traversed the service area and did not experience unpleasant odors emanating from the finished water product.

Operating Conditions

DEP has conducted inspections of FPUC's facilities on October 22, 1996 and again on November 7, 1996. Several minor deficiencies were discovered during those two inspections. These deficiencies have been corrected. On September 3, 1999, the staff engineer in conjunction with Ms. Ryna Miner, an inspector from DEP, conducted a field inspection of the two FPUC facilities. A few minor deficiencies were detected and have been corrected by the utility or will be in the near future.

Customer Satisfaction

It is evident from lack of adverse testimony given at the customer meeting and several phone calls made to the Commission by representatives of homeowners associations throughout the system that the customers' satisfaction is excellent. At the customer meeting only two customers spoke, which is a relatively small representation of the total population (more than 6,000 customers). Several customers spoke to staff by phone prior to the customer meeting and also to the staff engineer during the engineering investigation, and the response was that the customers were very pleased with the level of service provided by FPUC.

Summary

The quality of the product by DEP's standards is very good, the operating conditions of the plants are excellent, and the customers' satisfaction is excellent.

ISSUE 2: Should the utility be required to adjust its plant in service, accumulated depreciation, contributions in aid of construction (CIAC), accumulated amortization of CIAC and depreciation expense so as to be in conformity with the National Association of Regulatory Utility Commissioners (NARUC) Uniform System of Accounts (USOA)?

RECOMMENDATION: Yes. The utility should be required to make the following adjustments to its books and records:

Utility Plant in Service	$490,350
CIAC	(490,350)
Accumulated Depreciation	(117,535)
Accumulated Amortization of CIAC	117,535
Depreciation Expense	11,944
CIAC Amortization Expense	(11,944)

Further, the utility should be required to maintain its books and records in conformity with the NARUC Uniform System of Accounts as required by Rule 25-30.115, Florida Administrative Code. (KYLE)

STAFF ANALYSIS: In FPUC's most recent water rate case, the Commission found that the utility was not recording CIAC in account 271 in conformity with the NARUC system of accounts. Specifically, the utility was netting CIAC against the primary plant account to which it related. In its order, the Commission stated, "we will require the utility to maintain its accounts and records in accordance with the 1984 NARUC uniform system of accounts." See Order No. 17441, issued on April 20, 1987, in Docket No. 860662-WU. Rule 25-30.115, Florida Administrative Code, specifically requires adherence to the NARUC uniform system of accounts. Staff notes that the rule was amended on August 17, 1997, to refer to the 1996 NARUC uniform system of accounts, and to set an effective date of January 1, 1998.

During the staff audit related to the current rate case, the auditors found that, while the utility did start the CIAC account, many items, especially contributed plant, were recorded as a credit to plant instead of to CIAC. As a result of their examination of the utility's ledgers and tax return information, the auditors concluded that, from 1986 through 1998, a total of $490,350 of CIAC was incorrectly recorded. In its response to the audit report, dated November 11, 1999, the utility agreed with the audit findings on this matter. Accordingly, staff recommends that the utility be

required to make the following adjustments to the utility's books and records for the test year ended December 31, 2000:

Utility Plant in Service	$490,350
CIAC	(490,350)
Accumulated Depreciation	(117,535)
Accumulated Amortization of CIAC	117,535
Depreciation Expense	11,944
CIAC Amortization Expense	(11,944)

Further, staff recommends that the Commission should require that FPUC maintain a record of CIAC in conformity with the NARUC Uniform System of Accounts, as required by Rule 25-30.115, Florida Administrative Code. Staff will monitor the utility's compliance with the rule. If the utility does not comply with the rule by December 31, 2000, staff will file a show cause recommendation.

ISSUE 3: What additional adjustments, if any, should be made to the utility's projected plant in service, accumulated depreciation, depreciation expense, and property taxes?

RECOMMENDATION: The utility's projected plant in service should be decreased by a net amount of $72,651. Accumulated depreciation should be decreased by a net amount of $60,943. Depreciation expense should be increased by a net amount of $6,097. Property taxes should be increased by $6,579. (KYLE, BINFORD)

STAFF ANALYSIS: In Audit Disclosure No. 1, the staff auditors described three concerns with the utility's projection of allocated common plant. FPUC's projections included $18,480 allocated to the water division for a trencher/backhoe, beginning January 1, 1999. Company source documentation shows that purchase of this asset was deferred and other items for electric division use only were substituted. The utility also included in its projections transportation equipment estimated to cost $17,000, of which $5,610 was allocated to the water division. Source documentation revealed that the actual cost of the equipment in 1999 was $13,458. Finally, during the staff audit, the utility submitted documentation of its intent to acquire three vehicles in 2000 at a cost of $15,000 each (of which $4,950 each was allocated to the water division), and to retire three vehicles. FPUC generally agreed with the findings, and provided supplementary documentation, including a clarification of depreciation rates. As a result, staff recommends adjustments to decrease projected plant by $16,625, to decrease accumulated depreciation by $634, and to decrease depreciation expense by $776.

After filing the MFRs, the utility notified staff that permitting problems would delay certain construction projects scheduled for the test year, and provided revised schedules. After review of the new information, staff recommends additional adjustments to decrease average test year plant in service by $56,026, to decrease accumulated depreciation by $20,909, and to increase depreciation expense by $32,502.

The combination of all of staff's recommended adjustments to plant in service is an increase of $417,699. Because the utility based its projection of property taxes on the plant in service balance, staff has calculated that Taxes Other Than Income should also be increased by $6,579.

Staff recommends one additional adjustment to accumulated depreciation. In Audit Disclosure No. 3, Staff auditors noted that

there was an apparent inconsistency from prior practice in the utility's treatment of depreciation expense on transportation equipment, resulting in duplication of charges. FPUC agreed with the finding and submitted revised schedules. Accordingly, staff recommends adjustments to reduce test year accumulated depreciation and depreciation expense by $39,400 and $22,842, respectively.

ISSUE 4: Should a margin reserve be included in the used and useful determination?

RECOMMENDATION: Yes, a margin reserve of 1,207,614 gallons per day (GPD) should be included in the plant's used and useful. In addition, the margin reserve for the distribution system is 1030 equivalent residential connections (ERCs). (EDWARDS)

STAFF ANALYSIS: Margin reserve is the concept whereby the Commission recognizes certain costs the utility incurs in providing extra capacity sufficient to meet short term growth without impairing its ability to provide safe and adequate service to existing customers. Section 367.081(2)(a)2., Florida Statutes, sets out the time period that must be used as well as the maximum growth rate that can be included in the calculation. Section 367.081(2)(a)2., Florida Statutes, states:

> 2. For purposes of such proceedings, the commission shall consider utility property, including land acquired or facilities constructed or to be constructed within a reasonable time in the future, not to exceed 24 months after the end of the historic test year used to set final rates unless a longer period is approved by the commission, to be used and useful in the public service, if:
>
> a Such property is needed to serve current customers;
>
> b. Such property is needed to serve customers **5 years** after the end of the test year used in the commission's final order on a rate request as provide in subsection (6) at a growth rate for equivalent residential connections not to exceed **5 percent** per year; or
>
> c. Such property is needed to serve customers more than 5 full years after the end of the test year used in the commission's final order on a rate request as provided in subsection (6) only to the extent that the utility presents clear and convincing evidence to justify such consideration.
>
> (emphasis added)

In accordance with Section 367.081(2)(a)2.b., Florida Statutes, the period needed to serve current customers is five years after the test year. A five year period has been used in the margin reserve calculations as an approved construction period. The growth rate calculated in each margin reserve calculation is less than the maximum allowed of 5% per year.

Plant Margin Reserve:

FPUC, in their application calculated a margin reserve of 328,320 GPD. However, staff does not use the same method utilized by the applicant to calculate margin reserve.

FPUC's calculation:

Margin Reserve = 2 x 456 ERC = 912 ERC
= 912 x 360 = 328,320

Staff's calculation:

Statutory Margin Reserve Period X Growth per year X (max daily consumption/Test year ERC's) = Margin Reserve

Margin Reserve =
(5 x 206 x 7,575,140)/6,461
= 1,207,614

PLANT MARGIN RESERVE					
System Plant	**Margin Reserve Period**	**Growth Per Year**	**Average Daily Consumption**	**Test Year ERC's**	**Margin Reserve**
FPUC	5	206	7,575,140	6,461	1,207,614

Distribution System Margin Reserve:

The utility, in their application, requested a margin reserve of 912 ERCs for the distribution system. However, FPUC calculations were based on a summarization of five years of growth which were then averaged. The practice of the Commission is to utilize the regression analysis calculation (because a more accurate projection of growth can be achieved). Staff calculated the Margin Reserve value to be 1030 lots.

FPUC's calculation:

ERC's = Margin Reserve x Average Growth

912 = 2 years x 456

Staff's calculation:

Growth in lots served
= Statutory Margin Reserve Period x Regression calculation for customer growth

1030 = 5 years x 206

DISTRIBUTION SYSTEM MARGIN RESERVE			
System Plant	**Margin Reserve Period**	**Growth**	**Margin Reserve**
FPUC	5	206	1030

ISSUE 5: Is there excessive unaccounted for water, and if so, what adjustments should be made to purchased power and chemical costs?

RECOMMENDATION: Yes, there is excessive unaccounted for water in the amount of 15,211 GPD. The resulting adjustments required are $4,175.60 for purchased power cost and $604.04 for chemical cost. (EDWARDS)

STAFF ANALYSIS: Unaccounted for water is the difference between water pumped and treated, and the amount of water sold (revenue producing). Some unaccounted for water is acceptable for line flushing, plant use, etc. The Commission's policy allows a normal acceptable level of unaccounted for water as 10% of the total water pumped. Any amount of unaccounted for water above that level must be justified or it is considered excessive. This standard was applied to the FPUC system which consists of two plants that are interconnected by one distribution system.

FPUC calculates the excessive amount unaccounted to be three percent (3%) or 15,211 GPD. When the total unaccounted gallons of 185,073,000 is divided by the total amount of water pumped, 1,415,345,000 gallons, the result is an adjustment factor of 0.130762 or 13%. However, the excessive amount of unaccounted for water is 3% or .030762.

UNACCOUNTED FOR WATER					
System Plant	**Per year Water Pump**	**Per Year Consumption**	**Other Usage**	**Unaccounted For Water**	**Excessive Unaccounted For Water**
FPUC	1,415,345 M	1,191,060 M	39,212 M	185,073 M	**15,211 GPD**

Note: M = thousand gallons

The calculation below reflect the 3% of excessive unaccounted for water and the required adjustments:

(1) Test year purchased power expenses X 0.030762
= adjustment amount

$135,739 X 0.030762 = $4,175.60

(2) Test year chemical expenses X 0.030762 = adjustment amount

$19,636 X 0.030762 = $604

Therefore, the test year purchased power expenses should be reduced by $4,175 and the test year chemical expenses should be reduced by $604.

FPUC acknowledged the existence of the excessive unaccounted water situation in their application. The utility stated the reason for the unaccounted for water problems was due to leakage and inaccurate meters which require refurbishment or replacement.

Staff has communicated with the utility concerning this matter and has reviewed the corrective measures (the utility is working with the Florida Rural Water Association to locate leaks and the utility is stepping up their meter replacement program) that are being taken to resolve this situation. Staff is confident that the applicant will resolve this issue expeditiously.

ISSUE 6: What used and useful percentages are appropriate for this proceeding?

RECOMMENDATION: The water treatment plant should be considered 100% used and useful, and the distribution system should be considered 100% used and useful. (EDWARDS)

STAFF ANALYSIS: Staff utilized the utility's records for the test year, data from FPUC's application, and data from DEP's files, which confirmed the accuracy of the data contained in the utility's records. The utility, in its application, requested 100% used and useful values for both the water treatment plant and water distribution system. Staff reviewed the application and discovered some differences in calculation factors. For example, FPUC calculated the margin reserve by using the average method and two years construction time. The Commission's practice is to utilize the method of regression analysis and a five year period as required by statute. The utility method of calculating the used and useful of the water treatment plant was different from staff's; however, the results were similar.

The utility's calculation for the used and useful of the distribution system was determined by using the lot count method. Both, FPUC and staff utilized the lot count method. However, the results were slightly different due to FPUC's margin reserve calculation, but both the utility and staff arrived at a 100% used and useful for the distribution system.

The following plant used and useful calculations were made using those DEP permitted capacities along with all other corrected data resulting in 100% used and useful for both the plant and distribution systems.

Water plants: (Plant #1, N. 11th St. & Atlantic Ave. + Plant #2, Ryan Rd.)

$$\frac{\text{(Max. Day + Margin Res.+ Fire Fl.- Excess Unacct. Water)}}{\text{Capacity}} \text{ X } 100$$

PLANT USED AND USEFUL PERCENTAGES FOR FPUC						
System Plant(s)	**Capacity (GPD)**	**Maximum Day (GPD)**	**Fire Flow (GPD)**	**Margin Reserve (GPD)**	**Excess Unaccounted Water (GPD)**	**Used & Useful (%)**
PLANT #1 PLANT #2	8,947,000	7,575,140	580,320	1,201,300	15,211.5	* **100%**

*** This number has been rounded.**

Distribution System: (Plant #1, N. 11th St. & Atlantic Ave. + Plant #2, Ryan Rd. - The two plants are interconnected by the one distribution system).

The distribution system calculation was derived from the lot counts taken from the annual reports.

$$\frac{\text{Test year lots + Margin Reserve}}{\text{Total No. Lots}} \times 100\% = \text{Used \& Useful}$$

And

DISTRIBUTION SYSTEM(S) USED AND USEFUL FOR FPUC				
Plant(s) Area	**No. Lots Served**	**Margin Reserve**	**Total No. Lots**	**Used & Useful (%)**
PLANT #1 PLANT #2	6,537	1030	7,732	***97.8**

* Rounded to 100%

Because of the utility's operating capacity, staff recommends that the water treatment plant be considered 100% used and useful (Schedule 5-A) and the water distribution system be considered 100% used and useful (Schedule 5-B).

ISSUE 7: What additional adjustments, if any, should be made to the utility's projected CIAC, accumulated amortization of CIAC, advances for construction and depreciation expense?

RECOMMENDATION: The utility's projected CIAC should be increased by $108,341. Accumulated amortization of CIAC should be increased by $4,833. Advances for construction should be decreased by $59,018. Depreciation expense should be decreased by $2,787. (KYLE)

STAFF ANALYSIS: In Audit Exception No. 2, staff auditors found that, in some instances, engineering fees collected from developers were being recorded as advances for construction, but were not being transferred to CIAC when the engineering work was completed. The utility agreed, and staff recommends that an adjustment should be made to increase CIAC by $59,018, to increase accumulated amortization of CIAC by $4,321, to decrease advances for construction by $59,018, and to decrease net depreciation expense by $1,357.

The projection of CIAC and the associated accumulated amortization and annual amortization is based on known projects through 1999, adjusted by Consumer Price Index (CPI) and projected growth for the test year ended December 31, 2000. In Issue 12, staff has recommended that the utility's growth factor of 1.0528 be increased to 1.0809. Accordingly, staff recommends adjustments to increase average test year CIAC by $49,323, to increase accumulated amortization of CIAC by $512, and to decrease net depreciation expense by $1,430.

ISSUE 8: By what amount, if any, should rate base be reduced for unfunded liability for Other Postretirement Employee Benefits (OPEBs)?

RECOMMENDATION: The utility has included its unfunded liability for OPEBs in its working capital calculation. No additional reduction in rate base is required. (KYLE)

STAFF ANALYSIS: Rule 25-14.012(3), Florida Administrative Code, states that:

> . . . each utility's unfunded accumulated postretirement benefit obligation shall be treated as a reduction to rate base in rate proceedings. The amount that reduces rate base is limited to that portion of the liability associated with the cost methodology for post retirement benefits other than pensions.

In its MFRs, FPUC did not include a line item in its rate base calculation for unfunded liability for OPEBs. In its response to a staff data request, the utility included details of its postretirement benefit plan, including actuarial calculations of the unfunded liability, which appear to be reasonable. The utility also provided documentation that the unfunded liability is recorded in its books in Account 100.2280.33. This account is included in the accrued insurance liability accounts which are part of FPUC's working capital calculation. Accordingly, staff believes the requirement of Rule 25-14.012(3), Florida Administrative Code, has been met, and no further reduction to rate base is required.

ISSUE 9: What is the appropriate working capital?

RECOMMENDATION: The appropriate working capital for the test year ended December 31, 2000 is $46,712. (KYLE)

STAFF ANALYSIS: In its MFRs, the utility appropriately used the balance sheet method to project working capital for the test year, and projected a balance of $228,290. As a result of our analysis, staff considered several adjustments to this amount.

In Schedule A-17 of its MFRs, FPUC included a line item in the amount of $28,044, described as "other work in process." Staff analysis of supporting schedules determined that this amount is the projected unamortized rate case expense for the test year. This was based on projected rate case expense of $32,050 and annual amortization of $8,013. Staff subsequently adjusted the projected amounts to $45,988 total expense and $11,497 annual amortization (see Issue 17). As a result, the average unamortized balance for the test year increased to $40,240.

Staff also considered whether unamortized rate case expense should be included in the working capital calculation. A review of recent Commission actions indicates that such inclusion is appropriate. In a case involving Gulf Utility Company, the Office of Public Counsel (OPC) proposed removing unamortized rate case expense from working capital. The Commission disagreed, stating that "(t)his is an improper mechanism to lower rate case expense. Furthermore, it is consistent to match the unamortized expense with the allowed expense. Because the utility will not receive recovery of all rate case expense until the end of four years, disallowing the unamortized portion would deny recovery of the utility's investment." In Re: Investigation of Rates of Gulf Utility Company in Lee County for Possible Overearnings, and In Re: Application for Increase in Rates and Service Availability Charges in Lee County by Gulf Utility Company, Order No. PSC-97-0847-FOF-WS, issued July 15, 1997, in Dockets Nos. 960234-WS and 960329-WS.

Similarly, the Commission approved inclusion of unamortized rate case expense in working capital by Hobe Sound Water Company. In Re: Application for Increase in Rates in Martin County by Hobe Sound Water Company, Order No. PSC-97-1225-FOF-WU, issued October 10, 1997, in Docket No. 970164-WU. The Commission also allowed FPUC to include unamortized rate case expense in working capital for its Marianna electric division, stating that ". . . if it is determined that rate case expense is prudent and reasonable, the company should be allowed to earn a return on the unamortized

balance." In Re: Application for Rate Increase for Marianna Electric Operations by Florida Public Utilities Company, Order No. PSC-94-0170-FOF-EI, issued February 10, 1994, in Docket No. 930400-EI.

As a result of this analysis, staff believes that the utility's unamortized rate case expense should be included as an asset in the working capital calculation. Further, the amount included should be increased by $12,196 to reflect the adjustment in Issue 17.

Staff auditors determined that the utility did not include the liability account, "Accrued Taxes - Ad Valorem," in its working capital calculation (Audit Disclosure No. 4). The utility agreed with this disclosure. Including the projected average balance of this account results in a decrease in working capital of $40,189.

In its MFRs, FPUC projected the balance of the liability account, "Accrued Interest Payable," as $52,209, using consumer price index (CPI) and projected customer growth as the method of projection. In Audit Disclosure No. 5, staff auditors noted that the utility's projected Notes Payable balance increased by a substantially larger percentage than did the related Accrued Interest. The auditors suggested that Accrued Interest would be more appropriately forecast by relating it to the forecast Notes Payable balance. Doing so would increase the projected Accrued Interest Payable average balance to $131,176, an increase of $78,967 over the utility's projection. The utility did not comment on this disclosure. Staff believes that the projection methodology proposed by the auditors is more reasonable than the utility's methodology and, accordingly, recommends an adjustment to reduce working capital by $78,967.

In its MFRs, the utility projected liabilities related to payroll by using a CPI and projected customer growth factor of 1.0528. In Audit Disclosure No. 6, the audit staff noted that FPUC had projected adding an additional employee in the test year ended December 31, 2000. Using the same projection factor for payroll of existing employees and adding payroll liability related to the additional employee would increase the projected test year payroll tax liability by $3,053. The utility agreed with this rationale, and accordingly, staff recommends an adjustment to reduce working capital by $3,053.

In its MFRs, the utility included as an asset for the projected test year a net deferred income tax debit of $69,049. Rule 25-30.433(3), Florida Administrative Code, states:

> Used and useful debit deferred taxes shall be offset against used and useful credit deferred taxes in the capital structure. Any resulting net debit deferred taxes shall be included as a separate line item in the rate base calculation. Any resulting net credit deferred taxes shall be included in the capital structure calculation. No other deferred debits shall be considered in rate base when the formula method of working capital is used.

Accordingly, staff recommends an adjustment in the amount of $69,049 to reduce working capital and an adjustment to increase deferred income taxes as a separate rate base line item by the same amount.

Finally, the changes in customer growth projections recommended by staff in Issue 12 affect projected average test year balances for many of the accounts used in calculating working capital. Staff has recalculated these balances, using the revised projection factors, with the result of a net decrease in working capital of $2,516.

Staff recommended adjustments to working capital are summarized as follows:

Working Capital per MFRs	$228,290
Reflect Increase in Projected Rate Case Expense	12,196
Include Accrued Taxes-Ad Valorem	(40,189)
Change Method of Projecting Accrued Interest Payable	(78,967)
Adjust Payroll Related Payables to Reflect New Employee	(3,053)
Reclassify Deferred Income Tax Debit as Separate Line Item	(69,049)
Adjust Applicable Accounts for Change in Growth Projection	(2,516)
Working Capital per Staff Recommendation	$46,712

ISSUE 10: What is the appropriate rate base?

RECOMMENDATION: The appropriate rate base for the test year ended December 31, 2000 is $8,026,640. (KYLE)

STAFF ANALYSIS: This is a fall-out issue, resulting from the adjustments recommended by staff in the preceding issues, and is calculated to be $8,026,640.

COST OF CAPITAL

ISSUE 11: What is the appropriate weighted average cost of capital including the proper components, amounts and cost rates associated with the capital structure for the projected test year ending December 31, 2000?

RECOMMENDATION: The appropriate cost of capital is 9.10% based on a return on equity (ROE) of 9.98%, with a range of 8.98% to 10.98%, and a 13-month average capital structure for the period ending December 31, 2000. (SAMAAN)

STAFF ANALYSIS: Based upon the proper components, amounts and cost rates associated with the capital structure for the projected test year ending December 31, 2000, staff recommends a weighted average cost of capital of 9.10%. Attached Schedule No. 2 details staff's recommendation.

Staff began with the 13-month average capital structure in the MFRs submitted by FPUC. The utility specifically identified investment tax credits and customer deposits in a manner consistent with previous cases. The utility properly removed its investment in Flo-Gas entirely from common equity at the total utility level. Flo-Gas is FPUC's non-regulated propane gas operations. However, as noted in the audit report, dividends on common stock were included in the calculation of equity in the MFR filing. Since expenses were already adjusted for this amount, and thus retained earnings, this is only a payable account and should not be included in equity. Staff specifically excluded accrued dividends payable in the amount of $203,448 from common equity to be consistent with previous cases. As a result of staff's adjustment, there was a change in the respective percentages of investor supplied sources of capital. The utility's equity ratio decreased to 42.86% from 43.03%.

Staff agreed with and used the respective cost rates provided by FPUC with the exception of the cost rates for common equity and short-term debt. Based upon the adjustment discussed above and the application of the leverage formula approved in Order No. PSC-99-1224-PAA-WS, issued June 21, 1999, the ROE increased slightly to 9.98% from the 9.97% filed by FPUC.

The utility calculated the cost rate for the short-term debt as 6.49% by using the actual interest expense and the weighted average monthly balance outstanding for short-term debt. This weighted average monthly balance outstanding is calculated by totaling the balance of outstanding short-term debt for each day

and then dividing by the number of days in the year. Staff calculated a cost rate of 6.50% for short-term debt by using the actual interest expense and the 13-month average balance for short-term debt. Staff believes that 6.50% is the appropriate cost rate to use for short term debt for the following reasons. First, using the 13-month average balance allows the recovery of only the actual interest expense incurred. Second, this method is consistent with the 13-month average balances reported in the capital structure and rate base. Unless this adjustment is made, applying the cost rate calculated by the utility to the 13-month average balance of short-term debt would result in an under-recovery of interest expense incurred by the utility in year 2000.

Schedule No. 2 shows the components, amounts, cost rates and weighted average cost of capital associated with the projected test year.

NET OPERATING INCOME

ISSUE 12: What is the appropriate method of projecting customers and consumption for the projected test year ending December 31, 2000, and what are the resulting projected numbers of bills and consumption for the 2000 projected test year before any adjustments are made?

RECOMMENDATION: Linear regression is the appropriate method of projecting customers and consumption. The resulting projected numbers of bills and consumption for the 2000 projected test year, before adjustments, are 82,649 bills and 1,778,308 hundred cubic feet (CCF), respectively. (LINGO, KYLE)

STAFF ANALYSIS: Our analysis of this issue included an examination of both the utility's historical year billing determinants as well as its projections and associated methodologies. Our discussion of each topic follows.

Historical Year Billing Determinants (KYLE)

The historic billing determinants, customers, bills and quantity billed, were audited by staff and reflect, in all material respects, actual consumption by customer class.

Projections and Methodologies (LINGO)

FPUC's projections were developed based on a form of an averaging methodology, primarily using a five-year average, discarding the high and low values during the five-year period. The primary database used to develop the projection models included customers served, bills rendered and billed consumption.

FPUC's Customer Growth Projections

To predict customer growth for each customer group (residential, commercial, industrial, public authority, fire hydrants and automatic sprinkler systems), the utility examined the customer growth, by month, for each customer group and meter size during the five-year period of 1994-1998, grouping the data by month. In order to project the expected growth for each month, the high and the low growth values for each month were disregarded; the remaining three years of growth for each month were then averaged. The utility assumed that this average underlying growth for the respective groups for each month would continue through 1999 and 2000. An example of the utility's customer growth projection methodology is shown below:

Year	Dec. Growth
1994	137
1995	138
1996	162
1997	191
1998	279

To estimate December growth, 279 and 137 were discarded as the high and low values. The average of the remaining three values is 164, which became the projected growth for December 1999 and December 2000. The projected number of bills for each customer class was derived from the number of customers to be served, as all customers are billed monthly.

FPUC's Consumption Projections

To predict consumption for each customer group (residential, commercial, industrial and public authority) the utility calculated the average consumption per customer for each month during the 1994-1998 period. As with the customer growth projections, in order to project the expected average consumption for each month, the high and the low average consumption values for each month were disregarded; the remaining three years for each month were then averaged. The utility assumed that this average consumption for the respective groups for each month would continue through 1999 and 2000. The utility's customer projections for each month were then multiplied by the respective anticipated average consumption per customer to derive projected monthly consumption per customer group.

Staff Discussion

Staff's analysis of FPUC's projections was a multi-step process. First, we examined the utility's selection of averaging techniques to project customer growth. Next, we determined whether FPUC's selected methodologies yielded reasonable results. Third, we developed and examined multiple regression models which included variables that we believed would have an effect on consumption. Finally, a comparison of the customer bills and consumption generated by both the utility's method and staff's model are compared, and conclusions are drawn. The details of our analysis

follow.

Analysis of FPUC's Averaging Methodology
to Project Customer Growth

As discussed previously, the utility used a form of an averaging technique to project customer growth. When asked to explain its selection of projection methods, the utility responded:

> We reviewed several projection methods for customers and units as shown in the MFRs as Schedule H-19. With each rate and class of customers we used our best judgement taking into account historical growth and recent trends in service territory and felt the projections used best reflected expectations in customers and units as of May 31, 1999. We primarily used a five-year average discarding the high and low to normalize the data. (FPUC's response to Staff's First Data Request, No. 11B)

We do not share the utility's belief that its projection methodology and the resulting projections best reflect the "expectation in customers." Staff's analysis of the utility's projections revealed anomalies which we believe calls the utility's projections for the residential class into question. The utility's 1998 historical data for the residential class, as well as the utility's residential class projections for the years 1999 and 2000 are shown below.

	Residential		
	Historical	Projected	
	1998	1999	2000
Jan	5,460	**5,617**	**5,768**
Feb	5,477	**5,632**	**5,779**
Mar	5,501	**5,668**	**5,827**
Apr	5,525	**5,702**	**5,871**
May	5,578	**5,739**	**5,892**
Jun	5,607	5,763	**5,911**
Jul	5,705	5,859	6,005
Aug	5,720	5,889	6,050
Sep	5,752	5,923	6,086
Oct	5,764	5,944	6,116
Nov	5,755	5,931	6,099
Dec	5,754	5,918	6,071

As shown above, 1998 exhibited fairly steady growth during the year, and the number of customers at December 1998 is 5,754. However, during 1999 the utility projects that there will be a substantial **reduction** in customers such that in the months of January through May of 1999, the projected number of customers is **less** than at December 1998. In other words, it takes the first five months of 1999 to reach the number of customers the utility reported at December 1998, essentially projecting no growth until June 1999. Similarly, the number of customers at December 1999 is 5,918. However, for the year 2000 the utility projects that the customer counts for the months of January through June will be **less** than the December 1999 figure, which is tantamount to projecting no customer growth for the first six months of 2000. Finally, the projected value for January 2000 of 5,768 is only 14 customers greater than the actual number of customers at December 1998.

Therefore, we believe that the utility's residential customer projections should not be relied upon. Although these anomalies are not present in the other customer classes' projections, the methodology itself (averaging after discarding the high and low

values) ignores any trends in the data that might otherwise result in greater or lesser figures than those projected.

In the alternative, we believe simple linear regression can more accurately quantify a relationship between time and growth and therefore would more reliably reflect positive or negative trends in customer growth than would simple averaging. To illustrate this concept, Attachment A contains comparisons, both in numerical and graphical forms, of each customer class' customer growth projection based on the utility's averaging versus simple linear regression. In each projection, not only is the simple linear regression line a better fit to the actual data than the utility's relatively flat average line, but the regression yielded greater projected growth in customers than did the utility's method. Furthermore, the use of regression to project customer growth is consistent with Commission practice. (See Order No. PSC-97-0618-FOF-WS, issued May 30, 1997 in Docket No. 960451-WS; Order No. PSC-99-0513-FOF-WS, issued March 12, 1999 in Docket No. 980214-WS.)

Based on the foregoing, and in the absence of any compelling documentation or evidence to the contrary, and consistent with previous Commission decisions and Commission practice, staff recommends that simple linear regression is the appropriate methodology to project customer growth. The resulting customers, bills and consumption generated by staff's recommended projections are included as Attachment D, and a comparison of the resulting projected bills and consumption, based on both FPUC's and staff's recommended methodologies and adjustments, is presented on Attachment F following Issue 24.

Analysis of FPUC's Methodology
to Project Consumption

As discussed previously, in order to predict consumption for each customer group (residential, commercial, industrial and public authority) the utility calculated the average consumption per customer for each month during the 1994-1998 period. As with the customer growth projections, in order to project the expected average consumption for each month, the high and the low average consumption values for each month were disregarded; the remaining three years for each month were then averaged. The utility assumed that this average consumption for the respective groups for each month would continue through 1999 and 2000. The utility's customer projections for each month were then multiplied by the respective anticipated average consumption per customer to derive projected monthly consumption per customer group.

Staff disagrees with the utility's projection methodologies. As previously discussed, we believe that the customer growth projections, especially the residential projections, should not be relied upon. Because the consumption projections are built upon the customer projections, we therefore disagree with the resulting consumption projections as well.

Since we believe that weather conditions had an impact on consumption, we selected multiple regression analysis as the consumption projection methodology, which enables analysis of the impact of weather conditions on water demand. The next step in developing our recommended model was to identify those weather variables which may reasonably be expected to influence consumption. We believe total monthly rainfall, total days of rainfall per month and average monthly temperature are three such variables.

In addition, we also examined the possibility that other weather variables might impact consumption. Since temperature influences the extent that rainfall decreases consumption, a single variable that incorporates the effects of both temperature and rainfall might also be relevant. The moisture deficit variable (MDV) incorporates average daily temperature for the month and total rainfall for the month. The MDV is virtually identical to the net irrigation requirement (NIR) variable, which the Commission recognized in Order No. PSC-96-1320-FOF-WS, issued October 30, 1996, as having a positive correlation to consumption in the majority of months analyzed. To determine whether the moisture deficit variable should be used in the projection models, staff calculated two MDVs for each month from January 1994 through December 2000; the results of which are shown on Attachment B.

Attachment C describes the variables included in each of staff's models and the resulting R^2 scores for each customer class. R^2 is a measure of how much variation in the dependent variable can be explained by the combination of the independent variables. Assuming all other things being equal, the higher the R^2 value, the better the projection model. As indicated on that attachment, a model which considered the number of bills (based on a five-year regression) and an adjusted MDV yielded the highest R^2 scores for the residential and public authority classes, while the model that considered the number of bills, average monthly temperature and total monthly rainfall produced the highest R^2 scores for the commercial and industrial classes.

Page one of Attachment D contains staff's recommended projected bills and consumption, before adjustments, for the test year ending December 31, 2000. Pages two through five of the

attachment show comparisons, by customer class, of each class' historical average consumption per customer versus staff's projected values.

Conclusions

As discussed above, we believe simple linear regression can more accurately quantify a relationship between time and growth, and, therefore, would more reliably reflect positive or negative trends in growth than would simple averaging or FPUC's modified averaging approach. Furthermore, we believe our multiple regression models to project consumption, using the variables shown in Attachment C, are more appropriate and reliable models of projecting consumption than the method used by the utility.

Therefore, based on the foregoing and consistent with Commission practice, staff recommends that linear regression is the appropriate method of projecting customer growth and consumption. Staff's projections, before adjustments, may be found on Attachment D.

QUARTERLY CUSTOMER GROWTH PROJECTIONS BASED ON SIMPLE LINEAR REGRESSION (1)

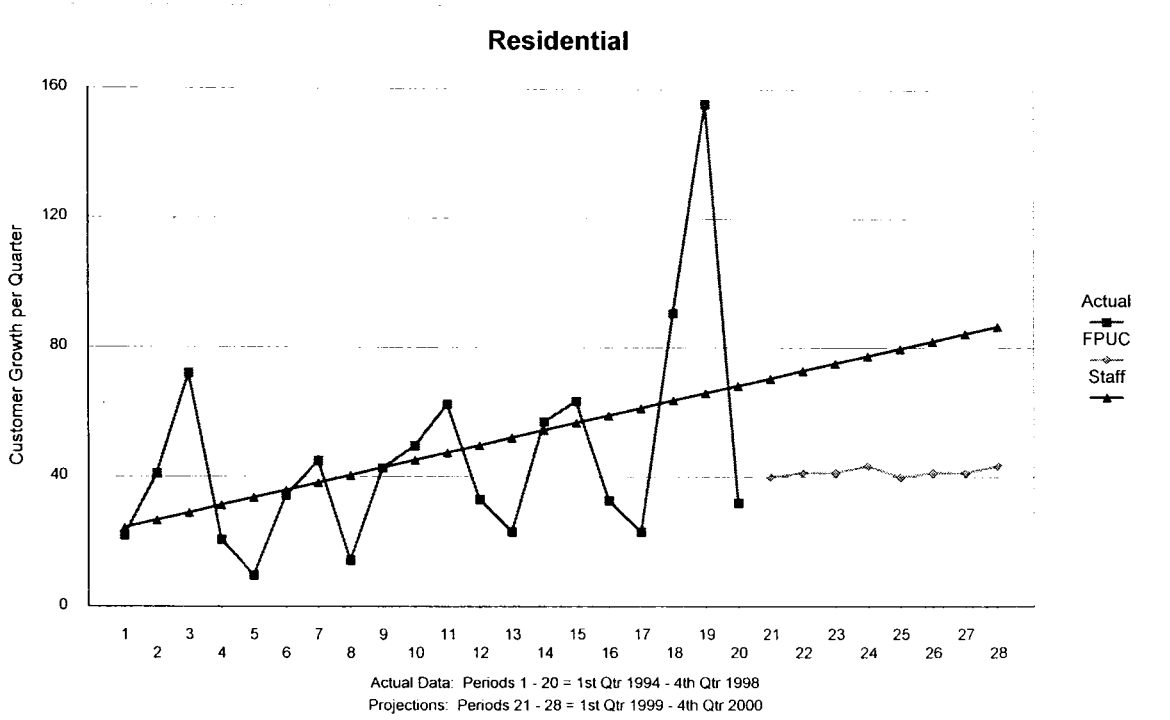
Period	Period Number =X	Cust Change =Y	XX	YY	XY
1 qtr 94	1	22	1	484	22
2 qtr 94	2	41	4	1,681	82
3 qtr 94	3	72	9	5,184	216
4 qtr 94	4	21	16	427	83
1 qtr 95	5	10	25	93	48
2 qtr 95	6	34	36	1,179	206
3 qtr 95	7	45	49	2,025	315
4 qtr 95	8	14	64	205	115
1 qtr 96	9	43	81	1,820	384
2 qtr 96	10	50	100	2,467	497
3 qtr 96	11	62	121	3,885	686
4 qtr 96	12	33	144	1,089	396
1 qtr 97	13	23	169	529	299
2 qtr 97	14	57	196	3,249	798
3 qtr 97	15	63	225	4,011	950
4 qtr 97	16	33	256	1,067	523
1 qtr 98	17	23	289	529	391
2 qtr 98	18	91	324	8,220	1,632
3 qtr 98	19	156	361	24,232	2,958
4 qtr 98	20	32	400	1,024	640
SUM	210	924	2,870	63,402	11,239
AVG	10.5	46.2	143.5	3,170.1	562.0

Period	Proj Growth
1 qtr 99	70
2 qtr 99	73
3 qtr 99	75
4 qtr 99	77
1 qtr 00	80
2 qtr 00	82
3 qtr 00	84
4 qtr 00	87

slope = m =	2.3
intercept = b =	21.9

GROWTH 1999 - 2000:	
FPUC	331
Staff	629

RESIDENTIAL CLASS: QUARTERLY CUSTOMER GROWTH PROJECTIONS



QUARTERLY CUSTOMER GROWTH PROJECTIONS BASED ON SIMPLE LINEAR REGRESSION (1)

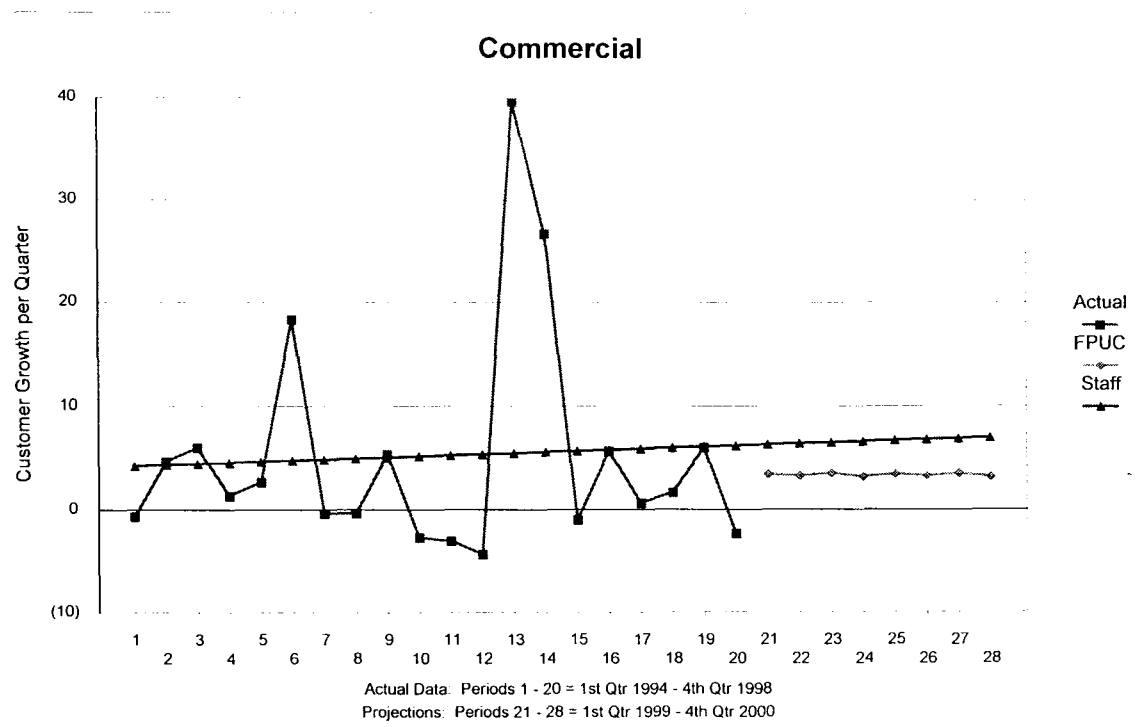
Period	Period Number = X	Cust Change = Y	XX	YY	XY
1 qtr 94	1	(1)	1	0	(1)
2 qtr 94	2	5	4	22	9
3 qtr 94	3	6	9	36	18
4 qtr 94	4	1	16	2	5
1 qtr 95	5	3	25	7	13
2 qtr 95	6	18	36	336	110
3 qtr 95	7	(0)	49	0	(2)
4 qtr 95	8	(0)	64	0	(3)
1 qtr 96	9	5	81	28	48
2 qtr 96	10	(3)	100	7	(27)
3 qtr 96	11	(3)	121	9	(33)
4 qtr 96	12	(4)	144	19	(52)
1 qtr 97	13	40	169	1,573	516
2 qtr 97	14	27	196	711	373
3 qtr 97	15	(1)	225	1	(15)
4 qtr 97	16	6	256	32	91
1 qtr 98	17	1	289	0	11
2 qtr 98	18	2	324	3	30
3 qtr 98	19	6	361	36	114
4 qtr 98	20	(2)	400	5	(47)
SUM	210	104	2,870	2,829	1,160
AVG	10.5	5.2	143.5	141.5	58.0

Period	Proj Growth
1 qtr 99	6
2 qtr 99	6
3 qtr 99	6
4 qtr 99	7
1 qtr 00	7
2 qtr 00	7
3 qtr 00	7
4 qtr 00	7

slope = m = 0.1
intercept = b = 4.1

GROWTH 1999 - 2000:	
FPUC	27
Staff	53

COMMERCIAL CLASS: QUARTERLY CUSTOMER GROWTH PROJECTIONS



Actual Data: Periods 1 - 20 = 1st Qtr 1994 - 4th Qtr 1998
Projections: Periods 21 - 28 = 1st Qtr 1999 - 4th Qtr 2000

QUARTERLY CUSTOMER GROWTH PROJECTIONS BASED ON SIMPLE LINEAR REGRESSION (1)

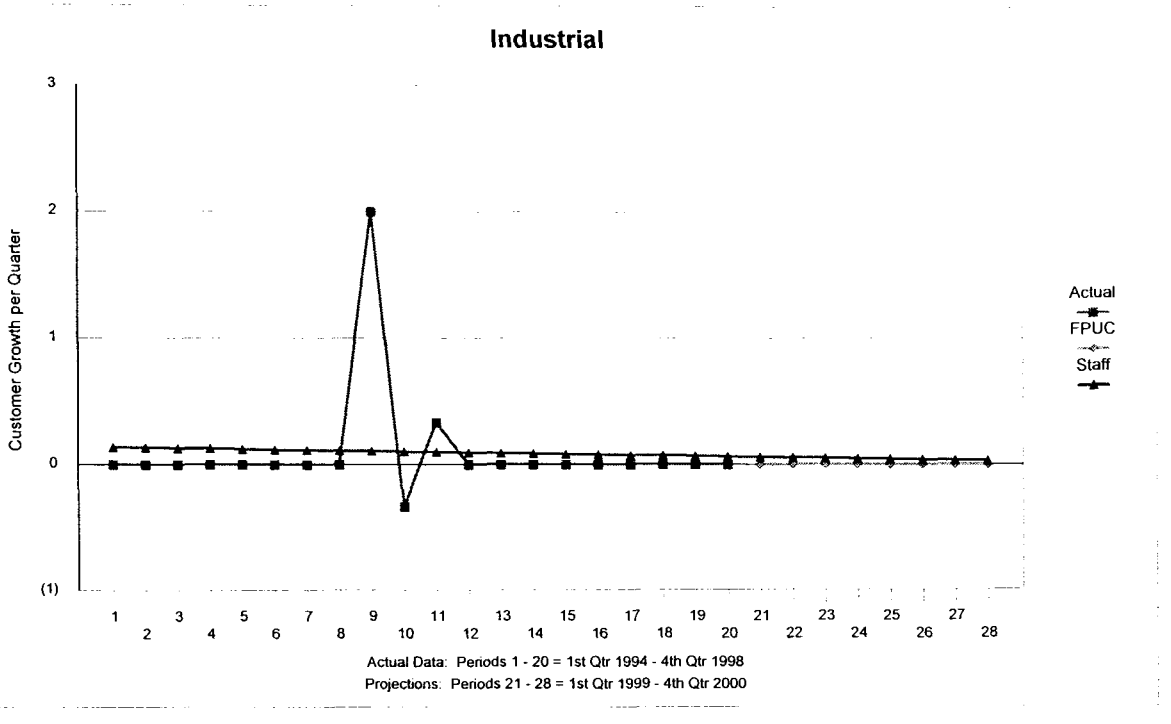
Period	Period Number = X	Cust Change = Y	XX	YY	XY
1 qtr 94	1	0	1	0	0
2 qtr 94	2	0	4	0	0
3 qtr 94	3	0	9	0	0
4 qtr 94	4	0	16	0	0
1 qtr 95	5	0	25	0	0
2 qtr 95	6	0	36	0	0
3 qtr 95	7	0	49	0	0
4 qtr 95	8	0	64	0	0
1 qtr 96	9	2	81	4	18
2 qtr 96	10	(0)	100	0	(3)
3 qtr 96	11	0	121	0	4
4 qtr 96	12	0	144	0	0
1 qtr 97	13	0	169	0	0
2 qtr 97	14	0	196	0	0
3 qtr 97	15	0	225	0	0
4 qtr 97	16	0	256	0	0
1 qtr 98	17	0	289	0	0
2 qtr 98	18	0	324	0	0
3 qtr 98	19	0	361	0	0
4 qtr 98	20	0	400	0	0
SUM	210	2	2,870	4	18
AVG	10.5	0.1	143.5	0.2	0.9

	Period	Proj Growth
1 qtr 99	21	0
2 qtr 99	22	0
3 qtr 99	23	0
4 qtr 99	24	0
1 qtr 00	25	0
2 qtr 00	26	0
3 qtr 00	27	0
4 qtr 00	28	0

slope = m =	(0.0)
intercept = b =	0.1

GROWTH 1999 - 2000:	
FPUC	0
Staff	0

INDUSTRIAL CLASS: QUARTERLY CUSTOMER GROWTH PROJECTIONS



QUARTERLY CUSTOMER GROWTH PROJECTIONS BASED ON SIMPLE LINEAR REGRESSION (1)

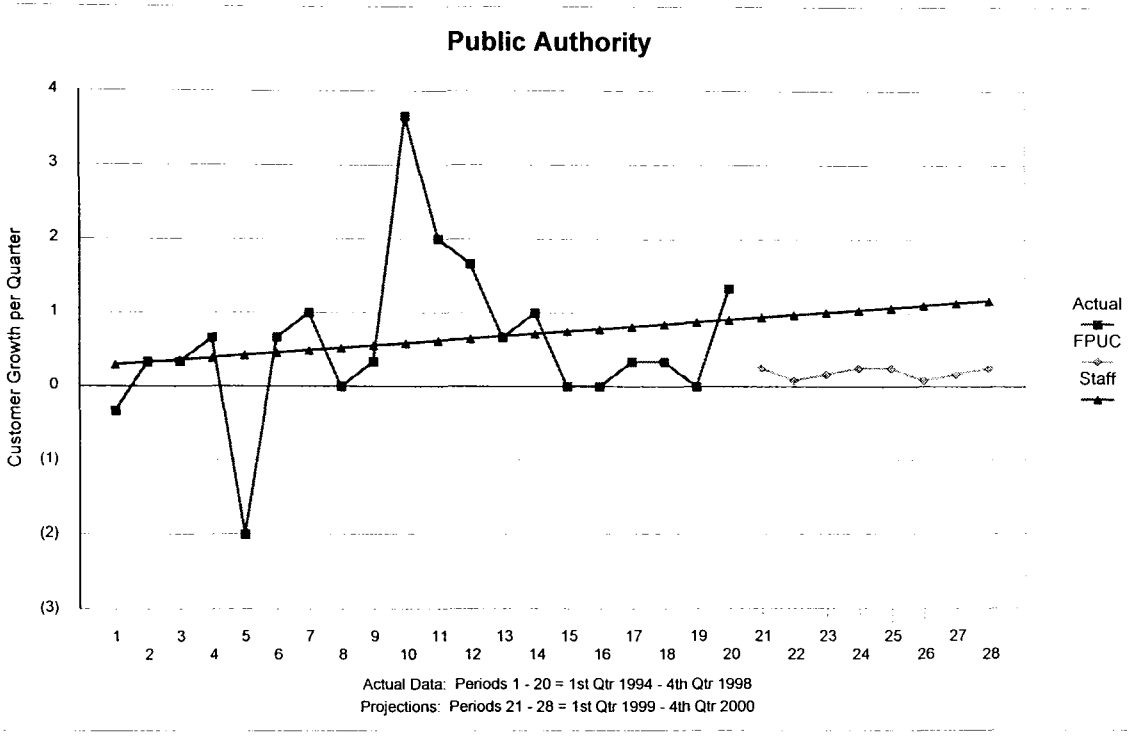
Period	Period Number = X	Cust Change = Y	XX	YY	XY
1 qtr 94	1	(0)	1	0	(0)
2 qtr 94	2	0	4	0	1
3 qtr 94	3	0	9	0	1
4 qtr 94	4	1	16	0	3
1 qtr 95	5	(2)	25	4	(10)
2 qtr 95	6	1	36	0	4
3 qtr 95	7	1	49	1	7
4 qtr 95	8	0	64	0	0
1 qtr 96	9	0	81	0	3
2 qtr 96	10	4	100	13	37
3 qtr 96	11	2	121	4	22
4 qtr 96	12	2	144	3	20
1 qtr 97	13	1	169	0	9
2 qtr 97	14	1	196	1	14
3 qtr 97	15	0	225	0	0
4 qtr 97	16	0	256	0	0
1 qtr 98	17	0	289	0	6
2 qtr 98	18	0	324	0	6
3 qtr 98	19	0	361	0	0
4 qtr 98	20	1	400	2	27
SUM	210	12	2,870	30	148
AVG	10.5	0.6	143.5	1.5	7.4

Period	Proj Growth
1 qtr 99	1
2 qtr 99	1
3 qtr 99	1
4 qtr 99	1
1 qtr 00	1
2 qtr 00	1
3 qtr 00	1
4 qtr 00	1

slope = m = 0.03
intercept = b = 0.3

GROWTH 1999 - 2000:	
FPUC	2
Staff	8

PUBLIC AUTHORITY CLASS: QUARTERLY CUSTOMER GROWTH PROJECTIONS



QUARTERLY CUSTOMER GROWTH PROJECTIONS BASED ON SIMPLE LINEAR REGRESSION (1)

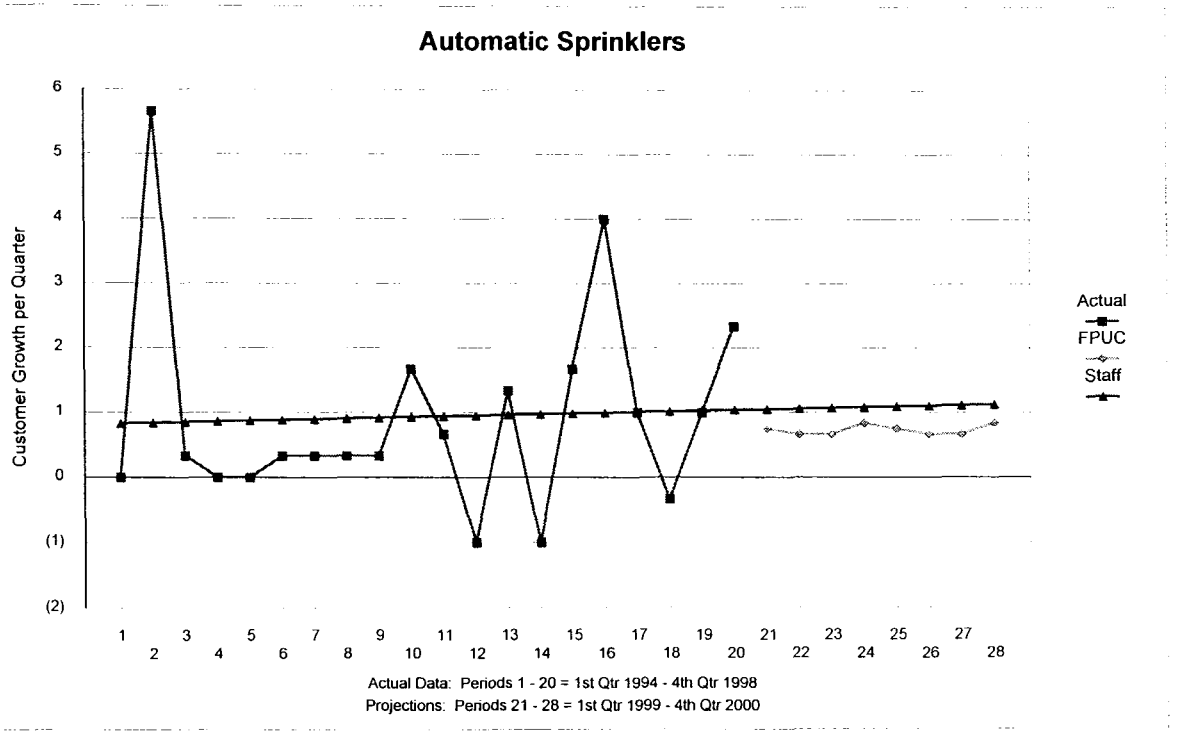
Period	Period Number = X	Cust Change = Y	XX	YY	XY
1 qtr 94	1	0	1	0	0
2 qtr 94	2	6	4	32	11
3 qtr 94	3	0	9	0	1
4 qtr 94	4	0	16	0	0
1 qtr 95	5	0	25	0	0
2 qtr 95	6	0	36	0	2
3 qtr 95	7	0	49	0	2
4 qtr 95	8	0	64	0	3
1 qtr 96	9	0	81	0	3
2 qtr 96	10	2	100	3	17
3 qtr 96	11	1	121	0	7
4 qtr 96	12	(1)	144	1	(12)
1 qtr 97	13	1	169	2	17
2 qtr 97	14	(1)	196	1	(14)
3 qtr 97	15	2	225	3	25
4 qtr 97	16	4	256	16	64
1 qtr 98	17	1	289	1	17
2 qtr 98	18	(0)	324	0	(6)
3 qtr 98	19	1	361	1	19
4 qtr 98	20	2	400	5	47
SUM	210	19	2,870	66	203
AVG	10.5	0.9	143.5	3.3	10.2

Period	Period	Proj Growth
1 qtr 99	21	1
2 qtr 99	22	1
3 qtr 99	23	1
4 qtr 99	24	1
1 qtr 00	25	1
2 qtr 00	26	1
3 qtr 00	27	1
4 qtr 00	28	1

slope = m =	0.01
intercept = b =	0.8

GROWTH 1999 - 2000:	
FPUC	6
Staff	9

AUTOMATIC SPRINKLER CLASS: QUARTERLY CUSTOMER GROWTH PROJECTIONS



(1) Excluding fire hydrants.

Sources: MFR Schedule H-19; FPUC's 12/13/99 and 12/14/99 responses to Staff's Informal Data Request 11/15/99.

MOISTURE DEFICIT VARIABLES

YEAR	MONTH	(a) AVG TEMP	(b) TOTAL RAINFALL	(c) MOISTURE DEFICIT VARIABLE FACTOR	(d) EFP= EFFECTIVE PRECIPITATION	(e) PET = POTENTIAL EVAPO-TRANSPIRATION	(f) = (e) - (d) ACTUAL MOISTURE DEFICIT VARIABLE	(g) = 0 if (f) <= 0, else (f) MOISTURE DEFICIT VARIABLE ALL >= 0
1994	January	50.6	8.0	25.5	3.5	1.2	(2.3)	0.0
	February	58.0	1.2	25.2	1.2	1.9	0.6	0.6
	March	63.5	2.7	30.9	2.4	3.0	0.6	0.6
	April	69.1	1.4	33.3	1.4	4.1	2.7	2.7
	May	73.8	2.2	36.9	2.0	5.4	3.3	3.3
	June	80.2	5.2	37.2	3.4	6.7	3.2	3.2
	July	80.5	3.4	37.8	2.8	6.8	4.0	4.0
	August	80.1	2.2	35.4	2.0	6.3	4.3	4.3
	September	77.5	4.5	31.2	3.3	5.1	1.9	1.9
	October	71.6	13.2	28.8	3.5	3.9	0.4	0.4
	November	66.8	4.4	25.2	3.2	2.8	(0.4)	0.0
	December	57.5	5.1	24.6	3.4	1.8	(1.7)	0.0
1995	January	52.5	3.1	25.5	2.6	1.3	(1.3)	0.0
	February	54.4	1.8	25.2	1.8	1.5	(0.3)	0.0
	March	63.0	3.5	30.9	2.9	2.9	0.1	0.1
	April	68.1	2.0	33.3	1.9	3.9	2.0	2.0
	May	76.6	3.0	36.9	2.6	5.9	3.3	3.3
	June	79.2	10.8	37.2	3.5	6.5	3.0	3.0
	July	83.1	4.8	37.8	3.4	7.3	4.0	4.0
	August	83.3	20.1	35.4	3.5	6.9	3.4	3.4
	September	79.3	16.3	31.2	3.5	5.4	1.9	1.9
	October	73.2	3.7	28.8	2.9	4.1	1.2	1.2
	November	58.4	2.5	25.2	2.3	1.9	(0.4)	0.0
	December	51.1	1.6	24.6	1.6	1.2	(0.4)	0.0
1996	January	51.2	1.4	25.5	1.4	1.2	(0.2)	0.0
	February	56.0	1.6	25.2	1.6	1.6	0.1	0.1
	March	56.7	6.8	30.9	3.5	2.1	(1.4)	0.0
	April	64.6	2.6	33.3	2.4	3.4	1.0	1.0
	May	75.3	0.7	36.9	0.7	5.7	4.9	4.9
	June	78.4	7.0	37.2	3.5	6.3	2.8	2.8
	July	81.3	3.3	37.8	2.8	7.0	4.2	4.2
	August	79.4	4.1	35.4	3.1	6.2	3.0	3.0
	September	78.1	8.0	31.2	3.5	5.2	1.7	1.7
	October	70.5	12.7	28.8	3.5	3.7	0.2	0.2
	November	60.9	2.2	25.2	2.1	2.2	0.1	0.1
	December	55.4	2.8	24.6	2.5	1.6	(0.9)	0.0
1997	January	54.8	2.8	25.5	2.5	1.6	(0.9)	0.0
	February	59.2	1.4	25.2	1.4	2.0	0.6	0.6
	March	67.4	1.9	30.9	1.8	3.5	1.7	1.7
	April	66.2	5.0	33.3	3.4	3.6	0.2	0.2
	May	71.3	2.8	36.9	2.5	4.9	2.5	2.5
	June	76.2	5.4	37.2	3.5	5.9	2.4	2.4
	July	81.0	8.6	37.8	3.5	6.9	3.4	3.4
	August	80.4	5.8	35.4	3.5	6.4	2.9	2.9
	September	79.0	5.8	31.2	3.5	5.4	1.9	1.9
	October	70.9	5.7	28.8	3.5	3.8	0.3	0.3
	November	60.7	2.2	25.2	2.1	2.1	0.1	0.1
	December	54.8	12.3	24.6	3.5	1.5	(2.0)	0.0
1998	January	56.3	3.4	25.5	2.8	1.7	(1.1)	0.0
	February	56.9	10.1	25.2	3.5	1.7	(1.8)	0.0

MOISTURE DEFICIT VARIABLES

YEAR	MONTH	(a) AVG TEMP	(b) TOTAL RAINFALL	(c) MOISTURE DEFICIT VARIABLE FACTOR	(d) EFP= EFFECTIVE PRECIPITATION	(e) PET = POTENTIAL EVAPO-TRANSPIRATION	(f) = (e) - (d) ACTUAL MOISTURE DEFICIT VARIABLE	(g) = 0 if (f) <= 0, else (f) MOISTURE DEFICIT VARIABLE ALL >= 0
	March	57.2	2.6	30.9	2.3	2.2	(0.1)	0.0
	April	67.6	3.8	33.3	3.0	3.8	0.8	0.8
	May	76.8	0.7	36.9	0.7	5.9	5.3	5.3
	June	84.5	2.0	37.2	1.9	7.5	5.6	5.6
	July	83.2	12.2	37.8	3.5	7.4	3.9	3.9
	August	81.1	7.8	35.4	3.5	6.5	3.0	3.0
	September	79.3	4.5	31.2	3.3	5.4	2.1	2.1
	October	73.6	0.7	28.8	0.7	4.2	3.5	3.5
	November	67.5	0.7	25.2	0.7	2.9	2.3	2.3
	December	60.9	0.6	24.6	0.6	2.1	1.5	1.5
1999	January	55.0	4.3	25.5	3.2	1.6	(1.6)	0.0
	February	57.6	2.7	25.2	2.4	1.8	(0.6)	0.0
	March	62.0	3.9	30.9	3.1	2.8	(0.3)	0.0
	April	66.5	2.9	33.3	2.5	3.7	1.1	1.1
	May	74.2	2.6	36.9	2.3	5.5	3.1	3.1
	June	80.4	5.8	37.2	3.5	6.7	3.2	3.2
	July	82.6	5.9	37.8	3.5	7.3	3.8	3.8
	August	81.3	6.3	35.4	3.5	6.5	3.0	3.0
	September	78.8	6.8	31.2	3.5	5.3	1.8	1.8
	October	71.5	7.2	28.8	3.5	3.9	0.4	0.4
	November	62.8	2.0	25.2	1.9	2.4	0.5	0.5
	December	55.4	3.1	24.6	2.7	1.6	(1.1)	0.0
2000	January	55.0	4.3	25.5	3.2	1.6	(1.6)	0.0
	February	57.6	2.7	25.2	2.4	1.8	(0.6)	0.0
	March	62.0	3.9	30.9	3.1	2.8	(0.3)	0.0
	April	66.5	2.9	33.3	2.5	3.7	1.1	1.1
	May	74.2	2.6	36.9	2.3	5.5	3.1	3.1
	June	80.4	5.8	37.2	3.5	6.7	3.2	3.2
	July	82.6	5.9	37.8	3.5	7.3	3.8	3.8
	August	81.3	6.3	35.4	3.5	6.5	3.0	3.0
	September	78.8	6.8	31.2	3.5	5.3	1.8	1.8
	October	71.5	7.2	28.8	3.5	3.9	0.4	0.4
	November	62.8	2.0	25.2	1.9	2.4	0.5	0.5
	December	55.4	3.1	24.6	2.7	1.6	(1.1)	0.0

SOURCES: a), b) FPUC response to Staff's First Data Request, Exhibit G

c) - f) John J. Boland and Roland W. Wentworth and Roland C. Steiner, "Forecasting Short-Term Revenues for Water and Sewer Utilities," Journal of the American Water Works Association, September 1982.

d) EFFECTIVE PRECIPITATION (IN INCHES):
If AP <= 1": EFP = AP
If 1" < AP < 6": EFP = (-0.1 x (APxAP)) + (1.2 x AP) -0.1
If AP => 6": EFP = 3.5
AP = the actual precipitation for the month in inches.

e) POTENTIAL EVAPOTRANSPIRATION (IN INCHES):
PET = (0.0209974 x {(0.0918425 x (degrees F - 32))^1.44)) x (Fm)
degrees F = average daily temperature for the month (see column (a) above).
Fm = a factor specific to each calendar month (see column (c) above).

f) Moisture deficit is equal to potential evapotransipration (PET) minus effective precipitation (EFP). In order to calculate monthly moisture deficit, PET is calculated according to the method of Thornthwaite and Mather, and EFP is calculated according to the method of Linsley and Franzini.

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ATTACHMENT C

WATER CONSUMPTION FORECASTS: ANALYSIS OF DIFFERENT REGRESSION MODELS

		R-SQUARED SCORES OF EACH MODEL			
	Variables Considered in Each Model	Residential	Commercial	Industrial	Public Authority
MODEL 1					
	No. of bills based on 5-yr regression	32.0%	36.9%	17.7%	0.0%
MODEL 2					
	No. of bills based on 5-yr regression Average monthly temperature	72.2%	74.5%	45.1%	Illogical Result
MODEL 3					
	No. of bills based on 5-yr regression Average monthly temperature Total rainfall during month	73.0%	75.1%	45.3%	Illogical Result
MODEL 4					
	No. of bills based on 5-yr regression Average monthly temperature Total days of rainfall during month	72.6%	75.0%	45.2%	Illogical Result
MODEL 5					
	No. of bills based on 5-yr regression Total rainfall during month	33.1%	43.8%	21.5%	1.3%
MODEL 6					
	No. of bills based on 5-yr regression Moisture deficit variable	76.2%	69.8%	34.9%	Illogical Result
MODEL 7					
	No. of bills based on 5-yr regression Adjusted moisture deficit variable	77.1%	71.4%	32.2%	2.8%

SOURCES: FPUC's 12/13/99 and 12/14/99 responses to Staff's Informal Data Request 11/15/99.

RECOMMENDED PROJECTED BILLS AND CONSUMPTION FOR THE PROJECTED TEST YEAR ENDING DECEMBER 31, 2000 (1)

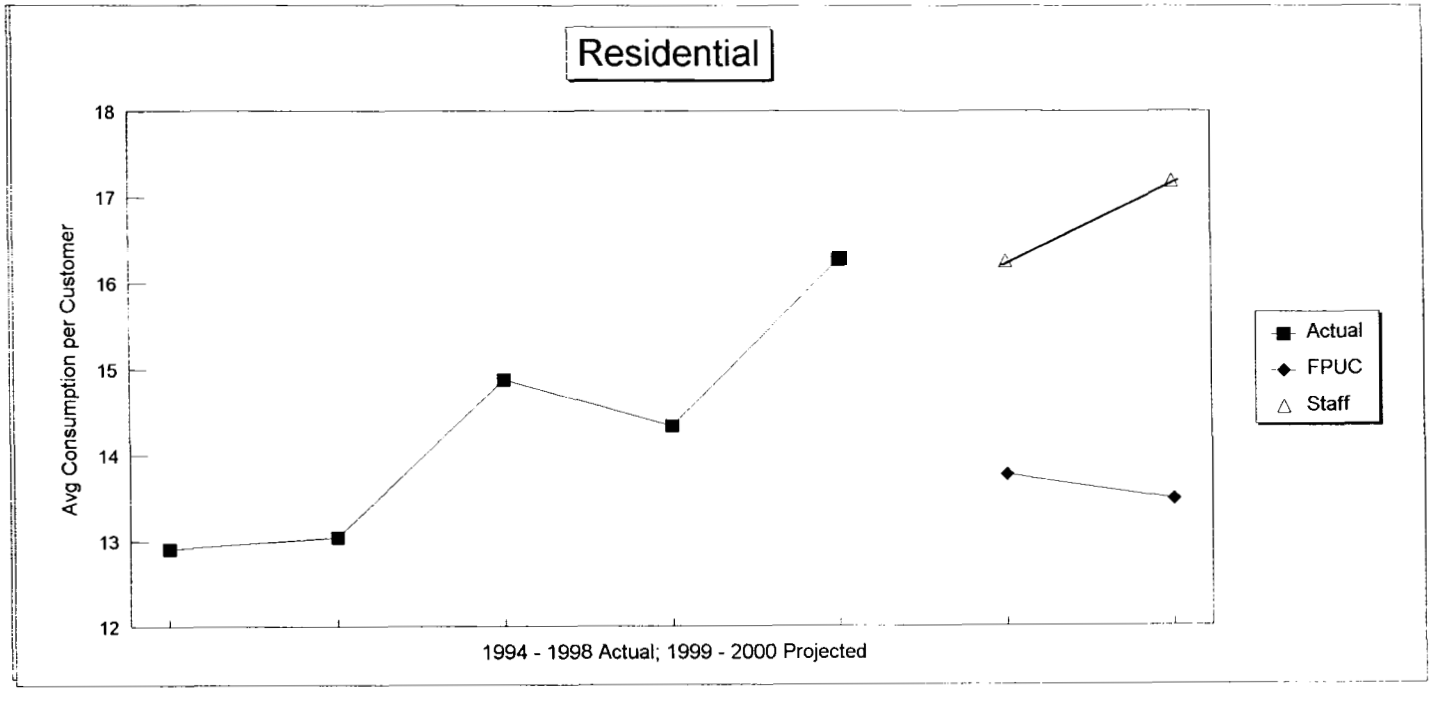
		WATER			
PROJECTIONS FOR 1999:		**RESIDENTIAL**	**GENERAL SERVICE (2)**	**FIRE HYDRANT**	**AUTOMATIC SPRINKLER**
(1)	Bills rendered in 1998	67,598	6,427	204	570
(2)	Increase in customers projected for 1999	296	30	1	4
(3)	Projected increase in bills rendered in 1999	3,294	297	1	53
(4) = (1) + (3)	Projected bills rendered in 1999	70,892	6,724	205	623
(5)	Consumption 1998 (000)	1,097,148	487,567		
(6)	Increase in consumption projected for 1999	54,659	(8,607)		
(7) = (5) + (6)	Projected consumption 1999	1,151,807	478,960		
PROJECTIONS FOR 2000:					
(1)	Bills rendered in 1999	70,892	6,724	205	623
(2)	Increase in customers projected for 2000	333	32	1	4
(3)	Projected increase in bills rendered in 2000	3,778	376	1	50
(4) = (1) + (3)	Projected bills rendered in 2000	74,670	7,100	206	673
(5)	Consumption 1999	1,151,807	478,960		
(6)	Increase in consumption projected for 2000	131,487	16,054		
(7) = (5) + (6)	Projected consumption 2000	1,283,294	495,014		

(1) Before Staff's recommended shift of residential customers to the general service category and before Staff's recommended repression adjustment.
(2) General service includes commercial, industrial and public authority.

Source: FPUC's 12/13/99 and 12/14/99 responses to Staff's Informal Data Request 11/15/99.

RECOMMENDED PROJECTED BILLS AND CONSUMPTION: AVERAGE CONSUMPTION PER BILL

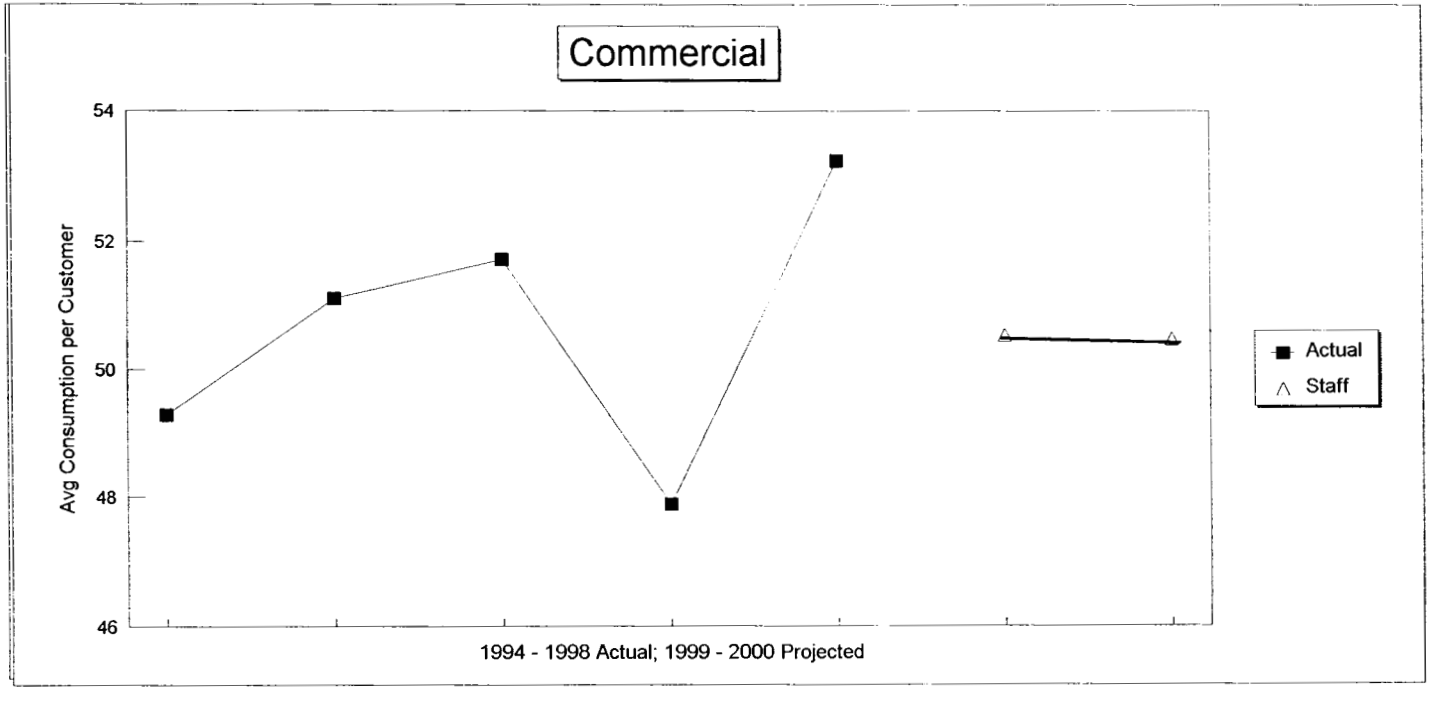
RESIDENTIAL CLASS: AVG CONSUMPTION PER CUSTOMER BEFORE REPRESSION AND CUSTOMERS SHIFT ADJUSTMENTS



Actual	FPUC	Staff	
12.91			1994
13.04			1995
14.88			1996
14.34			1997
16.27			1998
	13.77	16.25	1999
	13.48	17.19	2000

RECOMMENDED PROJECTED BILLS AND CONSUMPTION: AVERAGE CONSUMPTION PER BILL

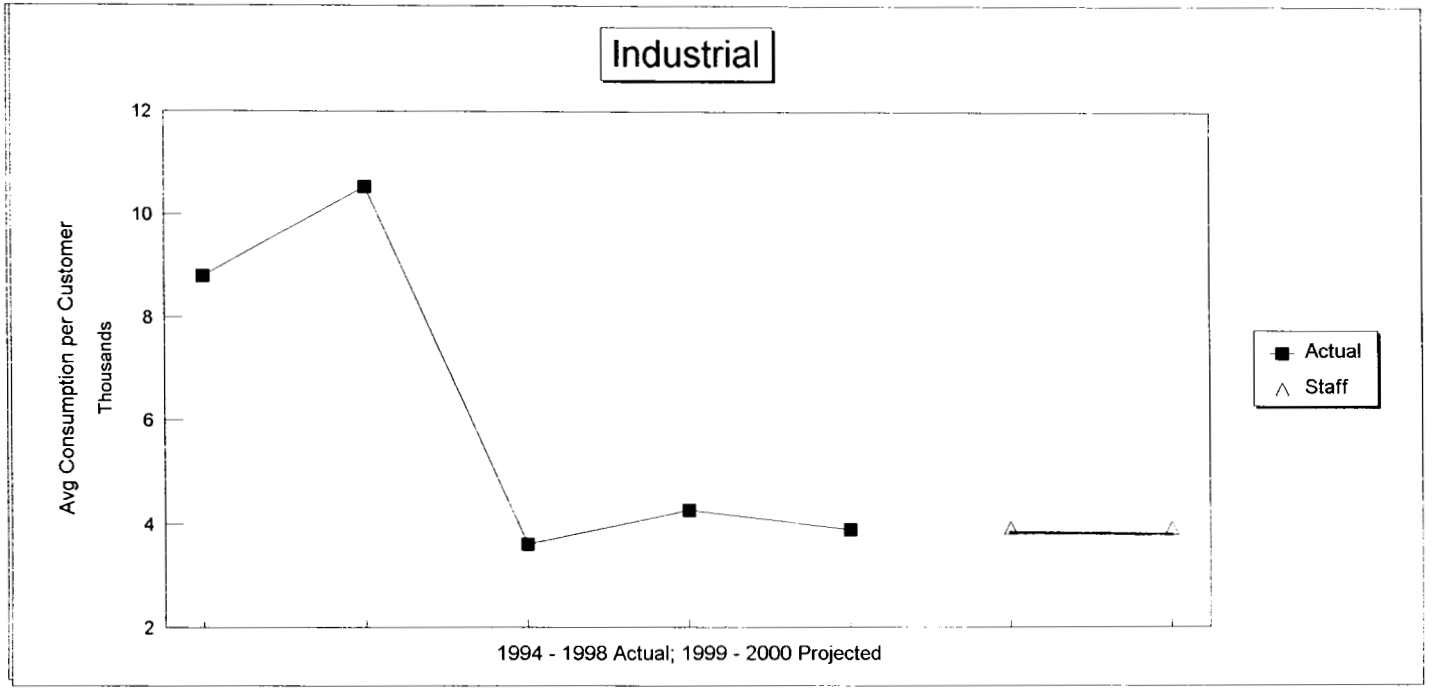
COMMERCIAL CLASS: AVG CONSUMPTION PER CUSTOMER BEFORE CUSTOMERS SHIFT ADJUSTMENT



Actual	Staff	
49.29		1994
51.11		1995
51.71		1996
47.88		1997
53.23		1998
	50.53	1999
	50.47	2000

RECOMMENDED PROJECTED BILLS AND CONSUMPTION: AVERAGE CONSUMPTION PER BILL

INDUSTRIAL CLASS: AVG CONSUMPTION PER CUSTOMER BEFORE CUSTOMERS SHIFT ADJUSTMENT



Actual	Staff	
8,786		1994
10,538		1995
3,606		1996
4,260		1997
3,886		1998
	3,912	1999
	3,912	2000

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ATTACHMENT D
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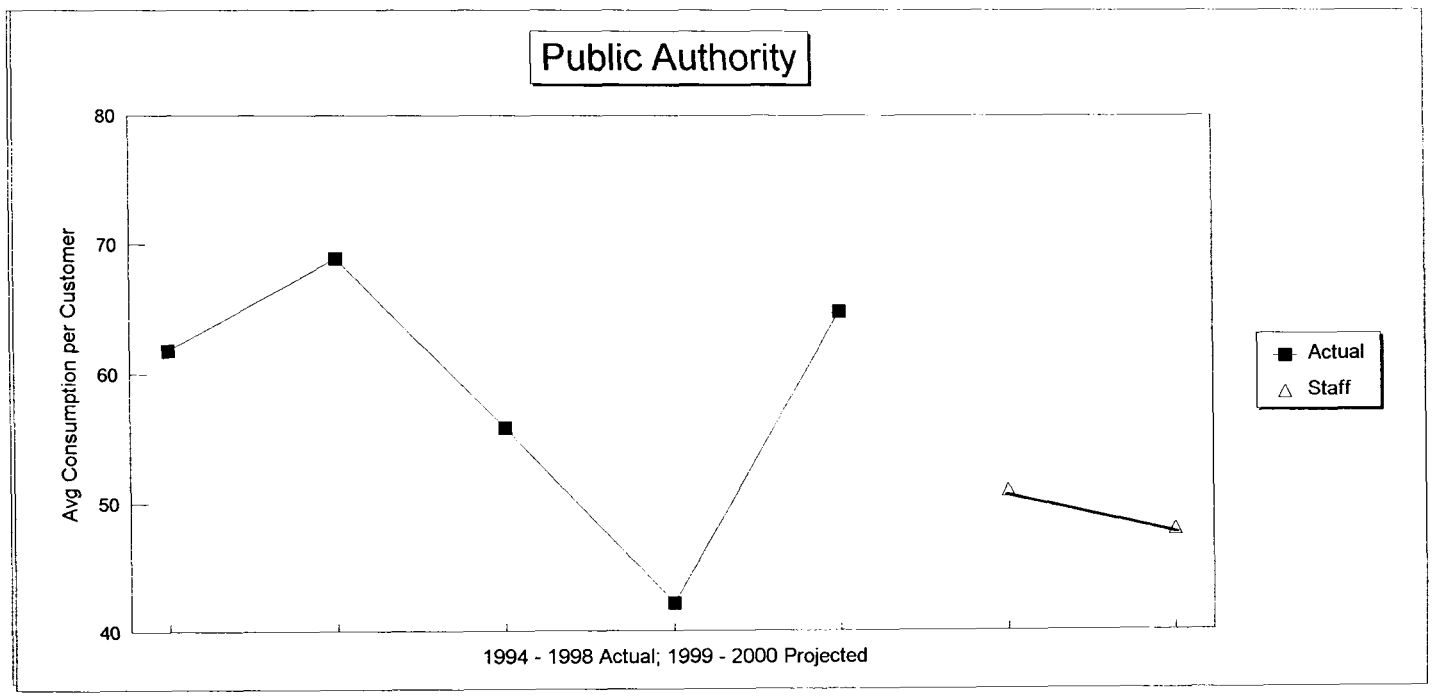
RECOMMENDED PROJECTED BILLS AND CONSUMPTION: AVERAGE CONSUMPTION PER BILL

PUBLIC AUTHORITY CLASS: AVG CONSUMPTION PER CUSTOMER BEFORE CUSTOMERS SHIFT ADJUSTMENT



Actual	Staff	
61.84		1994
68.88		1995
55.82		1996
42.19		1997
64.73		1998
	50.91	1999
	47.89	2000

ISSUE 13: What adjustments, if any, are necessary to the 2000 projected test year revenues and expenses to reflect the appropriate number of water customers, bills, and consumption?

RECOMMENDATION: Based on staff's revised projections of the appropriate number of water customers, bills, and consumption discussed in Issue 12, test year projected operating revenue at the current rates, chemical expense, power expense, and bad debt expense should be increased as outlined in the staff analysis. (BINFORD)

STAFF ANALYSIS: In Issue 12, staff is recommending a change in customer growth and consumption. As a result, several other projections will correspondently change. In order to show projected test year revenue at the current rates, staff first removed the utility's requested increase in revenue calculated at the requested rates, as found on MFR Schedule B-1. As discussed in Issue 19, staff also removed the franchise tax revenue from the test year. This results in a decrease in revenue of $771,755 [$649,855 + $121,900] to reflect an adjusted test year revenue of $2,121,596 before staff's projection change or any revenue increase.

Staff has revised the projections of the appropriate number of water customers, bills, and consumption as discussed in Issue 12. Using these projections, staff has recalculated the test year operating revenue. Based on this recalculation, test year revenue should be increased by $289,602. These calculations result in test year projected operating revenue at the current rates of $2,411,198 as shown on attached Schedule 3-A.

The projections for chemical expense and power expense are dependent of the projected consumption as shown on MFR Schedule No. B-5 and as discussed in Issue 16. Based on staff's revised projected consumption and methodology, purchased power expense should be increased by $31,400 (after application of the unaccounted for water adjustment). Chemical expense should be increased by $3,200 (after application of the unaccounted for water adjustment).

The projection of uncollectible accounts is based on the projection of revenue as shown on MFR Schedule No. B-3, customer growth, and inflation. Based on staff's recommended increase in revenue and revised projected customer growth, the uncollectible accounts expense should be increased by $900.

The utility used customer growth and inflation to project some of the components of Operation and Maintenance (O&M) expense and Taxes Other Than Income (TOTI). Based on staff's revised projected customer growth, O&M expense should be increased in total by $77,000 and TOTI should be increased by $7,432. The total increase for O&M expense reflects the increases of individual components of O&M expense discussed above.

ISSUE 14: Should adjustments be made to O&M expenses for the reclassification of legal fees from the electric division?

RECOMMENDATION: Yes. O&M expense should be increased by $1,822 to reflect reclassification of legal fees from the electric division. (BINFORD)

STAFF ANALYSIS: In Audit Disclosure 14, the auditors discussed the Fernandina Beach Electric Division Surveillance audit. That audit found that in 1998 the utility had classified legal fees of $7,797 as an electric division expense. In the electric division audit, the utility explained that when an employee was promoted to lead waterman in the Fernandina Water division, the union filed a grievance. The fees were actually a water division expense. The utility did not include the legal fees in the present water rate case. In the water division audit, it was the auditors' opinion that this expense may be non-recurring and may need to be amortized over five years.

In its response to Audit Disclosure 14, the utility stated that it believed that the legal fees should be increased to allow for this missing expense. The utility further stated that although this particular legal fee may have been non-recurring, it is normal to expect recurring legal fees relating to employee concerns. The utility believes that the entire expense should be trended using the customer growth and inflation factors to allow for recovery of future legal expenses in the year 2000.

Staff agrees with the utility that a utility should expect legal fees relating to employee concerns. Since these legal fees were associated with a specific employee grievance, staff believes that the expense should be considered non-recurring. Staff believes that normal recurring legal fees relating to employee concerns will not be as large as this expense. According to Rule 25-30.433 (8), Florida Administrative Code, non-recurring expenses shall be amortized over a 5-year period unless a shorter or longer period of time can be justified. Therefore, staff recommends amortizing the legal fee amount over 5 years. Staff has increased contractual services - legal by $1,822 [(7,797/5) x 1.0809 x 1.0809] to escalate the 1998 amount for 2 years to reflect the projected test year 2000.

ISSUE 15: Should adjustments be made to O&M expenses for the removal of transportation expense related to the electric division?

RECOMMENDATION: Yes. O&M expenses should be reduced by $15,069 to reflect the removal of transportation expense for the electric division. (BINFORD)

STAFF ANALYSIS: In Audit Disclosure 15, the auditors found that the utility included $15,069 for digger trucks and bucket trucks as a water transportation expense. The auditors stated that bucket trucks are normally used for installing and repairing electric lines and digger trucks are used for digging holes and then placing poles in the ground. The auditors believe that $15,069 should be removed from water O&M expenses.

In its response to the audit, the utility did not agree with this disclosure. It claimed that the expense should not be removed due to the nature of the clearing account. All company transportation expenses are charged to the clearing account and then spread to expense and capital accounts based on actual hours vehicles were used by each division and what they were used for. The utility stated that expenses charged to the water division represent a fair allocation of expenses when reviewed from an overall basis.

Upon staff's analysis of the MFRs filed in FPUC's last water rate case, the utility had a note that stated that the water operations do not receive any benefit from these large bucket trucks. On its operating income statement, the utility made a specific adjustment to remove the associated costs from the test year. Staff agrees with the auditors that these trucks should not be included in the clearing account to then be spread across all of the company's divisions. Further, this treatment is consistent with the utility's treatment in its last water rate case. Based on the above, staff recommends reducing O&M expenses by $15,069.

ISSUE 16: Should the utility's methodology for calculating the projected purchase power expense and the chemical expense be approved?

RECOMMENDATION: No, the variable portion of projected purchased power expense should be based on the projected increase of water pumped from 1998 to 2000, not the change in the amount of water sold. Projected chemical expense should be escalated based on a combination of the change in water pumped, customer growth and inflation from 1998 to 2000, not just by customer growth and inflation factors. (BINFORD, EDWARDS)

STAFF ANALYSIS: FPUC projected its purchased power expense by assuming that 20% of the 1998 base year cost of purchased power would be fixed and the remaining 80% would be adjusted by the corresponding change in gallons of water sold. The base year cost for purchase power was $135,739. Accordingly, $27,148 was the amount assumed to be fixed costs. FPUC then multiplied the remaining 80% by 92.13%, which corresponded to FPUC's projected decrease in water sold from 1998 to 2000 (1,095,049,000 gallons for the year 2000 divided by 1,188,536,000 for 1998 = 92.13%). The total of the fixed and variable amounts is $127,198 ($27,148 + $100,050), which was rounded to $127,200. The utility's calculation follows:

(1) 20% of $135,735 (1998 amt.) = $27,148

(2) {1,095,049,000 (2000)/1,188,536,000 (1998)} X ($135,739 x 80%) = $100,050

(3) $27,148 + $100,050 = $127,198, rounded to $127,200.

To project purchased power expense for projected test year 2000, staff used the same methodology as the utility, with one change. In staff's calculation, we used the amount of water pumped instead of the amount sold to adjust for the variable 80% portion of the 1998 expense. Unless specific known changes are projected, staff believes that the change in purchased power expense correlates more directly with how much water is treated than with how much is sold. Accordingly, in the denominator, staff used the utility's water pumped for 1998. In the numerator, staff used a projected amount of water pumped for the test year 2000. Staff calculated the projected 2000 amount of water pumped by first deducting unaccounted for water from the amount of water pumped for 1998. Then, staff took the adjusted amount of water pumped for 1998 and multiplied that figure by staff's recommended percentage increase in consumption. As discussed in Issue 12, staff has

recommended that total consumption will increase, instead of the utility's projected decrease. Based on staff's calculations, the projected amount of purchased power should be $154,425.

FPUC calculated projected chemical expense by using customer growth and inflation factors for 1999 and 2000, or 1.053 applied to the 1998 chemical cost and then rounded it to nearest $100. The utility did not make any changes to chemical expense for the projected change in consumption or water pumped.

To project chemical expense for the test year 2000, staff used a compound factor which was a product of the increase in consumption (based on staff's recommended projection) and the inflation factor for the projected test year 2000. First, staff reflected an adjustment to chemical expense for the historical year 1998 due to inflation for intermediate year 1999. Then, staff multiplied the compound factor times the adjusted chemical expense. Staff believes that the use of chemicals in a water system is variable based on the amount of water treated in any given year. In addition to changes in treated water amounts, the cost of chemicals will increase generally in line with the increase in customer growth and inflation. As such, staff believes that chemicals should be projected based on a combination of changes in gallons of water treated, customer growth and inflation. Staff's recommended amount of chemical expense is $24,396.

ISSUE 17: What is the appropriate amount of rate case expense?

RECOMMENDATION: The appropriate rate case expense for this docket is $45,988. This expense is to be recovered over four years for an annual expense of $11,497.(BINFORD)

STAFF ANALYSIS: The utility included a $32,050 estimate in the MFRs for current rate case expense. As part of the analysis, staff requested an update of the actual rate case expense incurred, with supporting documentation, as well as the estimated amount to complete. The revised estimated rate case expense through completion of the Proposed Agency Action (PAA) process is $45,988. The components of the estimated rate case expense is as follows:

	MFR	REVISED ESTIMATE		
	ESTIMATED	ACTUAL	ESTIMATED	TOTAL
Legal	$15,500	$ 2,635	$12,865	$15,500
Travel	2,900	854	2,500	3,354
MFR Preparation	6,190	6,559	4,700	11,259
Office expense	150	198	200	398
Filing Fee	4,500	4.500	0	4,500
Advertising	500	0	252	252
Notices	2,310	7,145	3,580	10,725
Current Rate Case Expense	$32,050	$21,891	$24,097	$45,988
Unamortized Prior Rate Case Expense	0	0	0	0
Total Rate Case Expense	$32,050	$21,891	$24,097	$45,988
Annual Amortization	$ 8,013			$11,497

The revised total rate case expense requested in this docket is $45,988, which is an annual expense of $11,497 for four years. Staff has examined the requested actual expenses, supporting documentation, and estimated expenses as listed above for the current rate case and found them to be prudent.

There was an increase in the utility's requested rate case expenses. The majority of the increase was due to the following factors: (1) the utility hired temporary help to assist FPUC employees in providing information for the audit staff and for the

discovery requests and (2) the cost of mailings to the customers was more than projected due to the weight of the notices. Staff found these increases to be prudent. The fact that FPUC completes the majority of the duties in-house supports the need for additional staff during the rate case. Also, the fact that the utility had not filed a rate case since 1986 explains the underestimated cost of customer notices. The utility based its estimation of cost on the size of an average letter. Customer notices are thicker than an average letter, so it costs more to mail them.

Based on the data provided by the utility, an adjustment in the amount of $3,485 should be made to rate case expense.

ISSUE 18: Should an adjustment be made to payroll taxes to reflect the addition of a new employee?

RECOMMENDATION: Yes. Payroll taxes should be increased $5,519 for the omitted payroll taxes for a projected salary increase for a new employee. (BINFORD)

STAFF ANALYSIS: In Audit Disclosure 17, the auditors found that the utility did not adjust payroll taxes to reflect an additional employee that had been included in the utility's projected salary expense. The auditors stated that an adjustment of $5,519 should be made to the payroll taxes projection associated with the projected salary increase for a new employee. The utility agreed with this disclosure.

Staff agrees that this adjustment is appropriate to reflect proper matching of payroll taxes with salaries. Accordingly, payroll taxes should be increased by $5,519.

ISSUE 19: Should an adjustment be made to remove franchise fees and associated revenue from net operating income?

RECOMMENDATION: Yes. Franchise fees of $157,149 and revenues of $121,900 should not be included in the revenue requirement. (BINFORD)

STAFF ANALYSIS: In its application, the utility included franchise fees and related revenues in above-the-line income. The amount of franchise fees and revenues in the unadjusted test year were $121,900. After the utility reflected its total revenue request, the amount of franchise fees and revenues were $157,149.

According to Rule 25-30.335(6), Florida Administrative Code, the utility may not incorporate any municipal or county franchise fees into the amount indicated as the cost of service. To remove these amounts from the utility's revenue requirement, staff has removed the total amount of $157,149 from both revenues and taxes other than income.

Staff's revenue adjustment is made of two parts. First, staff removed the $121,900 amount on test year unadjusted revenues. Secondly, the remaining $35,249 balance was included in the utility's requested revenue increase, which was also removed ($614,606 + $35,249 = $649,855).

ISSUE 20: What is the test year operating income before any revenue increase?

RECOMMENDATION: Based on the adjustments discussed in previous issues, staff recommends that the test year operating income before any provision for increased revenues should be $504,324. (BINFORD)

STAFF ANALYSIS: As shown on attached Schedule No. 3-A, after applying staff's adjustments, net operating income for the test year is $504,324. Staff's adjustments to operating income are listed on attached Schedule No. 3-B.

REVENUE REQUIREMENT

ISSUE 21: What is the appropriate revenue requirement?

RECOMMENDATION: The following revenue requirement should be approved: (BINFORD)

	TOTAL	$ INCREASE	% INCREASE
Water	$ 2,791,850	$ 380,652	15.79%

STAFF ANALYSIS: FPUC requested final rates designed to generate annual revenues of $2,893,351. These revenues exceed test year revenues by $649,855 (28.97%).

Based upon staff's recommendations concerning the underlying rate base, cost of capital, and operating income issues, we recommend approval of rates that are designed to generate a revenue requirement of $2,791,850. These revenues exceed staff's test year revenues by $380,652 (15.79%) as shown on attached Schedule No. 3-A. This increase will allow the utility the opportunity to recover its expenses and earn a 9.10% return on its investment in rate base.

In its application, FPUC grossed-up its revenue requirement by bad debt expense, as well as the regulatory assessment fees (RAFs), and income taxes. A gross-up for bad debt expense is not normally done in water and wastewater rate cases, although it is a standard practice in the electric, gas, and telephone industries. Staff recommends that this factor is appropriate as it is a common assumption that bad debt expense will change proportionately with revenue.

RATES AND RATE STRUCTURE

ISSUE 22: Is it appropriate to modify the utility's customer classifications to reflect a shift of residential bills and consumption to the general service (commercial) category, and, if so, what are the appropriate numbers of bills and consumption to shift and when should the shift be made?

RECOMMENDATION: Yes, it is appropriate to modify the utility's customer classifications to shift bills and CCF from the residential to the general service category. The appropriate numbers of bills and CCF to shift are 1,553 and 160,668, respectively. The shift should be made after the customer and consumption projections are complete. The utility should be ordered to make the appropriate reclassifications before the recommended rates go into effect. (LINGO)

STAFF ANALYSIS: As part of its filing, the utility proposed to shift all 3" and 4" residential customers (representing master-metered customers, contractors and developers) to the general service category, stating that those customers would be better served in the general service class. As part of staff's review of this issue, we examined the 1998 customer list and discovered that, in addition to the 3" and 4" residential customers to be shifted, there were numerous additional 5/8", 1" and 2" customers who were classified as residential customers, but who are more properly classified under the general service category. The additional customers to be shifted were mainly businesses, condo/homeowner associations, and several churches. Since general service customers are (typically) not subject to an inclining-block rate structure, all misclassifications needed correction to appropriately design the inclining-block rate structure.

Staff questioned the utility regarding the misclassified customers. The utility responded that, absent different water rates for residential and general service customers, it is possible that the utility had not always maintained the appropriate distinctions between customer classes. The utility agreed with staff that the misclassifications should be corrected before implementing the recommended rates.

Staff's analysis of the 1998 customer list and billing analysis indicated that the following residential bills and consumption should be classified as general service:

Residential

Meter Size	Bills	CCF
5/8"	780	92,944
1"	408	14,378
2"	115	10,798
3"	88	19,926
4"	17	336
	1,408	138,382

We believe it is inappropriate to shift these billing determinants in 1998 before projecting customer bills and consumption for 1999 and 2000, as these units contributed to the actual data history in their respective classes. Therefore, we believe the actual data history should be left intact when preparing the projections. Only after the projections are complete should the billing determinants (factored up for projected growth) be shifted. This results in a recommended shift of 1,553 bills and 160,668 CCF. The utility should be ordered to make the appropriate reclassifications before the recommended rates go into effect.

ISSUE 23: What is the appropriate rate structure for this utility, and what are the appropriate monthly rates for service?

RECOMMENDATION: The appropriate rate structure for residential customers is a base facility and CCF charge rate structure consisting of three tiers (usage blocks) with an inclining rate for each subsequent tier. The appropriate rate structure for the general service customers is a continuation of the traditional base facility and uniform CCF charge rate structure. The recommended rates, as shown on Schedule No. 4, should be designed to produce revenues of $2,733,930, excluding miscellaneous service charge revenues. The utility should file revised tariff sheets and a proposed customer notice to reflect the Commission-approved rates. The approved rates should be effective for service rendered on or after the stamped approval date of the revised tariff sheets pursuant to Rule 25-30.475(1), Florida Administrative Code. The rates should not be implemented until staff has approved the proposed customer notice, and the notice has been received by the customers. The utility should provide proof of the date notice was given no less than 10 days after the date of the notice. (LINGO, BINFORD)

STAFF ANALYSIS: The utility's current rate structure consists of a traditional base facility and uniform consumption charge rate structure. The utility has proposed a three-tier inclining block rate structure to be applicable to the residential class, with usage blocks set: (1) at 0-5,999 hundred cubic feet (CCF) per month; (2) at 6,000 - 20,000 CCF; and (3) for consumption in excess of 20,000 CCF. The utility has proposed maintaining its base facility and uniform consumption charge rate structure for the general service class. The St. Johns River Water Management District (SJRWMD or District) advocates this rate structure change, because the entire District has been designated a water resource caution area, and for over the past five years the District has advocated rate structures that provide pricing incentives to conserve.

There are several steps involved in evaluating and calculating an inclining-block rate structure including (but not limited to) determining: 1) the appropriate "conservation adjustment," if any; 2) the appropriate usage block rate factors; and 3) the appropriate usage blocks. Staff agrees in part and disagrees in part with the utility's proposed rate structure and methodology of calculating its requested rates. Our analysis is discussed below.

Conservation Adjustment

Our initial area of disagreement with the utility's rate design proposal is that it shifts a portion of the revenue recovery burden from the consumption charge to the BFC. An analysis of MFR Schedule E-2, page 3, indicates that the utility's current rate structure recovers $823,967 (or approximately 38%) from the BFC, while the remaining $1,331,160 (or approximately 62%) is recovered through the CCF charge. However, page 1 of Schedule E-2 indicates that the proposed revenue recovery burden has shifted slightly, with 41% being recovered from the BFC and 59% being recovered through the CCF charge.

To evaluate the need for a conservation adjustment in this case, staff (based on our recommended revenue requirement) calculated cost-based rates of $9.51 for the BFC for a 5/8" x 3/4" meter and $0.97 for the general service CCF charge. The relatively low CCF rate as compared to the BFC is due in part to the relatively high consumption levels of FPUC's residential customers. Therefore, to mitigate this disparity, as well as shift more of the burden of cost recovery to the CCF charge to promote conservation, staff believes that some "conservation adjustment" is appropriate. In addition, a shift is necessary to ensure that the initial block rate is no less than the utility's current charge of $0.84 per CCF. (However, the utility's proposal contemplates that all general service customers would pay $1.09 per CCF. Staff believes that the overall rate increase should be enough to promote some conservation by the general service customers.)

Staff contemplated recommending making a 20% conservation adjustment before designing the rates. However, this would have resulted in the recommended BFC being **less** than the current BFC of $8.20. We do not believe it would be appropriate to make a conservation adjustment of that magnitude, as we believe it is important for revenue stability purposes that our recommended BFC not be less than the current rate. We then tried a lesser adjustment of 15%; however, it still yielded a BFC less than current. At a 10% adjustment, our recommended BFC of $8.56 is greater than the current rate while shifting over $100,000 in cost recovery to the CCF charge. Therefore, our recommended conservation adjustment is 10%.

Selection of the Appropriate Usage Blocks and Usage Block Rate Factors

In the instant proceeding, the utility has proposed three usage blocks of 0-5 CCF, 6-20 CCF, and 20+ CCF, in conjunction with

its requested usage block rate factors of 1.0, 1.5 and 2.0 -- that is, the rate in the second usage block is 1.5 times the rate in the initial block, and the rate in the third block is 2.0 times the initial block rate.

When asked to explain the basis for selecting its proposed usage blocks, the utility responded:

> The basis for selecting the proposed usage blocks was information provided by the SJRWMD. They desired that we utilize "stepped" rates similar to the City of Jacksonville Beach. "Stepped" rates promote water conservation and are therefore promoted by the District. The blocks were determined by using the Jacksonville Beach rates and converting gallons to CCFs.

Staff examined the utility's historical residential consumption data for the calendar year ended December 31, 1998, as part of our review of the utility's request to implement a three-tiered inclining-block rate structure. Our analysis reveals that approximately 32% of total bills are captured in the proposed first usage block, while 76% of total bills are captured within the first two proposed blocks, and the third usage block accounts for the remaining 24% of total residential bills. The percentage of bills captured in each usage block leads staff to recommend that a three-tier structure be implemented.

We do not believe, however, that the first block captures an appropriate portion of the utility's residential population. For revenue stability purposes, staff believes that the first usage block should capture at least 50% of the bills. Therefore, staff also examined two other combinations of usage blocks: 1) 0-10 CCF, 10-20 CCF and 20+ CCF; and 2) 0-10 CCF, 10-25 CCF and 25+ CCF. These combinations were selected in large part because the initial block of 0-10 CCF captures 53% of the residential bills.

The next step in our analysis was to incorporate different usage block rate factors into our calculations. We selected seven different combinations of rate factors, in conjunction with different usage blocks, to calculate the resulting consumption charge rates based on staff's recommended revenue requirement. Consumption charges (charges excluding the BFC) were then calculated at different usage levels, and the resulting increases in those bills over the current rates were also calculated. We also calculated the **total** change in price (BFC plus CCF charges). This analysis is shown on Attachment E.

Based on our analysis on Attachment E, we disregarded all combinations of usage blocks and rate factors that resulted in rates for the initial block that were less than $0.70. As shown on pages one through three, in columns (f) through (i) of Attachment E, all customers at 5 CCF of consumption would experience total price **reductions**, and, in several cases, these total price reductions would be experienced by customers with consumption of 25 CCF. We believe that the rate factors in columns (f) through (i) send the **opposite** price signal of what we are trying to achieve.

The remaining usage block groups (in column (a) of Attachment E) and rate factor combinations (in columns (c) through (e)) were then evaluated both in terms of the price change achieved when compared across rate factors at different consumption levels (page 4) and when compared across usage groups (page 5). As shown on page 4, the rate factors of 1.0, 1.25 and 1.5 clearly scored more instances of greater price changes (16) than when compared to the other two rate factor combinations. As shown on page 5, however, there is virtually no difference between usage blocks in terms of achieving greater price changes at the given consumption levels.

Our final step in evaluating the remaining combinations was to group the results from pages 4 and 5 together. As shown on page 6, rate factors of 1.0, 1.25 and 1.5 clearly scored higher (24) than the two remaining rate factor combinations; therefore, these are staff's recommended rate factors. In order to select the appropriate usage blocks, we noticed that the price signals in the first group (0-5 CCF, 6-20 CCF and 20+ CCF) did not target customers at consumption levels of greater than 25 CCF. We believe customers at consumption levels of greater than 25 CCF should receive the **strongest** price signals to conserve, and, therefore, we do not believe that these usage blocks are appropriate.

The remaining two groups of usage blocks provide incentive to customers to conserve at virtually all of our listed consumption levels. However, staff has selected the usage blocks of 0-10 CCF, 10-25 CCF and 25+ CCF as our recommended blocks because customers receive the proper pricing signals at all consumption levels except at 50 CCF.

Based on the analysis discussed above, staff recommends usage blocks of 0-10 CCF, 10-25 CCF and 25+ CCF, with a rate for the second block that is 1.25 times that of the initial block rate, and a rate for the third block that is 1.5 times the initial block rate.

The permanent rates requested by the utility are designed to produce revenues of $2,790,075 for water service. The requested revenues represent an increase of $650,476, or 29%. Staff's recommended increase in revenue requirement is $380,652, or approximately 16%. The final rates approved for the utility should be designed to produce revenues of $2,733,930 (excluding miscellaneous service charge revenues).

Approximately 33% (or $909,734) of the revenue requirement is recovered through the recommended base facility charge. The fixed costs are recovered through the BFC based on the projected number of factored ERCs. The remaining 67% of the revenue requirement (or $1,824,197) represents revenues collected through the consumption charge based on the projected number of factored CCF.

The utility should file revised tariff sheets and a proposed customer notice to reflect the Commission-approved rates. The approved rates should be effective for service rendered on or after the stamped approval date of the revised tariff sheets pursuant to Rule 25-40.475(1), Florida Administrative Code. The rates should not be implemented until staff has approved the proposed customer notice, and the notice has been received by the customers. The utility should provide proof of the date notice was given no less than 10 days after the date of the notice.

A comparison of the utility's original rates, requested rates and staff's recommended rates is shown on Schedule No. 4.

SELECTION OF RECOMMENDED USAGE BLOCKS AND RATE FACTORS

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
				CONSUMPTION CHARGES BASED ON DIFFERENT RATE FACTORS				
USAGE BLOCKS	Current Rates	1.0 / 1.25 / 1.5	1.0 / 1.25 / 1.75	1.0 / 1.25 / 2.0	1.0 / 1.25 / 3.0	1.0 / 1.5 / 2.0	1.0 / 1.5 / 3.0	1.0 / 2.0 / 3.0
0-5 CCF	$0.84	$0.81	$0.76	$0.72	$0.59	$0.68	$0.56	$0.50
6 - 20 CCF	0.84	1.01	0.95	0.90	0.74	1.02	0.84	1.00
20 + CCF	0.84	1.22	1.33	1.44	1.77	1.36	1.68	1.50
Consump (CCF)	Consump Charges							
5	$4.20	$4.05	$3.80	$3.60	$2.95	$3.40	$2.80	$2.50
10	8.40	9.10	8.55	8.10	6.65	8.50	7.00	7.50
15	12.60	14.15	13.30	12.60	10.35	13.60	11.20	12.50
20	16.80	19.20	18.05	17.10	14.05	18.70	15.40	17.50
25	21.00	25.30	24.70	24.30	22.90	25.50	23.80	25.00
30	25.20	31.40	31.35	31.50	31.75	32.30	32.20	32.50
50	42.00	55.80	57.95	60.30	67.15	59.50	65.80	62.50
75	63.00	86.30	91.20	96.30	111.40	93.50	107.80	100.00
Consump (CCF)				CHANGES IN CONSUMPTION CHARGES				
5		-3.6%	-9.5%	-14.3%	-29.8%	-19.0%	-33.3%	-40.5%
10		8.3%	1.8%	-3.6%	-20.8%	1.2%	-16.7%	-10.7%
15		12.3%	5.6%	0.0%	-17.9%	7.9%	-11.1%	-0.8%
20		14.3%	7.4%	1.8%	-16.4%	11.3%	-8.3%	4.2%
25		20.5%	17.6%	15.7%	9.0%	21.4%	13.3%	19.0%
30		24.6%	24.4%	25.0%	26.0%	28.2%	27.8%	29.0%
50		32.9%	38.0%	43.6%	59.9%	41.7%	56.7%	48.8%
75		37.0%	44.8%	52.9%	76.8%	48.4%	71.1%	58.7%
Curr BFC	Rec BFC			CHANGES IN TOTAL PRICE				
$8.20	$8.56							
Consump (CCF)								
5		1.7%	-0.3%	-1.9%	-7.2%	-3.5%	-8.4%	-10.8%
10		6.4%	3.1%	0.4%	-8.4%	2.8%	-6.3%	-3.3%
15		9.2%	5.1%	1.7%	-9.1%	6.5%	-5.0%	1.3%
20		11.0%	6.4%	2.6%	-9.6%	9.0%	-4.2%	4.2%
25		16.0%	13.9%	12.5%	7.7%	16.6%	10.8%	14.9%
30		19.6%	19.5%	19.9%	20.7%	22.3%	22.0%	22.9%
50		28.2%	32.5%	37.2%	50.8%	35.6%	48.1%	41.6%
75		33.2%	40.1%	47.3%	68.5%	43.3%	63.4%	52.5%

SELECTION OF RECOMMENDED USAGE BLOCKS AND RATE FACTORS

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
				CONSUMPTION CHARGES BASED ON DIFFERENT RATE FACTORS				
USAGE BLOCKS	Current Rates	1.0 / 1.25 / 1.5	1.0 / 1.25 / 1.75	1.0 / 1.25 / 2.0	1.0 / 1.25 / 3.0	1.0 / 1.5 / 2.0	1.0 / 1.5 / 3.0	1.0 / 2.0 / 3.0
0-10 CCF	$0.84	$0.84	$0.79	$0.74	$0.60	$0.71	$0.58	$0.55
10 - 20 CCF	0.84	1.05	0.99	0.93	0.75	1.07	0.87	1.10
20 + CCF	0.84	1.26	1.38	1.48	1.80	1.42	1.74	1.65
Consump (CCF)	Consump Charges							
5	$4.20	$4.20	$3.95	$3.70	$3.00	$3.55	$2.90	$2.75
10	8.40	8.40	7.90	7.40	6.00	7.10	5.80	5.50
15	12.60	13.65	12.85	12.05	9.75	12.45	10.15	11.00
20	16.80	18.90	17.80	16.70	13.50	17.80	14.50	16.50
25	21.00	25.20	24.70	24.10	22.50	24.90	23.20	24.75
30	25.20	31.50	31.60	31.50	31.50	32.00	31.90	33.00
50	42.00	56.70	59.20	61.10	67.50	60.40	66.70	66.00
75	63.00	88.20	93.70	98.10	112.50	95.90	110.20	107.25
Consump (CCF)				CHANGES IN CONSUMPTION CHARGES				
5		0.0%	-6.0%	-11.9%	-28.6%	-15.5%	-31.0%	-34.5%
10		0.0%	-6.0%	-11.9%	-28.6%	-15.5%	-31.0%	-34.5%
15		8.3%	2.0%	-4.4%	-22.6%	-1.2%	-19.4%	-12.7%
20		12.5%	6.0%	-0.6%	-19.6%	6.0%	-13.7%	-1.8%
25		20.0%	17.6%	14.8%	7.1%	18.6%	10.5%	17.9%
30		25.0%	25.4%	25.0%	25.0%	27.0%	26.6%	31.0%
50		35.0%	41.0%	45.5%	60.7%	43.8%	58.8%	57.1%
75		40.0%	48.7%	55.7%	78.6%	52.2%	74.9%	70.2%
Curr BFC	Rec BFC			CHANGES IN TOTAL PRICE				
$8.20	$8.56							
Consump (CCF)								
5		2.9%	0.9%	-1.1%	-6.8%	-2.3%	-7.6%	-8.8%
10		2.2%	-0.8%	-3.9%	-12.3%	-5.7%	-13.5%	-15.3%
15		6.8%	2.9%	-0.9%	-12.0%	1.0%	-10.0%	-6.0%
20		9.8%	5.4%	1.0%	-11.8%	5.4%	-7.8%	0.2%
25		15.6%	13.9%	11.8%	6.4%	14.6%	8.8%	14.1%
30		19.9%	20.2%	19.9%	19.9%	21.4%	21.1%	24.4%
50		30.0%	35.0%	38.8%	51.5%	37.4%	49.9%	48.5%
75		35.9%	43.6%	49.8%	70.0%	46.7%	66.8%	62.7%

SELECTION OF RECOMMENDED USAGE BLOCKS AND RATE FACTORS

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
				CONSUMPTION CHARGES BASED ON DIFFERENT RATE FACTORS				
USAGE BLOCKS	Current Rates	1.0 / 1.25 / 1.5	1.0 / 1.25 / 1.75	1.0 / 1.25 / 2.0	1.0 / 1.25 / 3.0	1.0 / 1.5 / 2.0	1.0 / 1.5 / 3.0	1.0 / 2.0 / 3.0
0-10 CCF	$0.84	$0.85	$0.81	$0.77	$0.65	$0.73	$0.62	$0.57
10 - 25 CCF	0.84	1.06	1.01	0.96	0.81	1.10	0.93	1.14
25 + CCF	0.84	1.28	1.42	1.54	1.95	1.46	1.86	1.71
Consump (CCF)	Consump Charges							
5	$4.20	$4.25	$4.05	$3.85	$3.25	$3.65	$3.10	$2.85
10	8.40	8.50	8.10	7.70	6.50	7.30	6.20	5.70
15	12.60	13.80	13.15	12.50	10.55	12.80	10.85	11.40
20	16.80	19.10	18.20	17.30	14.60	18.30	15.50	17.10
25	21.00	24.40	23.25	22.10	18.65	23.80	20.15	22.80
30	25.20	30.80	30.35	29.80	28.40	31.10	29.45	31.35
50	42.00	56.40	58.75	60.60	67.40	60.30	66.65	65.55
75	63.00	88.40	94.25	99.10	116.15	96.80	113.15	108.30
Consump (CCF)				CHANGES IN CONSUMPTION CHARGES				
5		1.2%	-3.6%	-8.3%	-22.6%	-13.1%	-26.2%	-32.1%
10		1.2%	-3.6%	-8.3%	-22.6%	-13.1%	-26.2%	-32.1%
15		9.5%	4.4%	-0.8%	-16.3%	1.6%	-13.9%	-9.5%
20		13.7%	8.3%	3.0%	-13.1%	8.9%	-7.7%	1.8%
25		16.2%	10.7%	5.2%	-11.2%	13.3%	-4.0%	8.6%
30		22.2%	20.4%	18.3%	12.7%	23.4%	16.9%	24.4%
50		34.3%	39.9%	44.3%	60.5%	43.6%	58.7%	56.1%
75		40.3%	49.6%	57.3%	84.4%	53.7%	79.6%	71.9%
Curr. BFC	Rec.BFC			CHANGES IN TOTAL PRICE				
$8.20	$8.56							
Consump (CCF)								
5		3.3%	1.7%	0.1%	-4.8%	-1.5%	-6.0%	-8.0%
10		2.8%	0.4%	-2.0%	-9.3%	-4.5%	-11.1%	-14.1%
15		7.5%	4.4%	1.3%	-8.1%	2.7%	-6.7%	-4.0%
20		10.6%	7.0%	3.4%	-7.4%	7.4%	-3.8%	2.6%
25		12.9%	8.9%	5.0%	-6.8%	10.8%	-1.7%	7.4%
30		17.8%	15.5%	14.9%	10.7%	18.7%	13.8%	19.5%
50		29.4%	34.1%	37.8%	51.3%	37.2%	49.8%	47.6%
75		36.2%	44.4%	51.2%	75.2%	48.0%	70.9%	64.1%

SELECTION OF RECOMMENDED USAGE BLOCKS AND RATE FACTORS

(a) (b) (c) (d) (e) (f) (g) (h) (i)

PRICE CHANGE COMPARISONS ACROSS DIFFERENT RATE FACTORS

USAGE BLOCKS	Consump (CCF)	1.0 / 1.25 / 1.5	1.0 / 1.25 / 1.75	1.0 / 1.25 / 2.0	Within the Same Usage Block Group Greateat Price Change Occurs: 1.0 / 1.25 / 1.5	1.0 / 1.25 / 1.75	1.0 / 1.25 / 2.0
	5	1.7%	-0.3%	-1.9%	x		
0-5 CCF	10	6.4%	3.1%	0.4%	x		
5 - 20 CCF	15	9.2%	5.1%	1.7%	x		
20 + CCF	20	11.0%	6.4%	2.6%	x		
	25	16.0%	13.9%	12.5%	x		
	30	19.6%	19.5%	19.9%			x
	50	28.2%	32.5%	37.2%			x
	75	33.2%	40.1%	47.3%			x
	5	2.9%	0.9%	-1.1%	x		
0-10 CCF	10	2.2%	-0.8%	-3.9%	x		
10 - 20 CCF	15	6.8%	2.9%	-0.9%	x		
20 + CCF	20	9.8%	5.4%	1.0%	x		
	25	15.6%	13.9%	11.8%	x		
	30	19.9%	20.2%	19.9%		x	
	50	30.0%	35.0%	38.8%			x
	75	35.9%	43.6%	49.8%			x
	5	3.3%	1.7%	0.1%	x		
0-10 CCF	10	2.8%	0.4%	-2.0%	x		
10 - 25 CCF	15	7.5%	4.4%	1.3%	x		
25 + CCF	20	10.6%	7.0%	3.4%	x		
	25	12.9%	8.9%	5.0%	x		
	30	17.8%	16.5%	14.9%	x		
	50	29.4%	34.1%	37.8%			x
	75	36.2%	44.4%	51.2%			x
				SCORES:	16	1	7

SELECTION OF RECOMMENDED USAGE BLOCKS AND RATE FACTORS

(a) (b) (c) (d) (e) (f) (g) (h) (i)

PRICE CHANGE COMPARISONS ACROSS DIFFERENT USAGE BLOCKS

USAGE BLOCKS	Consump (CCF)	1.0 / 1.25 / 1.5	1.0 / 1.25 / 1.75	1.0 / 1.25 / 2.0	Within the Same Rate Factor Group Greateat Price Change Occurs: 1.0 / 1.25 / 1.5	1.0 / 1.25 / 1.75	1.0 / 1.25 / 2.0
	5	1.7%	-0.3%	-1.9%			
0-5 CCF	10	6.4%	3.1%	0.4%	x	x	x
5 - 20 CCF	15	9.2%	5.1%	1.7%	x	x	x
20 + CCF	20	11.0%	6.4%	2.6%	x		
	25	16.0%	13.9%	12.5%	x	x	x
	30	19.6%	19.5%	19.9%			x
	50	28.2%	32.5%	37.2%			
	75	33.2%	40.1%	47.3%			
	5	2.9%	0.9%	-1.1%			
0-10 CCF	10	2.2%	-0.8%	-3.9%			
10 - 20 CCF	15	6.8%	2.9%	-0.9%			
20 + CCF	20	9.8%	5.4%	1.0%			
	25	15.6%	13.9%	11.8%		x	
	30	19.9%	20.2%	19.9%	x	x	x
	50	30.0%	35.0%	38.8%	x	x	x
	75	35.9%	43.6%	49.8%			
	5	3.3%	1.7%	0.1%	x	x	x
0-10 CCF	10	2.8%	0.4%	-2.0%			
10 - 25 CCF	15	7.5%	4.4%	1.3%			
25 + CCF	20	10.6%	7.0%	3.4%		x	x
	25	12.9%	8.9%	5.0%			
	30	17.8%	16.5%	14.9%			
	50	29.4%	34.1%	37.8%			
	75	36.2%	44.4%	51.2%	x	x	x
				SCORES:	8	9	9

SELECTION OF RECOMMENDED USAGE BLOCKS AND RATE FACTORS

(a) (b) (c) (d) (e) (f) (g) (h) (i)

SELECTION OF RECOMMENDED USAGE BLOCKS AND RATE FACTORS

USAGE BLOCKS	Consump (CCF)	Scores for Rate Factor 1.0 / 1.25 / 1.5	Scores for Usage Block 1.0 / 1.25 / 1.5	Scores for Rate Factor 1.0 / 1.25 / 1.75	Scores for Usage Block 1.0 / 1.25 / 1.75	Scores for Rate Factor 1.0 / 1.25 / 2.0	Scores for Usage Block 1.0 / 1.25 / 2.0
	5	x					
0-5 CCF	10	x	x		x		x
5 - 20 CCF	15	x	x		x		x
20 + CCF	20	x	x				
	25	x	x		x		x
	30					x	x
	50					x	
	75					x	
	5	x					
0-10 CCF	10	x					
10 - 20 CCF	15	x					
20 + CCF	20	x					
	25	x			x		
	30		x	x	x		x
	50		x		x	x	x
	75					x	
	5	x	x		x		x
0-10 CCF	10	x					
10 - 25 CCF	15	x					
25 + CCF	20	x			x		x
	25	x					
	30	x					
	50					x	
	75		x		x	x	x
	SCORES:	16	8	1	9	7	9
	TOTAL SCORES:		24		10		16

[ ] = new rate is less than the current rate in that usage block.

1.0 / 1.25 / 1.5 = usage block differentials of 1.0 for the first usage block, 1.25 times the initial block rate for the second usage block, and 1.5 times the initial block rate for the third usage block.

1.0 / 1.25 / 1.75 = usage block differentials of 1.0 for the first usage block, 1.25 times the initial block rate for the second usage block, and 1.75 times the initial block rate for the third usage block.

1.0 / 1.25 / 2.0 = usage block differentials of 1.0 for the first usage block, 1.25 times the initial block rate for the second usage block, and 2.0 times the initial block rate for the third usage block.

1.0 / 1.25 / 3.0 = usage block differentials of 1.0 for the first usage block, 1.25 times the initial block rate for the second usage block, and 3.0 times the initial block rate for the third usage block.

1.0 / 1.5 / 2.0 = usage block differentials of 1.0 for the first usage block, 1.5 times the initial block rate for the second usage block, and 2.0 times the initial block rate for the third usage block.

1.0 / 1.5 / 3.0 = usage block differentials of 1.0 for the first usage block, 1.5 times the initial block rate for the second usage block, and 3.0 times the initial block rate for the third usage block.

1.0 / 2.0 / 3.0 = usage block differentials of 1.0 for the first usage block, 2.0 times the initial block rate for the second usage block, and 3.0 times the initial block rate for the third usage block.

Source: FPUC's 12/13/99 and 12/14/99 responses to Staff's Informal Data Request 11/15/99.

ISSUE 24: Is repression of consumption likely to occur, and, if so, what is the appropriate adjustment and the resulting consumption to be used to calculate consumption charges?

RECOMMENDATION: Yes, repression of consumption is likely to occur. The appropriate repression adjustment is a reduction in consumption of 27,617 CCF, and the resulting consumption to be used to calculate consumption charges is 1,750,691 CCF. In order to monitor the effects of this rate proceeding on consumption, the utility should be ordered to file monthly reports detailing the number of bills rendered, the consumption billed (by usage block for residential customers) and the revenue billed. These reports should be provided, by customer class and meter size, on a quarterly basis for a period of two years, beginning with the first billing period after the increased rates go into effect. (LINGO)

STAFF ANALYSIS: As shown in column (c) on page 3 of Attachment E, the anticipated total price changes, based on staff's recommended usage blocks and rate factors, range from increases of 3.3% at 5 CCF to 12.9% at 25 CCF. Based on this analysis, we do not believe that these nominal price increases necessitate a repression adjustment in either the 0-10 CCF or the 10-25 CCF usage blocks.

However, for bills with consumption above 25 CCF, the increase in the customers' bill will range from 13.0% to 40.0%; therefore, we believe a repression adjustment in this usage block is warranted. However, we have no historical data of other utilities converting from a uniform consumption charge to a three-tier inclining-block consumption charge to use as a point of reference in determining an appropriate adjustment. Based on our analysis of utilities in our database, we do know, however, that for utilities that did not experience a change in rate structure in rate proceedings, an average price increase of approximately 30% resulted in an approximate 6.5% reduction in consumption. In addition, when a price change is coupled with a change in rate structure, the repression tends to be greater than when considering price changes with no rate structure changes.

The customers who use greater than 25 CCF will not only face price changes ranging from 13% to 40%, but will pay consumption charges from three different usage blocks. Staff believes this pricing signal will lead to greater consumption reductions than would otherwise be expected. Considering that a 6.5% reduction in consumption could be expected if there was no change in rate structure, staff used 6.5% as the floor for our recommended adjustment in this case. Although arguably arbitrary, we believe a repression adjustment of 10% for consumption in the 25+ CCF usage

block is reasonable. Therefore, the appropriate repression adjustment is a reduction in consumption of 27,617 CCF, and the resulting consumption to be used to calculate consumption charges is 1,750,691 CCF.

The effects of all recommended adjustments are combined with staff's recommended projections and appears on Attachment F. As shown on the attachment, the effects of our recommended linear regression models for the different customer classes, plus our recommended repression adjustment and the recommended shift of residential bills and consumption to the general service class, resulted in projections for bills that were approximately 4.36% greater and consumption that was approximately 23.78% greater than the utility's respective projections. Therefore, staff recommends adjustments of 3,455 to the utility's projected bills and an adjustment of an additional 336,336 CCF to the utility's projected consumption.

In order to monitor the effects of this rate proceeding on consumption, the utility should be ordered to file monthly reports detailing the number of bills rendered, the consumption billed (by usage block for the residential class) and the revenue billed. These reports should be provided, by customer class and meter size, on a quarterly basis for a period of two years, beginning with the first billing period after the increased rates go into effect.

FLORIDA PUBLIC UTILITIES COMPANY -- FERNANDINA BEACH WATER DIVISION
DOCKET NO. 990535-WU
PROJECTED TEST YEAR ENDING DECEMBER 31, 2000

ATTACHMENT F

COMPARISON OF FINAL PROJECTED BILLS AND CONSUMPTION: FPUC v. STAFF

WATER SYSTEM

		Projections per Utility		Projections per Staff (1)		Difference: Staff in Excess of FPUC	
		Bills Rendered	(000 in CCF) Billed Consump	Bills Rendered	(000 in CCF) Billed Consump	Bills Rendered	(000 in CCF) Billed Consump
Metered Sales:	Class 3 = Residential	71,475	917,419	73,117	1,095,009	1,642	177,590
	Class 4 = General Service (2)	6,839	496,936	8,653	655,682	1,814	158,746
	Subtotal	78,314	1,414,355	81,770	1,750,691	3,456	336,336
Other Services:	Fire Hydrants	206		206		0	
	Automatic Sprinklers	674		673		(1)	
	Subtotal	880		879		(1)	
TOTALS FOR MONTHLY SERVICE:		79,194	1,414,355	82,649	1,750,691	3,455	336,336
						4.36%	**23.78%**

(1) After Staff's recommended repression adjustment and an additional shift of residential bills and consumption to the general service class.
(2) General service includes commercial, industrial and public authority.

Sources: MFRs Schedule E-2; FPUC's response to Staff's First Data Request No. 11, and 12/13/99 and 12/14/99 responses to Staff's Informal Data Request 11/15/99.

ISSUE 25: What are the appropriate private fire protection rates?

RECOMMENDATION: The private fire protection rates should be recalculated and set equivalent to one-twelfth of the general service base facility charges in accordance with Rule 25-30.465, Florida Administrative Code. In addition, staff recommends that water base facility charges should be set for 6 inch, 8 inch and 10 inch general service meter sizes. (KYLE)

STAFF ANALYSIS: In its MFRs, the utility has proposed rates for Automatic Sprinkler System Service (private fire protection) for meter sizes of 2 inch, 4 inch, 6 inch, 8 inch and 10 inch. The utility proposed rates for General Service for meter sizes of 5/8 inch, 1 inch, 2 inch, 3 inch and 4 inch. The rates proposed for Automatic Sprinkler System Service for 2 inch and 4 inch meters are approximately one-third of the rates proposed for the corresponding General Service meter sizes.

Rule 25-30.465, Florida Administrative Code, states that:

> The rate for private fire protection service shall be a charge based on the size of the connection rather than the number of fixtures connected. The rate shall be one-twelfth the current base facility charge of the utility's meter sizes, unless otherwise supported by the utility.

FPUC has not provided any support for deviating from this rule. Accordingly, staff recommends that the rates for Automatic Sprinkler System Service should be recalculated and set equivalent to one-twelfth the General Service base facility charges. In addition, staff believes that water base facility charges should be set for 6 inch, 8 inch and 10 inch General Service meter sizes, so that the corresponding Automatic Sprinkler System Services rates for those meter sizes may be calculated in accordance with the rule.

ISSUE 26: Should the utility's proposed miscellaneous service charges be approved?

RECOMMENDATION: Yes. The utility's proposed miscellaneous service charges should be approved. If the utility files revised tariff sheets within thirty days of the issuance date of the order which are consistent with the Commission's vote, staff should be given administrative authority to approve the revised tariff sheets upon staff's verification that the tariffs are consistent with the Commission's decision. If the revised tariff sheets are filed and approved, the revised miscellaneous service charges should be implemented on or after the stamped approval date of the tariff sheets pursuant to Rule 25-30.475(2), Florida Administrative Code, provided customers have received notice. The utility should provide proof that the customers have received notice within 10 days after the date of the notice. (KYLE)

STAFF ANALYSIS: Section 367.081, Florida Statutes, provides authority for the Commission to approve the fixing and the changing of rates charged by utility companies under its jurisdiction. More specific to this docket, Rule 25-30.345, Florida Administrative Code, addresses service charges for utilities. Pursuant to this rule, a utility may charge a reasonable fee to defray the cost of installing and removing facilities and materials. In addition, the utility may have other customer service charges in accordance with their approved tariff.

For informational purposes, staff notes that miscellaneous service charges routinely were approved by the Commission in accordance with Staff Advisory Bulletin No. 13, 2nd Revised (SAB 13). Since January 11, 1988, when SAB 13 became effective, the miscellaneous service charges for most utilities have remained the same. SAB 13 defined four categories of miscellaneous service charges, delineated the costs typically recovered in each category, contained an example of an approved level of charges, and provided guidance to utilities as to the procedures for including or revising tariff provisions for these items.

On March 27, 1997, all Staff Advisory Bulletins were rescinded by the Commission. However, Rule 25-30.460, Florida Administrative Code, defines in detail the four categories of miscellaneous service charges. The utility is proposing an increase in its initial connection charge, normal reconnection charge, violation reconnection charge and the premises visit (in lieu of disconnection) charge. A comparison of the various charges is shown below.

	Current Rates		Proposed Rates	
Type of Service	Business Hours	After Hours	Business Hours	After Hours
Initial Connection	$5.00	$5.00	$12.00	$12.00
Normal Reconnection	$8.00	$8.00	$12.00	$12.00
Violation Reconnection	$8.00	$12.00	$12.00	$18.00
Premises Visit	$4.00		$8.00	

The utility's current miscellaneous service charges were effective on April 20, 1987 and have not been updated. The underlying costs for any function that one could envision being required to provide these services (customer service representative taking order, data processing inputting information, field personnel reading meters, etc.) have almost certainly increased since 1987. As demonstrated by the price index increase option provided to a jurisdictional utility, the Commission recognizes that general operating costs increase from year to year. FPUC included in its MFRs the calculations used to determine the proposed miscellaneous service charges. Staff has reviewed the calculations and believes that the proposed charges are prudent and reasonable.

Staff believes that the current miscellaneous service charges should be updated to reflect the costs associated with the service provided. Staff further believes that the utility's filing is reasonable and should be approved and the proposed charges be included as part of its tariff. Therefore, staff is recommending that the utility's proposed miscellaneous service charges be approved. Also, if the utility files revised tariff sheets within thirty days of the issuance date of the order which are consistent with the Commission's vote, staff should be given administrative authority to approve the revised tariff sheets upon staff's verification that the tariffs are consistent with the Commission's decision.

If the revised tariff sheets are filed and approved, the revised miscellaneous service charges should be implemented on or after the stamped approval date of the tariff sheets pursuant to Rule 25-30.475(2), Florida Administrative Code, provided customers have received notice. The utility should provide proof that the customers have received notice within ten days after the date of the notice.

ISSUE 27: Should this docket be closed?

RECOMMENDATION: Yes, if no timely protest is received upon the expiration of the protest period, the Order should become final and effective upon the issuance of a consummating order and this docket should be closed. Staff will nevertheless monitor the utility's compliance with Rule 25-30.115, Florida Administrative Code, as addressed in Issue 2. (BINFORD, JAEGER, FUDGE)

STAFF ANALYSIS: If no timely protest is received upon the expiration of the protest period, the Order should become final and effective upon the issuance of a consummating order and this docket should be closed. Staff will nevertheless monitor the utility's compliance with Rule 25-30.115, Florida Administrative Code, as addressed in Issue 2.

FLORIDA PUBLIC UTILITIES COMPANY
SCHEDULE OF WATER RATE BASE
TEST YEAR ENDED 12/31/2000

SCHEDULE NO. 1-A
DOCKET 990535-WU

	DESCRIPTION	TEST YEAR PER UTILITY	UTILITY ADJUST-MENTS	ADJUSTED TEST YEAR PER UTILITY	STAFF ADJUST-MENTS	STAFF ADJUSTED TEST YEAR
1	UTILITY PLANT IN SERVICE	$14,162,200	$382,305	$14,544,505	$417,699	$14,962,204
2	UTILITY PLANT IN SERVICE-COMMON	$0	$218,686	$218,686	$0	$218,686
3	LAND & LAND RIGHTS	$1,717	$22,670	$24,387	$0	$24,387
4	LAND & LAND RIGHTS-COMMON	$0	$14,703	$14,703	$0	$14,703
5	NON-USED & USEFUL COMPONENTS	$0	$0	$0	$0	$0
6	ACCUMULATED DEPRECIATION	($3,063,781	($182,253)	($3,246,034	($56,592)	($3,302,626
7	ACCUM DEPRECIATION-COMMON	$0	($68,954)	($68,954)	$0	($68,954)
8	CIAC	($3,603,453	$0	($3,603,453	($598,691)	($4,202,144
9	AMORTIZATION OF CIAC	$654,597	$0	$654,597	$122,368	$776,965
10	CWIP	$245,538	($245,538)	$0	$0	$0
11	ADVANCES FOR CONSTRUCTION	($571,360)	$0	($571,360)	$59,018	($512,342)
12	UNFUNDED POST-RETIRE. BENEFITS	$0	$0	$0	$0	$0
13	DEFERRED INCOME TAXES	$0	$0	$0	$69,049	$69,049
14	WORKING CAPITAL ALLOWANCE	$228,290	$0	$228,290	($181,578)	$46,712
	RATE BASE	$8,053,748	$141,619	$8,195,367	($168,727)	$8,026,640

FLORIDA PUBLIC UTILITIES COMPANY ADJUSTMENTS TO RATE BASE TEST YEAR ENDED 12/31/2000	SCHED. NO. 1-B DOCKET 990535-WU PAGE 1 OF 1
EXPLANATION	**WATER**
PLANT IN SERVICE	
1 To adjust for changes in utility's projections	(72,651)
2 To correct CIAC recorded as reduction to plant	490,350
Total	417,699
ACCUMULATED DEPRECIATION	
1 To adjust for changes in utility's projections	21,543
2 To correct CIAC recorded as reduction to plant	(117,535)
3 To remove accumulated depreciation on transportation equip.	39,400
Total	(56,592)
CIAC	
1 To reclassify CIAC from Adv. for Construction	(59,018)
2 To correct CIAC recorded as reduction to plant	(490,350)
3 To adjust CIAC for change in growth projection methodology	(49,323)
Total	(598,691)
ACCUM. AMORT. OF CIAC	
1 To correct CIAC recorded as reduction to plant	117,535
2 To reclassify CIAC from Adv. for Construction	4,321
3 To adjust CIAC for change in growth projection methodology	512
Total	122,368
ADVANCES FOR CONSTRUCTION	
1 To reclassify CIAC from Adv. for Construction	59,018
DEFERRED INCOME TAXES (DITs)	
1 To remove DITs from working capital	69,049
WORKING CAPITAL	
1 To reflect increase in projected rate case expense	12,196
2 To include accrued taxes-ad valorem in working capital calc.	(40,189)
3 To reflect change in method of projecting accr. interest pay.	(78,967)
4 To adjust payroll related payables to reflect add'l. employee.	(3,053)
5 To remove DITs from working capital	(69,049)
6 To adjust W.C. accts. for change in growth projection meth.	(2,516)
Total	(181,578)

FLORIDA PUBLIC UTILITIES COMPANY — **SCHEDULE NO. 2**
CAPITAL STRUCTURE — **DOCKET 990535-WU**
TEST YEAR ENDED 12/31/2000

DESCRIPTION	TOTAL CAPITAL	SPECIFIC ADJUST-MENTS (EXPLAIN)	PRO RATA ADJUST-MENTS	CAPITAL RECONCILED TO RATE BASE	RATIO	COST RATE	WEIGHTED COST
PER UTILITY 2000 - 13 MONTH AVERAGE							
1 LONG TERM DEBT	$2,705,430	$49,255	$0	$2,754,685	33.61%	9.91%	3.33%
2 SHORT-TERM DEBT	$1,655,306	$30,137	$0	$1,685,443	20.57%	6.49%	1.33%
3 PREFERRED STOCK	$70,786	$1,289	$0	$72,075	0.88%	4.75%	0.04%
4 COMMON EQUITY	$3,347,172	$60,938	$0	$3,408,110	41.59%	9.97%	4.15%
5 CUSTOMER DEPOSITS	$177,772	$0	$0	$177,772	2.17%	6.30%	0.14%
6 DEFERRED INCOME TAXES	$0	$0	$0	$0	0.00%	0.00%	0.00%
7 DEFERRED INVESTMENT TAX	$383	$0	$0	$383	0.00%	0.00%	0.00%
8 DEFERRED ITC'S-WTD. COST	$96,889	$0	$0	$96,899	1.18%	9.16%	0.11%
9 OTHER	$0	$0	$0	$0	0.00%	0.00%	0.00%
10 **TOTAL CAPITAL**	$8,053,748	$141,619	$0	$8,195,367	100.00%		9.10%
PER COMMISSION 2000 - 13-MONTH AVERAGE							
11 LONG TERM DEBT	$2,705,430	$8,556	($9,458)	$2,704,529	33.69%	9.91%	3.34%
12 SHORT-TERM DEBT	$1,655,306	$4,667	($5,785)	$1,654,189	20.61%	6.50%	1.34%
13 PREFERRED STOCK	$70,786	$0	($247)	$70,539	0.88%	4.75%	0.04%
14 COMMON EQUITY	$3,347,172	($13,224)	($11,618)	$3,322,330	41.39%	9.98%	4.13%
15 CUSTOMER DEPOSITS	$177,772	$0	$0	$177,772	2.21%	6.30%	0.14%
16 DEFERRED INCOME TAXES	$0	$0	$0	$0	0.00%	0.00%	0.00%
17 DEFERRED ITC'S-ZERO COST	$383	$0	$0	$383	0.00%	0.00%	0.00%
18 DEFERRED ITC'S-WTD. COST	$96,899	$0	$0	$96,899	1.21%	9.17%	0.11%
19 OTHER	$0	$0	$-0	$0	0.00%	0.00%	0.00%
17 **TOTAL CAPITAL**	$8,053,748	$0	($27,107)	$8,026,641	100.00%		9.10%
					LOW	**HIGH**	
		RETURN ON EQUITY			8.98%	10.98%	
		OVERALL RATE OF RETURN			8.69%	9.52%	

FLORIDA PUBLIC UTILITIES COMPANY — SCHEDULE NO. 3-A

STATEMENT OF WATER OPERATIONS — DOCKET 990535-WU
TEST YEAR ENDED 12/31/2000

	DESCRIPTION	TEST YEAR PER UTILITY	UTILITY ADJUST-MENTS	ADJUSTED TEST YEAR PER UTILITY	STAFF ADJUST-MENTS	STAFF ADJUSTED TEST YEAR	REVENUE INCREASE	REVENUE REQUIREMENT
1	**OPERATING REVENUES**	$2,242,875	$650,476	$2,893,351	($482,153)	$2,411,198	$380,652 15.79%	$2,791,850
	OPERATING EXPENSES:							
2	OPERATION & MAINTENANCE	$1,066,013	$10,820	1,076,833	61,074	1,137,907	$811	1,138,718
3	DEPRECIATION	$336,283	$18,814	355,097	6,097	361,194		361,194
4	AMORTIZATION	$0	$0	0	0	0		0
5	TAXES OTHER THAN INCOME	$453,156	$64,492	517,648	(166,863)	350,785	17,129	367,915
6	INCOME TAXES	($11,013)	$209,354	$198,341	($141,353)	$56,988	$136,489	$193,476
7	**TOTAL OPERATING EXPENSES**	$1,844,439	$303,480	$2,147,919	($241,045)	$1,906,874	$154,429	$2,061,303
8	**OPERATING INCOME**	$398,436	$346,996	$745,432	($241,108)	$504,324	$226,224	$730,548
9	**RATE BASE**	$8,053,748		$8,195,367		$8,026,640		$8,026,640
10	**RATE OF RETURN**	4.95%		9.10%		6.28%		9.10%

FLORIDA PUBLIC UTILITIES COMPANY ADJUSTMENTS TO OPERATING INCOME TEST YEAR ENDED 12/31/2000	SCHED. NO. 3-B DOCKET 990535-WU PAGE 1 OF 1
EXPLANATION	**WATER**
OPERATING REVENUES	
1 Remove requested final revenue increase	(649,855)
2 Remove franchise fees on test year revenue	(121,900)
3 To adjust revenue for change in growth projection meth.	289,602
Total	(482,153)
OPERATION & MAINTENANCE EXPENSE	
1 Remove bad debt expense for revenue increase	(1,384)
2 To adjust purchase power for unaccounted for water adj.	(4,175)
3 To adjust chemicals for unaccounted for water adj.	(604)
4 Reclassify legal fees from electric division	1,822
5 Remove transportation expense for electric division	(15,069)
6 To adjust rate case expense	3,485
7 To adjust O&M exps. for change in growth projection meth.	77,000
Total	61,074
DEPRECIATION EXPENSE-NET	
1 To adjust for changes in utility's projections	31,726
2 To correct CIAC recorded as reduction to plant-netted	0
3 To reclassify CIAC from Adv. for Construction	(1,357)
4 To remove depreciation on transportation equip.	(22,842)
5 To adjust CIAC for change in growth projection methodology	(1,430)
Total	6,097
TAXES OTHER THAN INCOME	
1 RAFs on revenue adjustments above	(29,243)
2 To remove franchise tax fees from above the line expenses	(157,149)
3 To adjust payroll taxes to reflect add'l. employee.	5,519
4 To adjust for changes in utility's plant balance	6,579
5 To adjust TOTI for change in growth projection meth.	7,432
Total	(166,863)
INCOME TAXES	
To adjust to test year income tax expense	(141,353)

FLORIDA PUBLIC UTILITIES COMPANY WATER MONTHLY SERVICE RATES TEST YEAR ENDED 12/31/2000			SCHEDULE NO. 4 DOCKET 990535-WU PAGE 1 OF 1		
	Rates Prior to Filing		Utility Requested Final*		Staff Recomm. Final
Residential					
Base Facility Charge:					
5/8"	$8.20		$10.45		$8.56
1"	$18.54		$23.62		$20.93
2"	$56.51		$72.00		$66.98
3"	$111.70		$142.32		$125.59
4"	$208.33		$265.43		$209.32
Charge Per CCF	$0.84	0-5 CCFs	$0.62	0-10 CCFs	$0.87
		6-20 CCFs	$0.93	10-25 CCFs	$1.09
		>20 CCFs	$1.28	>25 CCFs	$1.31
General Service (Commercial, Industrial, and Public Authority)					
Base Facility Charge:					
5/8"	$8.20		$10.45		$8.56
1"	$18.54		$23.62		$20.93
2"	$56.51		$72.00		$66.98
3"	$111.70		$142.32		$146.52
4"	$208.33		$265.43		$251.18
6"					$523.29
8"					$753.54
10"					$1,214.04
Charge Per CCF	$0.84		$1.09		$1.04
Fire Hydrant Service					
4"	$70.29		$89.56		$81.39
5"	$107.11		$136.47		$124.02
6"	$145.07		$184.83		$167.97
Automatic Sprinkler System Service					
Base Facility Charge:					
2"	$19.09		$24.32		$5.58
4"	$70.29		$89.56		20.93
6"	$145.07		$184.83		43.61
8"	$185.32		$236.12		62.80
10"	$265.82		$338.68		101.17
			Typical Residential Bills		
5/8" x 3/4" Meter Size 3,000 Gallons	$10.72		$12.31		$11.17
8,000 Gallons	$14.92		$17.89		$17.28
22,000 Gallons	$26.68		$38.61		$37.38

*The utility did not request interim rates.

WATER TREATMENT PLANT

SCHEDULE 5-A
USED AND USEFUL DATA

Docket No. 990535-WU Utility FLORIDA PUBLIC UTILITIES CO. Date SEPT. 1999

1) Capacity of Plant * 8,947,000 gallons per day,

2) Maximum Daily Flow 7,575,140 gallons per day

3) Average Daily Flow 6,266,348 gallons per day

4) Fire Flow Capacity _____ gallons per day

a) Needed Fire Flow 580,320 gallons per day

5) Margin Reserve 1,207,614 gallons per day

a) Test Year Customers in ERC's - Begin 6,385 End 6,537 Av. 6,461

b) Customer Growth Using Regression Analysis in ERC's for Most Recent 5 Years Including Test Year 206 ERC's

c) Statutory Margin Reserve Period 5 Years

(b) x (c) x $\left[\frac{2}{(a)}\right]$ = 1,207,614 gallons per day Margin Reserve

6) Excessive Unaccounted for Water 15,211.5 gallons per day

a) Total Amount 65,916.4 gallons per day 13 % of Av. Daily Flow

b) Reasonable Amount 50,704.9 gallons per day 10 % of Av. Daily Flow

c) Excessive Amount 15,211.5 gallons per day 3 % of Av. Daily Flow

PERCENT USED AND USEFUL FORMULA

$$\left[\frac{(2 + 5) + 4a - 6}{1}\right] = 100 \%$$ Used and Useful

_____ Engineer

* "DEP operation permit is for 10.2M GPD. The difference is represented by one deep well that has lost significant yield and is considered emergency use."

WATER DISTRIBUTION SYSTEM

SCHEDULE 5-B
USED AND USEFUL DATA

Docket No. 990535-WU Utility FLORIDA PUBLIC UTILITIES CO . Date SEPT. 1999

1) Capacity 7,732 Lots (Number of potential customers without expansion)

2) Number of TEST YEAR Connections 6,537 Lots

a) Begin Test Year 6,385 Lots

b) End Test Year 6,537 Lots

c) Average Test Year 6,461 Lots

3) Margin Reserve 1030 Lots

a) Customer Growth Using Regression Analysis in Lots for Most Recent 5 Years Including Test Year 206 Lots

c) Statutory Margin Reserve period 5 Years

(a) x (b) = 1030 Lots Margin Reserve

PERCENT USED AND USEFUL FORMULA

$$\frac{(2 + 3)}{1} = *100\ \%$$ Used and Useful

_____ Engineer

*This number reflects rounding.