



Sailfish Point

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 900816-WS
VOLUME IV
APPLICATION OF
SAILFISH POINT UTILITY CORPORATION
FOR INCREASED RATES
IN
MARTIN COUNTY

CONTAINING
TESTIMONY
OF
FRANK SEIDMAN
AND
WILLIAM D. REESE

11380 Prosperity Farms Rd., Suite 211
Palm Beach Gardens, FL 33410
(407) 694-0220



567 Interstate Blvd.
Sarasota, Florida 34240
(813) 371-8499

Management & Regulatory Consultants, Inc.

1 Q. State briefly your educational background and
2 experience.

3 A. I am a graduate of the University of Miami. I hold
4 the degree of Bachelor of Science in Electrical
5 Engineering. I have also completed several graduate
6 level courses in economics, including public utility
7 economics. I am a Professional Engineer, registered
8 to practice in the state of Florida. I have over
9 25 years experience in utility regulation,
10 management and consulting. This experience includes
11 nine years as a staff member of the Florida Public
12 Service Commission, two years as a planning engineer
13 for a Florida telephone company, four years as
14 Manager of Rates and Research for a water and sewer
15 holding company with operations in six states and
16 three years as Director as Technical Affairs for a
17 national association of industrial users of
18 electricity. I have either supervised or prepared
19 rate cases, prepared rates studies or testified as
20 an expert witness with regard to water and sewer
21 utilities in Florida, California, Michigan,
22 Missouri, Indiana and Ohio.

23
24

1 Q. Are you familiar with documents entitled Docket No.
2 900816-WS, Application of Sailfish Point Utility
3 Corporation for Increased Rates in Martin County,
4 consisting of four volumes, Volumes I, II, III and
5 IV (Exhibit _____) ?

6 A. Yes I am. I prepared or supervised the preparation
7 of these documents with the assistance of SPUC's
8 staff and consulting engineer. Volume I contains
9 the financial, rate and engineering minimum filing
10 requirements (MFR's) required by Commission rules.
11 Volume II contains the billing analysis schedules
12 of the MFR's. Volume III contains the additional
13 engineering information required by the Commission
14 rules. Finally Volume IV contains the prefiled
15 direct testimony of myself and Mr. William Reese.

16
17 Q. Please summarize the major conclusions of this
18 filing.

19 A. SPUC is seeking an increase in its water and
20 wastewater rates and charges.

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22 The request is based on the adjusted operating
23 information for the historical year ended June 30,
24 1990 and the projected test year ending June 30,
25 1992.

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As shown in Volume I of (Exhibit ____):

The average rate base for the projected test year ending June 30, 1992 is \$1,609,063 for the water system and \$1,422,664 for the wastewater system. (see Schedules A-1 and A-2).

The adjusted operating income for the test year, without the requested increase, is a negative \$122,270 for the water system and a negative \$131,715 for the wastewater system. (see Schedules B-1 and B-2).

A fair rate of return on Applicant's equity is 12.14% and a fair rate of return on Applicant's rate base is 9.87%. (see Schedule D-1 Proj).

This application indicates that an increase in projected test year annual water revenues of \$371,755 and annual wastewater revenues of \$361,910 is required to produce a fair rate of return. (see Schedules B-1 and B-2).

1 **THE TEST PERIOD**

2 **Q. I would now like you take us through the major**
3 **components of the rate case. First, what is the**
4 **test period for this rate application?**

5 **A. This application is based on the projected results**
6 **of operation for the twelve months ending June 30,**
7 **1992. This is the period chosen as incorporating**
8 **the major plant additions being undertaken by SPUC**
9 **to serve Sailfish Point at buildout. SPUC plans to**
10 **complete \$315,000 in modifications to the wastewater**
11 **treatment plant in 1991. These modifications will**
12 **meet all outstanding DER requirements for equipment**
13 **redundancy as well provide an increase in plant**
14 **capacity from 125,000 GPD to 250,000 GPD. In 1992,**
15 **SPUC plans to increase the capacity of its reverse**
16 **osmosis water treatment facility from 250,000 GPD**
17 **to 350,000 GPD at a cost of approximately \$350,000.**
18 **Since the water plant addition is planned for**
19 **completion during 1992, its costs will only be**
20 **included in part in the 1992 average rate base. In**
21 **addition to this new construction, approximately**
22 **\$330,000 in water lines and \$560,000 in wastewater**
23 **lines will be moved from construction work in**
24 **progress to plant in service. This construction**
25 **essentially completes the facilities necessary to**

1 serve Sailfish Point at buildout. (See Schedule A-
2 3 Detail , Volume I, Exhibit _____).
3

4 **RATE BASE**

5 **Q. How was rate base developed?**

6 **A. The rate base consists of the beginning and ending**
7 **average balance for the period ending June 30, 1992**
8 **of the following components: plant in service, less**
9 **accumulated depreciation, less contributions in aid**
10 **of construction (CIAC) net of amortization, plus**
11 **CIAC deferred tax debits plus an allowance for**
12 **working capital. Each of these components is**
13 **adjusted to reflect ratemaking considerations such**
14 **as out of period adjustments. And, each of these**
15 **components is adjusted, where applicable, to reflect**
16 **only the investment that is used and useful in the**
17 **public interest.**

18
19 **Q. What is the starting point for projecting the**
20 **average balance of the components of Rate Base for**
21 **the test year?**

22 **A. The starting point is the average balances for the**
23 **historical year ended June 30, 1990 as taken from**
24 **the books and records of the utility.**

25

1 Q. What adjustments were made to the 1990 Plant in
2 Service in order to determine the projected balances
3 in 1992?

4 A. The adjustments to Plant in Service include (a)
5 reclassifying some costs from expense to capital,
6 (b) recognizing the cost of meter installations as
7 plant, (c) closing completed work in progress to
8 plant in service and (d) adding in the cost of new
9 construction to be completed by the end of the test
10 year. These adjustments are summarized at Schedule
11 A-3. Schedule A-3 Detail provides a detailed
12 breakdown of the adjustment components.

13
14 The adjusted average balances for Plant in Service
15 are shown in total on Schedules A-1 and A-2 for the
16 intermediate year 1991 and the projected year 1992.
17 The balances for each primary account are shown on
18 Schedules A-5, A-5 Proj, A-6 and A-6 Proj.

19
20 Q. Were adjustments made to Plant in Service for used
21 and useful considerations?

22 A. Yes. Plant in Service has been adjusted for used
23 and useful by applying the percentages developed in
24 the Engineering Schedules in Volume I, Section F of
25 Exhibit _____. In general the percent used and

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As shown in Volume I of (Exhibit ____):

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The adjusted operating income for the test year, without the requested increase, is a negative \$122,270 for the water system and a negative \$131,715 for the wastewater system. (see Schedules B-1 and B-2).

A fair rate of return on Applicant's equity is 12.14% and a fair rate of return on Applicant's rate base is 9.87%. (see Schedule D-1 Proj).

This application indicates that an increase in projected test year annual water revenues of \$371,755 and annual wastewater revenues of \$361,910 is required to produce a fair rate of return. (see Schedules B-1 and B-2).

1 **THE TEST PERIOD**

2 **Q. I would now like you take us through the major**
3 **components of the rate case. First, what is the**
4 **test period for this rate application?**

5 **A. This application is based on the projected results**
6 **of operation for the twelve months ending June 30,**
7 **1992. This is the period chosen as incorporating**
8 **the major plant additions being undertaken by SPUC**
9 **to serve Sailfish Point at buildout. SPUC plans to**
10 **complete \$315,000 in modifications to the wastewater**
11 **treatment plant in 1991. These modifications will**
12 **meet all outstanding DER requirements for equipment**
13 **redundancy as well provide an increase in plant**
14 **capacity from 125,000 GPD to 250,000 GPD. In 1992,**
15 **SPUC plans to increase the capacity of its reverse**
16 **osmosis water treatment facility from 250,000 GPD**
17 **to 350,000 GPD at a cost of approximately \$350,000.**
18 **Since the water plant addition is planned for**
19 **completion during 1992, its costs will only be**
20 **included in part in the 1992 average rate base. In**
21 **addition to this new construction, approximately**
22 **\$330,000 in water lines and \$560,000 in wastewater**
23 **lines will be moved from construction work in**
24 **progress to plant in service. This construction**
25 **essentially completes the facilities necessary to**

1 serve Sailfish Point at buildout. (See Schedule A-
2 3 Detail , Volume I, Exhibit _____).
3

4 **RATE BASE**

5 **Q. How was rate base developed?**

6 **A. The rate base consists of the beginning and ending**
7 **average balance for the period ending June 30, 1992**
8 **of the following components: plant in service, less**
9 **accumulated depreciation, less contributions in aid**
10 **of construction (CIAC) net of amortization, plus**
11 **CIAC deferred tax debits plus an allowance for**
12 **working capital. Each of these components is**
13 **adjusted to reflect ratemaking considerations such**
14 **as out of period adjustments. And, each of these**
15 **components is adjusted, where applicable, to reflect**
16 **only the investment that is used and useful in the**
17 **public interest.**

18
19 **Q. What is the starting point for projecting the**
20 **average balance of the components of Rate Base for**
21 **the test year?**

22 **A. The starting point is the average balances for the**
23 **historical year ended June 30, 1990 as taken from**
24 **the books and records of the utility.**

25

1 Q. What adjustments were made to the 1990 Plant in
2 Service in order to determine the projected balances
3 in 1992?

4 A. The adjustments to Plant in Service include (a)
5 reclassifying some costs from expense to capital,
6 (b) recognizing the cost of meter installations as
7 plant, (c) closing completed work in progress to
8 plant in service and (d) adding in the cost of new
9 construction to be completed by the end of the test
10 year. These adjustments are summarized at Schedule
11 A-3. Schedule A-3 Detail provides a detailed
12 breakdown of the adjustment components.

13
14 The adjusted average balances for Plant in Service
15 are shown in total on Schedules A-1 and A-2 for the
16 intermediate year 1991 and the projected year 1992.
17 The balances for each primary account are shown on
18 Schedules A-5, A-5 Proj, A-6 and A-6 Proj.

19
20 Q. Were adjustments made to Plant in Service for used
21 and useful considerations?

22 A. Yes. Plant in Service has been adjusted for used
23 and useful by applying the percentages developed in
24 the Engineering Schedules in Volume I, Section F of
25 Exhibit _____. In general the percent used and

1 useful of the treatment facilities is based on
2 system demands (peak for water, average for
3 wastewater). In the case of the wastewater treatment
4 plant, consideration was given to the economies of
5 gaining increased capacity for essentially the same
6 cost as building in the equipment redundancy
7 required by DER. The percent used and useful for
8 distribution and collection plant is based on the
9 ratio of the number of customers served to the
10 number that can be served. In each case, a margin
11 of reserve is included to cover the investment
12 required of the utility to be ready to meet its
13 statutory obligations to serve within a reasonable
14 period of time. The application of these
15 percentages to primary plant accounts are found at
16 Schedules A-5, A-5 Proj, A-6 and A-6 Proj. These
17 used and useful percentages are also applied to the
18 depreciation reserve and expense and to property
19 taxes. The application of these percentages to
20 accumulated depreciation can be found at Schedules
21 A-9, A-9 Proj, A-10 and A-10 Proj. For depreciation
22 expense they are found at Schedules B-10 and B-11,
23 and for property taxes at Schedule B-12. The
24 resulting deductions for non-used plant and

1 accumulated depreciation are summarized at Schedule
2 A-7.

3

4 Q. What adjustments were made to the 1990 balances for
5 Accumulated Depreciation to determine the projected
6 balances in 1992?

7 A. The 1990 balance was adjusted to accumulate
8 depreciation on previously unbooked meter
9 installations and on plant adjustments
10 (reclassifications) in 1989 and 1990. Then the
11 balance was adjusted for the intermediate year 1991
12 and the projected year 1992 by accumulating the
13 annual depreciation expense on average plant
14 balances at PSC guideline rates as determined at
15 Schedules B-10, B-11. The adjustments are
16 summarized at Schedule A-3, the total adjusted
17 balances are shown at schedule A-1 and A-2, and the
18 balances by primary account are shown at Schedules
19 A-9, A-9 Proj, A-10 and A-10 Proj.

20

21 Q. What adjustments were made to Contributions in Aid
22 of Construction (CIAC) and the related amortization?

23 A. CIAC was adjusted to recognize previously unbooked
24 meter installation fees. CIAC was also adjusted to
25 reflect additions related to customer growth.

1 Estimates of customer growth are found at Schedule
2 B-3 O & M Growth Detail. Annual customer additions
3 were multiplied by the existing service availability
4 charges to determine the annual CIAC additions.
5 The results of these calculations are shown at
6 Schedule A-11 Detail. The resulting balances for
7 the intermediate year 1990 and projected year 1991
8 are also shown at Schedule A-11 Detail. The related
9 Amortization balances are shown at Schedule A-12 and
10 A-12 Detail. CIAC is amortized at the average
11 depreciation rate for all plant except general and
12 intangible plant.

13
14 Q. How were the projected CIAC Deferred Tax debit
15 balances determined?

16 A. SPUC does not gross up CIAC charges. The deferred
17 tax debit balances were calculated for this rate
18 filing based on a ratable life of 40 years and a
19 37.63% tax rate. The detailed calculation is found
20 at Schedule B-3 Tax Detail, page 5. The resulting
21 balances are shown at Schedule A-1 and A-2.

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24

1 Q. How did you calculate the Working Capital component
2 of Rate Base?

3 A. Working capital is calculated at 1/8 th of operating
4 and maintenance expense. A summary of the working
5 capital allowance for each period is shown at
6 Schedule A-15.

7

8 Q. What is the net result of the adjustments to Rate
9 Base?

10 A. After all adjustments for plant additions, increased
11 depreciation reserves, CIAC, and reductions for non-
12 used plant, the rate base for the projected test
13 year ending June 30, 1992 is \$1,609,063 for the
14 water system and \$1,422,664 for the wastewater
15 system.

16

17 **OPERATING REVENUE**

18 Q. What is included in operating revenue?

19 A. Operating revenue includes revenue received from the
20 sale of utility services and from miscellaneous
21 charges to the customer such as late charges in lieu
22 of disconnection.

23

24

1 Q. Were there any adjustments to the 1990 per book
2 operating revenues?

3 A. Yes. Since a price index adjustment was implemented
4 in October, 1990, an adjustment was made to
5 annualize revenues at the indexed rates. Also,
6 miscellaneous utility and other revenues had been
7 booked as nonutility revenues. An adjustment was
8 made to reclassify those as utility revenues.

9
10 Q. What is the basis for revenue projections for the
11 projected test year ending June 30, 1992?

12 A. Revenues were projected at present rates applied to
13 the projected number of customers and gallons sold.
14 The calculation of the projections of customers and
15 gallons sold are found at Schedule B-3 O & M Proj
16 Growth Detail and are based on projected lot sales,
17 the recent trend of customer hookups to lot sales,
18 the planned completion of condominium buildings and
19 the trend in condo occupancy and water usage.

20
21 All adjustments to operating revenues are summarized
22 at Schedule B-3. The calculation of annualized
23 revenues at indexed rates is shown at Schedule E-2.
24 The calculation of projected revenues at existing
25 rates is shown at Schedule E-4.

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After all adjustments, the projected test year water revenue without a rate increase is \$201,060 and the wastewater revenue is \$115,670.

OPERATING REVENUE DEDUCTIONS

Q. What is included in operating revenue deductions?

A. Operating revenue deductions include operation and maintenance expenses, depreciation and amortization expenses and all tax expenses.

Q. Did you make any adjustments to test year operating and maintenance expenses?

A. Yes. Significant adjustment were made to the historical year operating and maintenance expenses. These adjustments are detailed at Schedule B-3 O & M Detail. Labor and labor related benefits were reduced to reflect portions of labor that should have been capitalized. Similarly, some expenditures for materials and services were reclassified to capital. The water electric and chemical expenses were reduced by 5% to recognize losses during the historic period that are not expected to recur. An adjustment to increase water O & M was also made to recognize a continuing program of membrane

1 replacement at the reverse osmosis treatment plant.

2

3 After the base year O & M expenses had been adjusted
4 to reflect normal operations, the expenses for 1991
5 and 1992 were adjusted for projected growth in
6 gallons treated and for inflation. Schedule B-3
7 O & M Proj Growth Detail summarizes the basis for
8 adjustments to the various accounts to project 1991
9 and 1992 expenses. Schedules A-4 and A-5 detail O&M
10 expenses by month. Schedules B-1 and B-2 summarize
11 the resulting levels of O&M as they impact the
12 operating statement.

13

14 Q. Did you adjust operating expenses for the projected
15 test year to recover the cost of this rate case
16 application?

17 A. Yes. I have estimated the cost of this application
18 to be \$91,800 to complete it through the hearing and
19 post hearing process. Schedule B-7 details the rate
20 case expense components. In addition, I have
21 included the unamortized rate case expense of
22 \$68,374 from Docket No. 891114-WS to be recovered
23 with the expense from this case. Rate case expense
24 is to amortized over four years at the annual rate
25 of \$20,022 each for water and wastewater.

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Q. Do you consider \$91,800 to be a high cost for preparing a rate case application?

A. On a relative basis the cost is not high. The annual amortization expense is about three percent of the requested increase for this utility. Even when the unamortized expense from the previous filing is included, it is only 5.4% of the requested increase. This expense reflects the large amount of time required to meet this Commission's new filing requirements and the discovery demands of the Commission and intervenors. The cost of preparing, presenting and defending a rate application is not proportional to the size of the request or the size of the utility. The work necessary to prepare the new MFR's, to evaluate used and useful, and to prepare testimony and positions must be done regardless of the size of the increase requested or the size of the utility.

Q. Why have you included for recovery, the expense from Docket No. 891114-WS?

A. Docket No. 891114-WS was dismissed and the rate case costs were never recovered. That case was to be, as this case now will be, the first time that the

1 Commission will establish rate base and rate of
2 return. A substantial portion of the work done to
3 support original cost and CIAC collections was used
4 in preparing for this filing. In addition,
5 information relied on by the Commission to dismiss
6 the filing - as it related to significant changes
7 to the MFR's that were unknown to the staff - was
8 incorrect and should not be a basis for denying the
9 utility the opportunity to recover its costs.

10

11 Q. Are you aware of the recent creation of Chapter
12 367.0815 Florida Statutes wherein rate case expenses
13 are to be apportioned relative to the approved
14 increase versus the requested increase?

15 A. Yes, I am. And although I realize the Commission
16 is bound by the statute, I believe the unfairness
17 of the statute warrants further comment for the
18 record. First, the statute is discriminatory on its
19 face, as it applies only to water and sewer
20 utilities and only to those regulated by this
21 Commission. Second, as previously pointed out,
22 there is no correlation between the cost of the case
23 and the size of the increase. Third, an application
24 for a rate increase is by its very nature an
25 adversarial proceeding. I cannot imagine a

1 situation in which the Commission would accept every
2 argument and every number prepared by a utility
3 without at least one adjustment that would result
4 in allowed revenues being less than requested
5 revenues. Therefore, as a practical matter, this
6 statute effectively prohibits a utility from ever
7 being able to recover all of its rate case expense,
8 no matter how prudently incurred.

9

10 **Q. What adjustments were made to depreciation expenses,**
11 **net of CIAC amortization?**

12 **A. The primary adjustments are to reflect the increase**
13 **in depreciation expense associated with increases**
14 **in additions to plant, increases in the depreciation**
15 **rate and CIAC amortization rate associated with**
16 **changing to PSC guideline rates and reductions in**
17 **depreciation expense associated with non-used plant**
18 **adjustments. Depreciation expense calculations are**
19 **shown on Schedules B-10, and B-11. The results are**
20 **summarized on Schedules B-1, B-2 and B-3.**

21

22 **Q. Are there any adjustments to Property Taxes?**

23 **A. Yes. Book taxes were adjusted to reflect actual**
24 **taxes paid in the base year and the allocation of**
25 **used and useful water and wastewater plant in that**

1 year. Property taxes were then projected to change
2 proportional to the increase in the estimated
3 assessed value. Property taxes were not adjusted
4 to reflect estimated changes in the tax rate. The
5 calculation of the tax increase factor is shown on
6 Schedule B-12, page 3. Property taxes were then
7 adjusted for used and useful based on the ratio of
8 non-used plant to net plant from Schedules A-1 and
9 A-2. The adjustments to property taxes are detailed
10 on Schedule B-12 and summarized on Schedules B-1,
11 B-2 and B-3.

12

13 Q. What adjustments were made to payroll taxes?

14 A. In the 1990 base year, payroll taxes had been
15 improperly classified as an O & M expense. After
16 reclassifying these taxes, payroll taxes were
17 adjusted to change in proportion to the projected
18 change in payroll for 1991 and 1992. The
19 adjustments to payroll taxes appear on Schedule B-
20 12 and are summarized on Schedules B-1, B-2 and B-3.

21

22 Q. What adjustments were made to the gross receipts tax
23 (regulatory assessment fees, RAF's)?

24 A. The RAF was calculated at the rate of 4.5% of
25 operating revenue and adjusted for the increase in

1 operating revenue associated with projected customer
2 growth and usage. The detail is shown on Schedule
3 B-12 and the results are summarized on Schedules
4 B-1, B-2 and B-3.

5

6 Q. What adjustments were made to income taxes?

7 A. For the base, intermediate and projected test year,
8 income taxes are calculated on the stand alone
9 taxable operating income using the marginal
10 corporate rate of 37.63%. In addition, the current
11 tax liability includes the ratable tax on CIAC in
12 the current year, if the utility has taxable income
13 for that year (before the rate increase). The tax
14 calculations are shown on Schedule B-3 Tax Detail,
15 page 1, 2 and 3.

16

17 CAPITAL STRUCTURE

18 Q. What capital structure did you use for the utility?

19 A. Since all funding for SPUC originates from the
20 parent, Mobil Corporation, I used the parent debt-
21 equity relationship plus the utility's own deferred
22 tax credit balance. The utility does not hold any
23 customer deposits. Mobil's equity ratio for
24 calendar year 1989, the last period for which public
25 information is available, is 67.71%.

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The capital structure used for the utility as reconciled to the consolidated parent is shown at Schedules D-1 and D-2. The deferred tax balance for SPUC has been adjusted to reflect a sizable credit inadvertently not booked by Mobil's tax department. That correction is being made in this tax year. The correcting calculation is found at Schedule C-6 Detail, as are the estimates of tax credits associated with plant additions through the test year. As a result of these corrections and adjustments, deferred tax credits increase from about 10% to 16% of total utility capitalization.

Q. Was the PSC's current leverage formula used to set the cost of equity?

A. Yes. The leverage formula used is that authorized in PSC Order No. 23318, issued August 7, 1990.

Q. What is the rate of return which the utility should be allowed to earn?

A. The rate of return which the utility should be allowed to earn for its 1992 projected test year is 12.14% on equity and 9.87% on rate base.

1 **REVENUE REQUIREMENT**

2 **Q. What is the revenue requirement necessary to recover**
3 **the utility's cost of service, including related**
4 **income taxes and a 9.87% return on rate base?**

5 **A. The revenue requirement is \$572,814 for the water**
6 **system and \$477,580 as shown on Schedules B-1 and**
7 **B-2. The revenue requirement and the related**
8 **income taxes for the projected test year are**
9 **calculated on Schedule B-3 Tax Detail, page 4.**

10

11

12 **RATES AND RATE STRUCTURE**

13 **Q. What rates are proposed to produce the revenues**
14 **required to produce a 9.87% rate of return on rate**
15 **base?**

16 **A. The rates proposed are summarized on Schedule E-1.**

17

18 **Q Have you proposed any change in rate structure?**

19 **A. No. The present rate structure includes a base**
20 **facilities charge, a gallonage charge and a 10,000**
21 **gallon cap on residential wastewater charges as**
22 **recommended by the Commission. The requested rates**
23 **maintain that same rate structure. The portions of**
24 **costs to be recovered by the base facility charge**

1 and the gallonage charge were determined using a
2 recent Commission staff allocation methodology.

3

4 **SERVICE AVAILABILITY CHARGES**

5 Q. Are you proposing any changes to the service
6 availability charges?

7 A. No changes to the service availability charges are
8 being requested at this time.

9

10 Q. Does that conclude your prefiled direct testimony?

11 A. Yes it does.

12

1 **TESTIMONY OF WILLIAM D. REESE. P.E.**
2 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**
3 **REGARDING THE APPLICATION FOR INCREASED RATES FOR**
4 **SAILFISH POINT UTILITY CORPORATION**
5 **DOCKET NO. 900816-WS**

- 6
- 7 **Q. Please state your name and address.**
- 8 **A. My name is William D. Reese. My business address**
9 **is 3003 S. Congress Avenue, Suite 1E, Palm Springs,**
10 **Florida 33461.**
- 11
- 12 **Q. What is your profession and by whom are you**
13 **employed?**
- 14 **I am a Professional Engineer, Florida Registration**
15 **No. 30882. I am President and Principal with Reese,**
16 **Macon and Associates, Inc., Consulting Engineers.**
- 17
- 18 **Q. Please summarize your education and experience.**
- 19 **A. I have a Bachelor of Science Degree in Civil**
20 **Engineering and a Master of Science Degree from the**
21 **Ohio State University. These were obtained in 1972**
22 **and 1977, respectively. From 1973 - 1977 I worked**
23 **for the Ohio Environmental Protection Agency where**
24 **I was in charge of the drinking water program in one**

1 of the Districts. From 1977 - 1980 I was a Senior
2 Engineer in the Concept Design and Operations Group
3 with Betz, Converse, Murdoch, Inc. in Philadelphia,
4 PA. From 1980 - 1986 I was in the water and
5 wastewater department with Gee and Jenson of West
6 Palm Beach, FL. The last two years of that period
7 I was the Department Manager. From 1986 - present
8 I have been with Reese, Macon and Associates, Inc.
9 The focus of my working experience has been water
10 and wastewater.

11
12 Q. Have you or your firm provided engineering services
13 to the Applicant, Sailfish Point Utility
14 Corporation?

15 A. Yes. I first became involved with Sailfish Point
16 in approximately 1981 to help resolve a corrosive
17 water problem. Since that time I have worked on a
18 wide variety of projects and problems associated
19 principally with the water and wastewater plants.

20
21 Q. Are you familiar with the existing water and
22 wastewater facilities at Sailfish Point and also
23 with the plans for expanding those facilities?

24 A. Yes, I am.

25

1 Q. On whose behalf are you appearing in this proceeding
2 and for what purpose?

3 A. I am appearing on behalf of the Applicant for the
4 purpose of describing the water and wastewater
5 treatment systems at Sailfish Point and to explain
6 some of the specific environmental problems faced
7 by the utility because of the location of its
8 service area and its impact on the cost of providing
9 service. I will also address the plans to increase
10 the treatment capacity of the water and wastewater
11 plants.

12
13 Q. Please describe the location of the service area.

14 A. The service area is located on the end of an island
15 between the Atlantic Ocean and the Indian River.
16 It is considered to be in an environmentally
17 sensitive area with little or no water available for
18 conventional water treatment. Portions of the site
19 are surrounded by Class II shellfish harvesting
20 waters. Reverse osmosis (R/O) reject disposal has
21 been a particular disposal problem. Also, rules for
22 Wastewater Treatment Plant (WWTP) requirements have
23 recently become much stricter with regard to plant
24 equipment and tankage redundancy.

25

1 Q. Please describe the water supply and treatment
2 arrangement.

3 A. The plant is supplied by two wells. The wells are
4 approximately 1000 feet deep and provide water which
5 exceeds DER standards for many dissolved mineral
6 elements. A third well is currently available for
7 standby, but its water quality is extremely poor.
8 The well water is treated using a reverse osmosis
9 process. The R/O facility is currently rated at
10 250,000 GPD capacity. R/O is the most common method
11 for treating this type of water in Florida. R/O is
12 a relatively new technology. When this plant was
13 originally constructed the hollow fine fiber
14 membrane design was state of the art. Today the
15 spiral wound membrane configuration is virtually the
16 only style available. Since membranes have a
17 limited life expectancy it has been necessary to
18 commence membrane change out using spiral wound
19 membranes. This has caused the need for
20 reconfiguring the plant internal piping. To reduce
21 costs, the membranes are being changed out in
22 phases. The modification for the second stage has
23 been completed. The modification for the first
24 stage is planned for 1992. It is noted this change
25 is required at this time to maintain compliance with

1 DER standards on Total Dissolved Solids (TDS). The
2 initial design was sufficiently conservative to
3 allow sufficient building space to permit this
4 change out without structural modifications or
5 expansion. The reject stream from the process
6 initially was directed to the Intracoastal. It now
7 goes to the storm drainage system.

8
9 Q. Have you made any efforts to minimize disposal cost?

10 A. Yes. We had rather protracted negotiations with DER
11 regarding regulatory interpretations and treatment
12 requirements concerning the R/O reject. Without
13 getting too technical, their position has been that
14 the reject requires treatment for hydrogen sulfide
15 removal due to acute toxicity concerns. Our
16 position, after extensive research and testing was
17 that the problem could be resolved with nominal
18 treatment. DER ultimately agreed with our approach
19 but continues to typically require hydrogen sulfide
20 removal for other entities.

21
22 Q. Are there any recurring costs associated with the
23 R/O system and maintenance of membranes?

24 A. Normal membrane life is 3-5 years. The initial
25 membranes at SPUC had exceptional performance, with

1 some lasting ten years. We have recommended cycled
2 replacement of two vessels (12 membranes) about
3 every two years. The estimated annual cost is
4 approximately \$ 25,000 a year. A regular changeout
5 program will help to maintain a high level of
6 treatment efficiency and water quality.

7

8 Q. Have there been any problems with water quality?

9 A. Yes. R/O product water has corrosive tendencies
10 due to the low solids and nature of the
11 constituents. The corrosive nature was causing
12 deterioration of any metallic piping and the water
13 quality deteriorated from the corrosion byproducts.
14 This is a problem that the R/O industry had not
15 addressed effectively in the past. We have
16 recommended and installed, a low operational cost
17 passive system to introduce calcium into the water
18 and reduce corrosive tendencies (a calcite
19 contactor). It should be noted that if the raw
20 water quality permitted, the corrosiveness could be
21 reduced by simply blending untreated water with R/O
22 product. The high raw water chloride concentration
23 prevents effective blending without exceeding the
24 chloride and/or TDS standard.

25

1 Q. Is this unusual with an R/O system?

2 A. The aggressive nature of product water is not
3 unusual. In fact there is great interest in the use
4 of the calcite contactor concept on other similar
5 plants as a cost effective corrosion control method.
6

7 Q. Is the water treatment and storage adequate?

8 A. At present, the water quality satisfies all
9 applicable standards however, based on projected
10 growth, the plant needs to be expanded in 1992. An
11 additional 100,000 GPD of treatment capacity is
12 being planned. This expansion, in conjunction with
13 the existing storage capacity, will be sufficient
14 to meet the needs of Sailfish Point at buildout.
15 The storage capacity satisfies DER requirements and
16 is reasonable for fire protection requirements.
17

18 Q. Please describe the wastewater treatment system.

19 A. The wastewater treatment facility consists of a
20 conventional extended aeration treatment process and
21 filtration using precast concrete tankage. Treated
22 effluent is stored in a storage reservoir and
23 ultimately sprayed on the golf course. The existing
24 plant was built with a single 125,000 GPD aeration
25 basin. Although the plant has been allowed to

1 operate under a construction permit, it has never
2 received an operating permit.

3

4 Q. Why was an operating permit never issued?

5 A. There has been some disagreement with DER regarding
6 the golf course spray irrigation and the
7 interpretation of the back-up requirements in the
8 case of a plant upset. In addition, the regulatory
9 requirements for equipment redundancy changed
10 significantly after the design for the plant was
11 initially approved.

12

13 Q. Have these areas of disagreement been resolved?

14 A. Yes. They have. As a result of extensive
15 negotiations, DER will extend the construction
16 permit rather than issuing an operating permit for
17 the plant as it stands; the utility will implement
18 the modifications necessary to meet DER
19 requirements; and as a result of these
20 modifications, the plant will be rerated to
21 250,000 GPD.

22

23 Q. Is it an economical choice to modify the plant in
24 such a way that its capacity is doubled?

25 A. Yes. During the negotiations, it became evident

1 that much of the cost to meet DER requirements was
2 associated with providing equipment redundancy. To
3 meet the redundancy criteria, DER could have
4 required dual chlorine contact basins, dual
5 clarifiers, a separate off line storage tank for
6 process upset containment and, somehow, the
7 subdividing of the existing 125,000 GPD aeration
8 basin. Through negotiations, DER agreed they would
9 issue a construction permit leading to an operating
10 permit if, instead of the above, the utility would
11 construct another 125,000 GPD aeration basin,
12 related filters and an on line process
13 instrumentation and monitoring system. The cost of
14 this negotiated approach is approximately the same,
15 and in addition, the plant will be rerated at
16 250,000 GPD. Since it will be necessary to expand
17 the plant anyway, this approach takes care of both
18 problems. Most importantly, the chosen approach
19 meets all of DER's objectives for this plant.

- 20
- 21 Q. I understand that the effluent holding tank is below
22 ground level, so as to blend in with the surrounding
23 area. Does this result in any advantages or
24 disadvantages to the utility ?
- 25 A. It should be noted that this tank is technically

1 below ground surface but is not below natural grade.
2 In essence, earth has been mounded up over the tank.
3 This is significant because it eliminates the higher
4 costs normally associated with below grade
5 construction in Florida, namely, high ground water
6 and associated design to prevent buoyancy and uplift
7 forces. The only real extra cost of this approach
8 was the relatively nominal earthwork which is
9 significantly offset by savings on painting.

10

11 Q. Did you take part in the determination of used and
12 useful for this rate case filing?

13 A. Yes I did, although I did not perform the
14 calculations. I provided Mr. Seidman with my
15 opinions as to the adequacy and usefulness of the
16 water and wastewater treatment facilities, the need
17 for and timing for expansion, and the economics of
18 the choice available. He then performed the used
19 and useful calculations in the format familiar to
20 this Commission.

21

22 Q. Have you reviewed those calculations and do you
23 agree with the results?

24 A. Yes. I believe they are a reasonable representation
25 of the usefulness of the treatment and related

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facilities.

Q. Does that conclude your testimony?

A. Yes it does.