

**ORIGINAL  
FILE COPY**

**DIRECT TESTIMONY OF TED L. BIDDY, P.E. / P.L.S.  
BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION  
ON BEHALF OF THE  
CITIZENS OF THE STATE OF FLORIDA  
DOCKET NO. 951056-WS**

DOCUMENT NUMBER-DATE  
05628 MAY 21 8  
PRODUCED BY REPORTING

**DIRECT TESTIMONY OF TED L. BIDDY, P.E. / P.L.S.**  
**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**  
**ON BEHALF OF THE**  
**CITIZENS OF THE STATE OF FLORIDA**  
**DOCKET NO. 951056-WS**

1 Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?

2 A. My name is Ted L. Bidy. My business address is Baskerville-Donovan, Inc.  
3 (BDI), 2878 Remington Green Circle, Tallahassee, Florida 32308.

4 Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?

5 A. I am Vice-President of Baskerville-Donovan, Inc. and Regional Manager of the  
6 Tallahassee Office.

7 Q. WHAT IS YOUR EDUCATIONAL BACKGROUND AND WORK  
8 EXPERIENCE?

9 A. I graduated from the Georgia Institute of Technology with a B.S. degree in Civil  
10 Engineering in 1963. I am a registered professional engineer and land surveyor in  
11 Florida, Georgia and Mississippi and several other states. Before joining BDI in  
12 1991, I had operated my own civil engineering firm for 21 years. My areas of  
13 expertise include civil engineering, structural engineering, sanitary engineering,  
14 soils and foundation engineering and precise surveying. During my career, I have  
15 designed and supervised the master planning, design and construction of thousands  
16 of residential, commercial and industrial properties. My work has included: water  
17 and wastewater design; roadway design; parking lot design; stormwater facilities  
18 design; structural design; land surveys; and environmental permitting.

19 I have served as principal and chief designer for numerous utility projects.  
20 Among my major water and wastewater facilities designs have been a 2,000 acre  
21 development in Lake County, FL; a 1,200 acre development in Ocean Springs, MS;  
22 a 4 mile water distribution system for Talquin Electric Cooperative, Inc. and a 320

1 lot subdivision in Leon County, FL.

2 **Q. WHAT ARE YOUR PROFESSIONAL AFFILIATIONS?**

3 A. I am a member of the Florida Engineering Society, National Society of Professional  
4 Engineers, and Florida Society of Professional Land Surveyors.

5 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE A STATE OR FEDERAL  
6 COURT AS AN ENGINEERING EXPERT WITNESS?**

7 A. Yes, I have had numerous court appearances as an expert witness for cases  
8 involving roadways, utilities, drainage, stormwater, water and wastewater facilities  
9 designs.

10 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC SERVICE  
11 COMMISSION (FPSC) FOR USED AND USEFUL ANALYSIS AND  
12 OTHER ENGINEERING ISSUES?**

13 A. Yes, I have testified before the FPSC for Docket No. 950495-WS on engineering  
14 issues and used and useful analysis.

15 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

16 A. The purpose of my testimony is to provide comments on methods of used and  
17 useful analysis used by Palm Coast Utility Corporation (PCUC) for this rate  
18 increase filing. A summary of my used and useful methodology is included as  
19 Exhibit TLB-1.

20 **Q. DID YOU PREPARE OR SUPERVISE THE PREPARATION OF THE  
21 EXHIBITS YOU ARE SPONSORING FOR THIS PROCEEDING?**

22 A. Yes, I did.

1 Q. DO YOU AGREE WITH THE MARGIN RESERVE PROPOSED BY PCUC  
2 FOR USED AND USEFUL CALCULATIONS?

3 A. No, I do not think the margin reserve requested by PCUC in this rate filing is  
4 appropriate. While it may be appropriate for a utility to have reserve capacity to  
5 accommodate demands placed upon the system because of growth, it is not  
6 appropriate to make current customers pay for this reserve capacity in a margin  
7 reserve. It is more appropriate to collect these costs from the cost causers, namely  
8 the future customers. Funds to support prudently constructed reserve capacity  
9 should be collected from future customers in the form of contribution-in-aid-of-  
10 construction (CIAC), paid by customers upon connection, or prepaid, in the form  
11 of plant capacity charges, connection charges for distribution and collection mains,  
12 advances for construction collected from developers and distribution and collection  
13 lines contributed by developers. Even the carrying charges for plant which is not  
14 needed to serve current customers may be paid for by the utility receiving  
15 guaranteed revenues from future customers, which is being done in the instant case.  
16 The Commission also permits utilities to collect an allowance for funds prudently  
17 invested (AFPI) which also reimburses the utility for the carrying charges for  
18 nonused and useful plant. Collection of these contributions and prepaid fees from  
19 future customers should render a margin reserve allowance, paid by current  
20 customers, to be unnecessary.

21 Under Florida conditions of economy and tightening environmental  
22 regulation, increasing water costs and water conservation concern, it is reasonable

1 to believe that the water consumption and wastewater generation of existing  
2 customers will not increase. Therefore, the margin reserve requested by PCUC is  
3 solely for new customers. If the PSC allows margin reserve in the used and useful  
4 calculations, then it will penalize existing customers by burdening them to pay extra  
5 cost for new customers. Allowing margin reserve will further increase water and  
6 wastewater rates to existing customers. High utility rates reduce the financial  
7 ability for customers and that will hinder future development. Therefore, the PSC  
8 should eliminate margin reserve allowance in used and useful analysis. The utility  
9 should recover the costs of plant addition from new customers or developers  
10 through other measures.

11 **Q. DO YOU HAVE ANY COMMENTS ON THE FIRE FLOW**  
12 **REQUIREMENT PCUC APPLIED IN ITS USED AND USEFUL**  
13 **CALCULATIONS?**

14 A. Fire flow capacity should be included in the used and useful calculation only if fire  
15 flow provision is proven by sufficient records or supporting documents. PCUC did  
16 not provide this information in the original filing of the MFRs.

17 Many components of a water distribution system dictate the delivery of fire  
18 flow. They include high service pumps, distribution storage tanks and water mains.  
19 Because of economic concerns, for many systems fire flows are provided partially  
20 by high service pumps and partially by storage. It is not cost effective to use source  
21 of supply and treatment plant to meet instantaneous demands, such as peak hourly  
22 flows and fire flows. For this reason, I have not included a fire flow provision in

1 my used and useful calculations for source of supply or water treatment plant.

2 PCUC currently has a total of 4.15 million gallons for storage which seems  
3 adequate for fire flow and peak hour demands. Therefore, I have included fire flow  
4 in my used and useful calculations for water storage. However, OPC has requested  
5 PCUC to provide the fire flow test information to further confirm the fire flow  
6 provision. Revised used and useful calculations will be submitted if PCUC does  
7 not provide adequate information.

8 **Q. DO YOU HAVE ANY COMMENTS ABOUT THE LEVEL OF**  
9 **UNACCOUNTED FOR WATER PRESENTED BY PCUC IN THE MFRS?**

10 A. To encourage efficiency, PSC should allow no more than 10% unaccounted for  
11 water. PCUC projected a 4.68% unaccounted for water in its Schedule F-1 of  
12 MFRs. However, an unusual negative (-8.21%) unaccounted for water existed in  
13 January 1995. PCUC should justify the causes of such a negative percentage of  
14 unaccounted for water. Adjustments may be necessary depending upon PCUC's  
15 responses to pending discovery.

16 **Q. DO YOU RECOMMEND THAT A SINGLE MAXIMUM DAY FLOW**  
17 **SHOULD BE USED IN USED AND USEFUL CALCULATIONS?**

18 A. No, the single maximum day flow should not be used in used and useful  
19 calculations in this filing. The single maximum day flow may include undetected  
20 or unrecorded leaks, flushing and unusual usage, in addition to the PSC allowed  
21 unaccounted for water. Normally, a water main leaks for days before detection and  
22 that amount of water loss is hard to keep track of. Main breaks and line flushing

1 have similar situations because good records are hard to keep. Therefore, an  
2 average of the five highest maximum daily flows in the maximum month is  
3 justified and should be used for all used and useful calculations for water facilities.  
4 This has been the policy historically used by the Commission.

5 **Q. DO YOU HAVE ANY COMMENTS ON THE USED AND USEFUL**  
6 **CALCULATIONS PREPARED BY PCUC FOR WATER SUPPLY WELLS?**

7 A. Besides the margin reserve, I disagree with the inclusion of fire flow in supply  
8 wells used and useful calculations. As stated before it is not appropriate to meet  
9 instantaneous demands from water supply, especially when adequate storage exists  
10 to meet such demands. Therefore, it is inappropriate to include fire flow allowance  
11 in the supply wells used and useful calculations.

12 PCUC used called "firm reliable capacity" in calculating the used and useful  
13 percentages for water supply wells. The firm reliable capacity excludes the largest  
14 well capacity by assuming it to be out of service. When there are more than ten  
15 wells, the largest two wells are assumed to be out of service. The combined  
16 capacity of the remaining supply wells is the "firm reliable capacity."

17 However, when storage or high service pumping facilities are available, the  
18 "firm reliable capacity" method is not applicable. According to Section 3.2.1.1  
19 Source capacity of *Recommended Standards For Water Works*:

20 "The total developed groundwater source capacity shall equal or exceed the  
21 design maximum day demand and equal or exceed the design average day  
22 demand with the largest producing well out of service."



1           This design criteria should be used to calculate used and useful percentage  
2           for supply wells. For the above reason, the "firm reliable capacity" method should  
3           not be applied to supply wells where the water system is also equipped with storage  
4           and high service pumping facilities. Adjustments have been made according to the  
5           above principles in Exhibit TLB-2.

6   **Q.   DO YOU HAVE ANY COMMENTS REGARDING USED AND USEFUL**  
7   **CALCULATIONS OF THE FINISHED WATER STORAGE?**

8   A.   In the MFRs, Exhibit JFG-1, Table D, PCUC used 50% of the maximum daily flow  
9           (MDF) as equalization and emergency storage. However, I believe a half (50%) of  
10          the average daily flow (ADF) is adequate for equalization and emergency storage.  
11          This allowance is more than adequate for equalization (peak hour demand) storage,  
12          compared with the 20 to 25% ADF mentioned in the AWWA M32. The excess  
13          storage can be used as a provision for emergency storage. The one day ADF  
14          storage criteria used in "10 States Standards" was reduced to one half day because  
15          MDF design is used for supply wells and treatment plant. With this provision for  
16          excess storage, I do not believe it is justified to add more allowance for emergency  
17          storage.

18                 PCUC requested ten percent (10%) of the total finished water storage as  
19                 "retention storage" because that portion of storage is unusable. These concerns are  
20                 not true for all storage facilities, especially for elevated tanks. For ground storage  
21                 facilities, as-built drawings should be able to reveal the minimum operating level.  
22                 It is not justified to assume 10% of the storage capacity is retention storage for

1 every single storage tank. PCUC provides no supporting explanation to justify 10%  
2 retention storage allowance for each storage tank. Retention storage is not  
3 applicable to elevated storage tanks.

4 When designing storage tanks and high service pumps, engineers have to  
5 check the available net positive suction head (NPSH) and ensure that it is greater  
6 than the net required positive suction head to avoid cavitation problems. Therefore,  
7 the vortex situation is rare because high service pumps are always placed at a low  
8 grade to obtain the maximum NPSH. Full storage tank capacity was applied in my  
9 used and useful calculations, per Exhibit TLB-1 and Exhibit TLB-2.

10 **Q. DO YOU AGREE WITH THE 100% USED AND USEFUL REQUEST FOR**  
11 **FACILITY LANDS?**

12 A. No, PSC should not automatically grant 100% used and useful on facility lands.  
13 Every system has different sizes of facilities and lands. The current demands and  
14 available facilities are also unique between systems. These factors all dictate the  
15 facility usage. Therefore, a used and useful assessment is necessary for every  
16 facility land because all facility lands are part of the system. Facility lands are  
17 designed and used to serve the whole system, including new and existing  
18 customers. The higher the existing demand, the higher the used and useful  
19 percentage. Therefore, the used and useful percentages of facility lands should be  
20 the same as the specific facility on it. Adjustments were made in my used and  
21 useful calculations as shown in Exhibits TLB-2 and TLB-3.

22 **Q. DO YOU HAVE ANY COMMENTS ON THE USED AND USEFUL**

1           **PERCENTAGES FOR WATER TRANSMISSION AND DISTRIBUTION**  
2           **FACILITIES REQUESTED BY PCUC?**

3       A.     The used and useful analysis for a water transmission and distribution system is not  
4           a flow measurement or flow projection technique. Therefore, it is inappropriate to  
5           use fire flow allowance in the used and useful calculation. Used and useful analysis  
6           is about allocating construction costs fairly to both existing and future customers.  
7           Normally engineers design the water transmission and distribution system with fire  
8           flow delivering capability. Therefore, the cost of laying water mains also includes  
9           the cost for fire flow provision. However, the fire flow provision is for all existing  
10          and future customers. The used and useful calculations proposed by PCUC shifts  
11          more cost burden to existing customers, especially in new or sparsely developed  
12          areas. By using a fire flow allowance factor, PCUC added an extra 33.1% to the  
13          used and useful percentages of water distribution mains and off-site mains.

14                 On the other hand, the "lot count" method allocates the water main costs  
15                 evenly to all customers, after engineers have properly designed the whole system.  
16                 The lot count method assigns a fair share of the total construction cost to every  
17                 customer. The lot count method does not fail to recognize water main cost to  
18                 accommodate fire flow and looped lines, because it allocates the total cost through  
19                 used and useful percentages. Existing customers do not get a free ride because the  
20                 construction costs of fire flow accommodation and looped lines are included in the  
21                 total cost.

22                 Water transmission and distribution systems are designed for all existing

1 and future customers. The lot count method gives an equal cost share to all  
2 customers. Therefore, the lot count method will not discourage future  
3 development, as opposed to the method proposed by PCUC, which will probably  
4 discourage future development. However, in some instances the lot count method  
5 still favors future customers. If there is no future development, engineers would  
6 design a smaller size system for existing customers. However, most of the time  
7 water transmission and distribution mains are oversized for existing systems to  
8 accommodate future phases of development.

9 When lots located in future phases of a development are not connected to  
10 existing water mains, those lots are not included in the lot count method so as to  
11 reduce the used and useful calculation for existing customers. To the extend  
12 existing mains can serve those unconnected future lots, existing customers will  
13 support more than their share of the cost for the existing oversized mains.  
14 Therefore, existing customers in these instances are carrying extra costs for laying  
15 larger sizes of water mains that ultimately will be connected to serve future  
16 development. Under those conditions, existing customers pay more than their fair  
17 share. PCUC should recover the cost of unused water mains by collecting  
18 contributions from new customers and AFPI and guaranteed revenues to cover the  
19 carrying costs of nonused and useful utility plant.

20 In addition, fire hydrants are part of the distribution system and there is no  
21 need to perform a separate used and useful analysis. Appropriate used and useful  
22 adjustments have been made in the Exhibit TLB-2.

1 Q. DO YOU HAVE ANY COMMENTS REGARDING THE USED AND  
2 USEFUL PERCENTAGES REQUESTED BY PCUC FOR THE  
3 WASTEWATER COLLECTION SYSTEM?

4 A. The lot count method should also be used to determine the used and useful  
5 percentage for the wastewater collection system. This method should be used  
6 because the overall collection system is designed for existing and future customers.  
7 Lot count provides an equal share for all customers, so that existing customers will  
8 not subsidize future customers. It is inappropriate and unnecessary to break down  
9 the collection system used and useful into gravity main, pretreatment effluent  
10 pumping (PEP) main, PEP tanks, force main, and service lines as PCUC has  
11 proposed.

12 Q. SHOULD GALLONS OF WASTEWATER TREATED EXCLUDE EXCESS  
13 INFLOW AND INFILTRATION IN ENGINEERING SCHEDULE F-2(S)?

14 A. Yes. For used and useful analysis, the amount of wastewater treated should not  
15 include any excessive inflow and infiltration. Engineering Schedules F-2(S) filed  
16 by PCUC did not show the inflow and infiltration condition of its wastewater  
17 collection system. The inflow/infiltration information should be presented to show  
18 the conditions of collection system. It is inappropriate to add an inflow and  
19 infiltration allowance in the used and useful calculation for wastewater systems.

20 Many guideline criteria are available and can be used for infiltration  
21 allowance on gravity sewers. In the *Recommended Standards for Wastewater*

1           *Facilities*, 200 gallons per inch of pipe diameter per mile per day is the  
2 recommended guideline and that criteria is generally used by the Florida  
3 Department of Environmental Protection (FDEP) staff.

4           Any excessive inflow and infiltration should be excluded from the amount  
5 of wastewater treated. Currently no excess inflow and infiltration was determined  
6 in my used and useful analysis. However, OPC is requesting more information to  
7 confirm there is no excess inflow and infiltration in the wastewater collection  
8 system. Future adjustments may be necessary pending the results of further  
9 discovery.

10 **Q.   WHAT IS THE CAPACITY OF EFFLUENT DISPOSAL/REUSE**  
11 **FACILITIES OF PCUC?**

12 A.   According to FDEP permit No. DC18-244706, modified on February 16, 1995,  
13 PCUC has a total of 4.2 million gallons per day (MGD) effluent disposal and reuse  
14 capacity. Therefore, this capacity was used in my used and useful calculation in  
15 Exhibit TLB-3.

16 **Q.   DO YOU AGREE WITH PCUC THAT 20% OF THE FACILITY COST**  
17 **SHOULD BE INCLUDED IN RATE BASE REGARDLESS OF EXISTING**  
18 **DEMANDS?**

19 A.   No. Every customer should pay his or her fair share for the overall facility cost.  
20 PSC should not allow PCUC's request to include 20% of the cost in rate base  
21 without regard to current demands.

1 Q. DID YOU PREPARE ANY USED AND USEFUL CALCULATIONS IN THIS  
2 TESTIMONY?

3 A. Yes, I have calculated the used and useful percentages for all water and wastewater  
4 systems, according to my positions on the above issues. However, some  
5 information was not provided by PCUC, and I had to make many assumptions in  
6 the calculations. For example, fire flow provision was included without  
7 confirmation. All numbers filed by PCUC were used, and assumed to be genuine  
8 and correct. The calculated used and useful percentages of water and wastewater  
9 systems are presented in Exhibit TLB-2 and Exhibit TLB-3, respectively. A  
10 summary which explains the rationale behind my various used and useful  
11 calculations can be found in Exhibit TLB-1. However, these used and useful  
12 numbers are subject to change pending further responses to discovery.

13 Q. DOES THIS CONCLUDE YOUR PREFILED TESTIMONY?

14 A Yes, that concludes my testimony filed on May 21, 1996.

**EXHIBIT TLB-1**

**KEY AND RATIONALE  
FOR  
OPC USED AND USEFUL CALCULATIONS**



## KEY AND RATIONALE FOR OPC USED AND USEFUL CALCULATIONS

### I. SUPPLY WELL

Used & Useful % = **MDF/Total Capacity** or **ADF/Reliable Capacity**,

Whichever is greater.

Rationale ---- ADF/Reliable Capacity is used because the percentage is greater than MDF/Total Capacity. "10 States Standards" states that "the total developed groundwater source capacity shall equal or exceed the design maximum day demand and equal or exceed the design average day demand with the largest producing well out of service."

- Notes: 1. PHF = Peak Hourly Flow; MDF = Avg. 5 Max Day Flows in Max Month; ADF = Annual Avg. Day Flow; FF = Fire Flow.
2. Water flow shall be adjusted for excess unaccounted for water, if any.
3. No margin reserve was included in OPC's calculations.

### II. WATER TREATMENT PLANT

Used & Useful % = **MDF/Total Capacity**

Rationale ---- It is not cost effective to size water treatment plant to meet instantaneous demands like fire flow and peak hour demands.

### III. FINISHED WATER STORAGE

Used & Useful % = **(1/2 ADF + FF)/Total Capacity**

Rationale ---- AWWA M32 suggests that equalization storage is about 20 to 25 percent of the average day demand. Fire storage shall be included if fire flow is provided. Emergency storage is an owner option.

---- "10 States Standard" requires fire flow storage where fire protection is provided. The minimum storage capacity for systems not

providing fire protection shall be equal to the average daily consumption (ADF). This requirement may be reduced when the source and treatment facilities have sufficient capacity with stand by power to supplement peak demands of the system. Emergency storage is not mentioned in this reference.

- PCUC uses 50% maximum day demand for equalization and emergency storage.
- OPC believes fire storage should be included when and where fire protection is provided.

When the system is furnishing fire flow, a half day ADF storage is appropriate. That volume is more than adequate for peak hour demand storage compared with 20 to 25% ADF mentioned in the AWWA M32. Storage of a half day ADF is also close to PCUC's method. The excess storage can be considered as a provision for emergency storage. The one day ADF storage criteria used in "10 States Standards" was reduced to one half day because MDF design flow is used for supply wells, treatment plant and high service pumps.

No additional emergency storage is included because it is an owner's option. Total capacity is used because PCUC used 10% for retention storage without confirmation. Retention storage is not applicable to elevated storage tanks.

IV. WASTEWATER TREATMENT PLANT

Used & Useful % = **Max. ADF of 3-Month/Total Capacity**

Rationale ---- Though the capacity permitted is annual ADF, OPC agrees to use the maximum ADF of 3-month.

Note: Wastewater flow should be adjusted for excess inflow/infiltration, if any amount is confirmed.

V. EFFLUENT DISPOSAL AND EFFLUENT REUSE FACILITY

Used & Useful % = **Max. ADF of 3-Month/Total Capacity**

Rationale ---- Same as WWTP.

VI. WATER DISTRIBUTION SYSTEM AND WASTEWATER COLLECTION SYSTEM

Used & Useful % = **Lots Connected/Total Lots Available**

Rationale ---- See direct testimony.

**EXHIBIT TLB-2**

**OPC USED AND USEFUL CALCULATIONS  
OF  
WATER SYSTEMS**

**OPC USED AND USEFUL CALCULATIONS**  
**Water Treatment Plant - Schedule F-5 (W)**

Palm Coast

Line Docket No. 951056-WS  
No Schedule F-3  
Company: Southern States Utilities, Inc.  
Schedule Year Ended: 12/31/95  
Historic [x]; Projected [x]

1	1994 MAX DAY FOR YEAR (GPD)	4,890,000
2	1994 AVG MAX 5 DAYS IN MAX MONTH (GPD)	4,346,000
3	1994 ANNUAL AVG DAILY FLOW (GPD)	3,466,123
4	FIRE STORAGE ACCEPTED (GAL.)	600,000
5	FIRE FLOW PROVISION (GPM)	2,000
6	Unaccounted for Water Level (%)	4.68%
7	Unaccounted for Water Allowed (%)	4.68%

8  
9 **SOURCE OF SUPPLY AND PUMPING:**

10	<b>Supply Wells:</b>	
11	Total Capacity (gpm)	10,719,360
12	Reliable Capacity (gpm)	7,768,600
13	OPC Calculated Used & Useful (%)	44.62%
14	PCUC Requested U & U (%)	81.90%
15		
16	<b>Land &amp; Land Rights:</b>	
17	OPC Calculated Used & Useful (%)	44.62%
18	PCUC Requested U & U (%)	100.00%
19		

20 **WATER TREATMENT PLANT:**

21	<b>Water Treatment Equipment:</b>	
22	Total Capacity (gpm)	8,000,000
23	Capacity less 10% plant use (gpm)	7,200,000
24	OPC Calculated Used & Useful (%)	54.33%
25	PCUC Requested U & U (%)	95.20%
26		
27	<b>Land &amp; Land Rights:</b>	
28	OPC Calculated Used & Useful (%)	54.33%
29	PCUC Requested U & U (%)	100.00%
30		

31 **TRANSMISSION AND DISTRIBUTION:**

32	<b>Finished Water Storage:</b>	
33	Total Capacity (gal.)	4,150,000
34	Less Retention Capacity (gal.)	4,150,000
35	OPC Calculated Used & Useful (%)	56.22%
36	PCUC Requested U & U (%)	100.00%
37		
38	<b>Land &amp; Land Rights:</b>	
39	OPC Calculated Used & Useful (%)	56.22%
40	PCUC Requested U & U (%)	100.00%
41		

42 **USED AND USEFUL CALCULATIONS**  
**Water Transmission & Distribution System**

43 **Schedule F-7(W)**  
44 **WATER TRANSMISSION AND DISTRIBUTION SYSTEM:**

45	Connected Lots in 1995 (Total water bills/12)	11,409
46	Total Number of Lots (Exh. JFG-1, Tables E-1 & F)	96,261
47	OPC Calculated Used & Useful (%)	11.85%
48	PCUC Requested U & U (%)	65.90%
49		
50		

**EXHIBIT TLB-3**

**OPC USED AND USEFUL CALCULATIONS  
OF  
WASTEWATER SYSTEMS**

**OPC USED AND USEFUL CALCULATIONS**

**Wastewater Treatment Plant  
Schedule F-6 (S)**

**Palm Coast**

Docket No. 951056-WS  
Company: Southern States Utilities, Inc.  
Schedule Year Ended: 12/31/95  
Historic [x]; Projected [x]

Line

No.

1	PERMITTED PLANT CAPACITY, ANNUAL ADF (GPD)	4,000,000
2	EFFLUENT DISPOSAL CAPACITY, ANNUAL ADF (GPD)	4,200,000
3	MAXIMUM 3-MONTH DEMAND (GPD),(Exh. JFG-1, Table N-1)	2,089,080
4	Less Excess Inflow/Infiltration (GPD)	2,089,080
5	EXCESS Inflow/Infiltration (%)	0.0%
6	EXCESS INFLOW/INFILTRATION (GPD)	0
7		
8	<b><u>TREATMENT PLANT AND EFFLUENT DISPOSAL:</u></b>	
9	<b>Treatment Plant:</b>	
10	OPC Calculated Used & Useful (%)	<b>52.23%</b>
11	PCUC Requested U & U (%)	87.20%
12		
13	<b>Land &amp; Land Rights:</b>	
14	OPC Calculated Used & Useful (%)	<b>52.23%</b>
15	PCUC Requested U & U (%)	100.00%
16		
17	<b>Effluent Disposal/Reuse Facilities:</b>	
18	OPC Calculated Used & Useful (%)	<b>49.74%</b>
19	PCUC Requested U & U (%)	87.20%
20		
21	<b>Land &amp; Land Rights:</b>	
22	OPC Calculated Used & Useful (%)	<b>49.74%</b>
23	PCUC Requested U & U (%)	100.00%
24		
25		
26	<b>USED AND USEFUL CALCULATIONS</b>	
	<b>Wastewater Collection System</b>	
27	<b>Schedule F-7(S) (Exh. JFG-1, Table L)</b>	
28	<b><u>COLLECTION SYSTEM:</u></b>	
29	Connected Lots in 1995 (Sch. E-2, Pg. 2 of 4, Bills/12)	10,206
30	Total Number of Lots (Exh. JFG-1, Tables J & L)	46,438
31	OPC Calculated Used & Useful (%)	<b>21.98%</b>
32	PCUC Requested U & U (%)	59.00%
33		
34	<b><u>COLLECTION SYSTEM PUMPING PLANT:</u></b>	
35	OPC Calculated Used & Useful (%)	<b>21.98%</b>
36	PCUC Requested U & U (%)	57.10%
37		
38	<b>Land &amp; Land Rights:</b>	
39	OPC Calculated Used & Useful (%)	<b>21.98%</b>
40	PCUC Requested U & U (%)	100.00%