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DOCKET 950495-WS
EXHIBIT NO. 67
CASE NO. 96-04227



BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 950495 - WS

APPLICATION FOR A GENERAL RATE INCREASE

VOLUME I
BOOK 13 OF 22

MINIMUM FILING REQUIREMENTS
PREFILED DIRECT TESTIMONY

Containing

GERALD C. HARTMAN, P.E.

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. _____ EXHIBIT NO. _____
COMPANY/
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DIRECT TESTIMONY OF GERALD C. HARTMAN, P.E.
BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
ON BEHALF OF
SOUTHERN STATES UTILITIES, INC.
DOCKET NO. 950495-WS

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

2 A. My name is Gerald C. Hartman. My business address is Hartman &
3 Associates, Inc., Southeast Bank Building, Suite 1000, 201 East Pine
4 Street, Orlando, Florida 32801.

5 Q. COULD YOU BRIEFLY DESCRIBE YOUR EDUCATIONAL
6 BACKGROUND AND YOUR PROFESSIONAL QUALIFICATIONS
7 RELATIVE TO THE WATER AND WASTEWATER INDUSTRY?

8 A. I received my Bachelors of Science degree in Civil Engineering from Duke
9 University in 1975 and my Masters of Science degree in Environmental
10 Engineering in 1976 from Duke University. I have published over thirty
11 papers on water and wastewater utility systems and have been involved in
12 numerous technical training sessions and seminars. I have co-authored one
13 book and my second book concerning water and wastewater systems is in
14 preparation. I am a registered professional engineer in the States of
15 Florida, Georgia, Maryland, North Carolina, South Carolina, Alabama,
16 Pennsylvania and Virginia. I also am a member of and have served as an
17 officer in numerous organizations and associations operating in the
18 water/wastewater industry.

19 Q. PLEASE DESCRIBE YOUR PROFESSIONAL ENGINEERING
20 EXPERIENCE CONCERNING WATER AND WASTEWATER
21 UTILITIES.

22 A. I have been the engineer of record for over thirty water and wastewater

1 master plans and five capital improvement programs. I have been involved
2 in over fifty hydraulic model analyses of water and wastewater systems.
3 In addition, I have been involved in numerous studies and investigations
4 ranging from pilot programs to value engineering investigations. I have
5 performed numerous water process evaluations from simple aeration to
6 reverse osmosis and wastewater process evaluations from secondary
7 treatment to advanced biological nutrient removal systems.

8 I also have been involved in the design of over \$300 million of
9 water and wastewater facilities in the State of Florida. These designs
10 range from small, single well systems to large municipal and investor-
11 owned systems. Finally, I have prepared used and useful analyses on over
12 200 water and wastewater facilities for investor-owned utilities across the
13 State of Florida.

14 **Q. HAVE YOU TESTIFIED BEFORE AS AN EXPERT IN THE AREA**
15 **OF WATER AND WASTEWATER FACILITY ENGINEERING**
16 **PREVIOUSLY?**

17 **A.** Yes. I have testified before this Commission as an expert in the area of
18 water and wastewater utility engineering in a number of cases, including
19 Southern States' last three rate filings. I have also testified as an expert
20 in water and wastewater proceedings before county regulatory authorities.

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

22 **A.** To support the used and useful calculations submitted by Southern States

1 in its rate application.

2 **Q. WHERE IN THE MFRS ARE SOUTHERN STATES' USED AND**
3 **USEFUL METHODOLOGIES DESCRIBED AND PERCENTAGES**
4 **PRESENTED?**

5 A. The methodologies Southern States used are described in the Water
6 Discussion and Wastewater Discussion sections in Volume VI, Book 1, of
7 the MFRs. Schedules F-2 through F-10 contain the used and useful data
8 and percentages.

9 **Q. DID YOU PREPARE THE DISCUSSION SECTIONS TO AND THE**
10 **F SCHEDULES WHICH YOU REFERRED TO?**

11 A. No. Southern States' witness Bliss did. He will describe in his testimony
12 the used and useful calculations and the sources of the data necessary to
13 make the calculations. I have reviewed the Discussion sections and the
14 used and useful schedules. I agree with the used and useful methodologies
15 Southern States has proposed, and I adopt them as my own. I believe
16 Southern States' methodologies are adequately explained in the Discussion
17 sections and need not be repeated here.

18 **Q. ARE THERE ANY PARTICULAR ASPECTS OF SOUTHERN**
19 **STATES' USED AND USEFUL ANALYSIS FOR THE 1996 TEST**
20 **YEAR WHICH YOU WISH TO ADDRESS AT THIS TIME?**

21 A. Yes. I would like to discuss the relationship between environmental
22 regulatory requirements and the concept of used and useful generally and

1 then describe in greater detail Southern States' justification for the
2 following: (1) the use of the historic maximum day demand in evaluating
3 used and useful for water source of supply and treatment components, (2)
4 the use of the Commission's last established used and useful percentage
5 for certain water and wastewater facilities, (3) the treatment of all land and
6 facilities dedicated to reuse as 100% used and useful, (4) the use of a three
7 year margin reserve for water treatment plant and five year margin reserve
8 for wastewater treatment plant, and (5) the use of hydraulic modeling to
9 evaluate used and useful for the transmission and distribution facilities in
10 four of Southern States' service areas.

11 **Q. WILL YOU PLEASE ADDRESS FIRST YOUR VIEWS ON THE**
12 **RELATIONSHIP BETWEEN REGULATORY REQUIREMENTS**
13 **AND USED AND USEFUL?**

14 A. In the recent past, the Commission has come to treat used and useful as a
15 mechanism for allocating costs between current and future connections.
16 In making such an allocation, proper consideration should be given to the
17 regulatory requirements which a utility must meet. I do not believe it is
18 appropriate for the Commission to disallow through the used and useful
19 mechanism utility investment required by governmental regulations or by
20 generally accepted design criteria, such as those set forth in the
21 authoritative technical publications, design manuals, and other standards
22 referenced by those regulations. I understand the Commission's concern

1 that 100 connections should not carry the burden of investment designed
2 to serve 10,000 connections. However, I believe that the Commission
3 must allow a utility to earn on that investment which regulatory agencies
4 require the utility to make to insure the provision of safe, reliable service
5 to the utility's customers. I also believe the Commission should utilize
6 and further develop used and useful practices which advance goals in the
7 areas of planning, environmental responsibility, and economies of scale --
8 all of which benefit the utility and its existing and future customers.

9 With regard to regulatory requirements, specifically, my point can
10 be summed up as follows. By Section 367.111(2), Florida Statutes, the
11 Commission is charged with insuring that utilities provide service "as
12 prescribed by Part VI of Chapter 403 and Parts I and II of Chapter 373,
13 or rules adopted pursuant thereto; but such service will not be less safe,
14 less efficient, or less sufficient than is consistent with the approved
15 engineering design of the system and the reasonable and proper operation
16 of the utility in the public interest." Rule 25-30.225, Florida
17 Administrative Code, basically reinforces the regulatory requirements
18 which Section 367.111 references. Thus, the Commission's controlling
19 statute and its rules require that the utility comply with Department of
20 Environmental Protection ("DEP") rules and standard design requirements.
21 Yet, through the vehicle of used and useful, the Commission may deprive
22 utilities of the ability to recover investment required by the standards

1 which the Commission must enforce. As a matter of principle, I believe
2 this is wrong. Moreover, in my experience it makes it especially difficult
3 for professional engineers to advise private utility clients to make
4 investment which DEP rules and regulations and standard design criteria
5 mandate when the economic signal sent by the Commission is to design
6 utility facilities in a manner which reduces the risk of not recovering
7 investment.

8 With regard to the used and useful goals I mentioned, my point is
9 basically that the incentive the Commission's recent used and useful
10 methodologies create is to design and construct facilities in the smallest
11 possible increments necessary to meet only immediate demand, and only
12 as that immediate demand becomes clear and present. Over time, this
13 incentive serves only to increase the cost to the customer and the
14 likelihood of harm to the environment.

15 It is not my testimony that a utility with 100 connections but
16 capacity for 10,000 be treated as 100% used and useful, but rather that
17 Southern States' used and useful proposals are consistent with regulatory
18 requirements, long-term cost effectiveness for its customers, and proper
19 engineering practice. To achieve the goals I've mentioned, one must adopt
20 these considerations. As I address specific subject areas of used and
21 useful, I will elaborate on the application of these general comments.

22 **Q. THE FIRST SPECIFIC SUBJECT AREA YOU REFERENCED WAS**

1 SOUTHERN STATES' USE OF A SINGLE MAXIMUM DAY
2 DEMAND FOR PURPOSES OF DETERMINING USED AND
3 USEFUL FOR WATER SOURCE OF SUPPLY AND TREATMENT
4 PLANT. WHAT JUSTIFICATION DO YOU OFFER FOR USE OF
5 THE MAXIMUM DAY DEMAND?

6 A. First and foremost, the maximum day demand placed on water source of
7 supply and treatment components is the level of service for which those
8 components are designed. Rule 62-555.330, F.A.C., entitled "Engineering
9 References for Public Water Systems" incorporates a number of standard
10 engineering design manuals and texts by reference including
11 Recommended Standards for Water Works ("The Ten States' Standards),
12 1987 Edition, and Water Treatment Plant Design, 2nd Edition, 1990. Part
13 3 of the Ten States' Standards, entitled "Source Development of the
14 Recommended Standards for Water Works," under section 3.2 -
15 Groundwater, subsection 3.2.1 - Quantity, sub-subsection 3.2.1.1 - Source
16 Capacity, states "The total developed groundwater source capacity shall
17 equal or exceed the design maximum day demand ..." In addition, in
18 Chapter 2 of Water Treatment Plant Design, page 17, under the heading
19 "Plant Capacity" the authors instruct, "[P]lot water use trends for average
20 24 hour, maximum 24 hour and peak hour demands. The peak hourly
21 demands are met from distribution storage and therefore do not have to
22 pass through the treatment facility. The treatment facility is normally

1 designed for **maximum 24 hour demand**, so that an adequate amount of
2 water will be treated and transmitted to the distribution storage system
3 throughout the year **including days when usage is maximum.**" Thus, as
4 clearly stated by these two standard references cited in 62-555.330, F.A.C.,
5 the maximum day must be considered in the design of the treatment
6 facility and supply sources. Moreover, it is my professional engineering
7 opinion that this design criteria is true and correct. As discussed in the
8 water treatment plant design manuals cited, different components of the
9 water system facilities are utilized for different purposes and thus have
10 different demands, i.e. storage and pumping as designed to meet peak hour
11 demands while treatment and supply sources must meet only maximum
12 day demands. Standard engineering design requires one to review as much
13 of the record available and no less than 5 years of historical data to
14 determine maximum day demands and variations arising from climactic
15 conditions, economic conditions, and seasonal population fluctuations.
16 Southern States' witness Bliss has examined the five year flow data of the
17 Southern States' plants as a frame of reference, and he reviewed and
18 analyzed the flow data selected for the used and useful calculations for the
19 purpose of removing, where appropriate, maximum demand days which
20 reflect unusual occurrences. Based on Southern States' examination of
21 these records, I believe the maximum day figures used in the F Schedules
22 represent the best information available, and I would rely on that

1 information in designing plant improvements or additions.

2 I agree that maximum day demands should be adjusted for natural
3 occurrences such as line breaks and fire fighting, but only if adequate
4 storage is available to meet the requirements of such conditions.
5 Typically, occurrences such as line breaks and fire flow are absorbed by
6 storage or peaking facilities. If a water plant has little or no storage, the
7 source of supply must be able to meet peak hour demands. Natural
8 occurrences such as fires are real world conditions which a utility must
9 give consideration to in plant design. Plant and facilities serving small
10 communities generally have small distribution lines and no storage, so the
11 source of supply must meet the instantaneous demands of the customers
12 because there is little buffering volume available to attenuate those
13 instantaneous demands.

14 In summary, I believe the use of the maximum day as explained in
15 the Water Discussion section of Book 1 of Volume VI of the MFRs is
16 appropriate and that methodology is substantiated by sound engineering
17 practice.

18 **Q. WOULD THE USE OF AN AVERAGE OF THE FIVE HIGHEST**
19 **DAYS OF DEMAND RATHER THAN THE MAXIMUM DAY TO**
20 **EVALUATE USED AND USEFUL FOR SOURCE OF SUPPLY AND**
21 **TREATMENT COMPONENTS BE AN EXAMPLE OF THE**
22 **DISPARITY BETWEEN REGULATORY REQUIREMENTS AND**

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USED AND USEFUL WHICH YOU REFERENCED?

A. Yes, a very good example. DEP, generally accepted design criteria, and the Commission itself require that utilities size plant to meet maximum day demand. If the Commission were to utilize an average of the five peak days for the purposes of determining used and useful, the Commission would disallow through the used and useful mechanism investment necessary to meet regulatory requirements, standard design criteria, and the Commission's own rules.

Q. WHAT RAMIFICATIONS DOES THIS DISPARITY HAVE?

A. As I indicated in my comments earlier, it creates a direct disincentive for proper facility sizing. It sends an economic signal to the utility to reduce the size of its facilities, despite design requirements, so as to reduce the risk of not recovering the investment associated with proper sizing. This disincentive will only serve to increase the cost to the customer over time and will endanger the utility's level of service to the customers. Furthermore, the inequity of this situation is that if Southern States did not have sufficient capacity available to meet the level of service required by regulations, it would have experienced quality of service problems, customer complaints, and, potentially, Commission censure for that failing.

Q. IN FORMULATING YOUR OPINION REGARDING USE OF THE MAXIMUM DAY, DID YOU RELY ON ANY SOURCES OF INFORMATION OTHER THAN THE DESIGN REQUIREMENTS

1 **YOU MENTIONED?**

2 A. Yes. I relied in part on the Commission staff's May 12, 1995, draft used
3 and useful rule wherein the Commission staff recognized that when
4 adequate storage is available, the maximum day demand placed on source
5 of supply and treatment components over the last five years, adjusted for
6 unusual occurrences, is the appropriate measure for evaluating used and
7 useful for those components. The draft rule also states that prudent
8 investment incurred in meeting statutory obligations to provide safe,
9 efficient, and sufficient service shall be considered used and useful and
10 that the Commission shall consider the design and construction
11 requirements in DEP's rules when establishing used and useful.

12 **Q. TO YOUR KNOWLEDGE, IS THE DRAFT RULE YOU REFERRED**
13 **TO A PUBLIC RECORD.**

14 A. Yes, it was received from the Commission by representatives of the
15 Florida Water Works Association, an industry organization I am a member
16 of.

17 **Q. DO YOU KNOW IF DEP HAS PROVIDED ITS INPUT TO THE**
18 **COMMISSION STAFF IN FORMULATING THE DRAFT RULE?**

19 A. Based on the correspondence I have seen, some of which I will refer to
20 later, yes. I am also aware from my involvement with the Florida Water
21 Works Association that meetings between DEP staff and Commission staff
22 concerning used and useful have taken place.

- 1 Q. THE SECOND SPECIFIC SUBJECT AREA YOU MENTIONED
2 WAS SOUTHERN STATES' USE OF THE COMMISSION'S LAST
3 ESTABLISHED USED AND USEFUL PERCENTAGES IN SOME
4 INSTANCES. IN WHAT INSTANCES DID SOUTHERN STATES
5 USE THE COMMISSION'S LAST ESTABLISHED PERCENTAGES?
- 6 A. Southern States used the Commission's last established used and useful
7 percentages for any plant components which would have had lower used
8 and useful percentages under test year conditions unless, however, capacity
9 was added to the component. If capacity was added to a component, used
10 and useful was reevaluated.
- 11 Q. WHAT JUSTIFICATION DO YOU OFFER FOR THE
12 COMMISSION'S ACCEPTING THIS POSITION?
- 13 A. As I stated earlier, water source of supply and treatment plant units are
14 generally designed to meet maximum day demand conditions. The design
15 requirements I've mentioned dictate that one examine at least five years
16 of historic demand information if available. If maximum day flows
17 decrease over time, the used and useful percentage should not similarly
18 decrease because the investment the utility has already made in accordance
19 with design criteria has not and cannot somehow be lessened. Moreover,
20 the potential for existing connections to recreate historic maximum day
21 demands will always exist. The same basic principles apply to wastewater
22 treatment plant and to distribution and collection lines. With regard to

1 lines, specifically, if the Commission previously determined that no less
2 than a particular level of distribution or collection facilities could provide
3 service to the customers, a subsequent experience which might reflect a
4 lower used and useful percentage should not affect used and useful because
5 the utility cannot somehow decrease the level of investment already found
6 necessary to provide service. In summary, once the required investment
7 is made, found to be prudent, and a level of used and useful is determined,
8 the utility should not be at risk in a future case for recovering any less of
9 its investment.

10 **Q. IF THE COMMISSION REFUSES TO ACCEPT SOUTHERN**
11 **STATES PROPOSAL IN THIS AREA, DO YOU BELIEVE THAT**
12 **SUCH REFUSAL WOULD CONSTITUTE ANOTHER EXAMPLE**
13 **OF THE DISPARITY BETWEEN REGULATORY REQUIREMENTS**
14 **AND USED AND USEFUL?**

15 **A. Yes.**

16 **Q. WOULD THE RAMIFICATIONS OF SUCH A DISPARITY BE**
17 **SIMILAR TO THOSE YOU MENTIONED PREVIOUSLY?**

18 **A. Yes.** Since it is impossible for a utility to design plant and make
19 investment to somehow accommodate decreasing demand, a downgrading
20 of used and useful would create a direct disincentive for proper facility
21 sizing. That disincentive will increase the cost to the customer over time
22 and decrease the level of service. The utility would again be placed in the

1 inequitable position of having to make investment to avoid customer
2 complaints and regulatory penalties, but not being allowed to recover that
3 investment.

4 **Q. OTHER THAN THE AUTHORITIES YOU HAVE ALLUDED TO AS**
5 **ESTABLISHING DESIGN REQUIREMENTS, DID YOU RELY ON**
6 **ANY OTHER SOURCES OF INFORMATION IN FORMULATING**
7 **YOUR OPINION ABOUT MAINTAINING CONTINUITY FOR**
8 **USED AND USEFUL DETERMINATIONS?**

9 A. Yes, I have reviewed two prior Commission orders where the Commission
10 has recognized that decreases in demand over time should not equate to
11 decreases in used and useful for treatment plant. Those orders are Order
12 No. PSC-93-1113-FOF-WS, issued July 30, 1993, in General Development
13 Utilities, Inc.'s consolidated rate cases for Silver Springs Shores and Port
14 Labelle and Order No. PSC-94-0739-FOF-WS, issued June 16, 1994, in
15 Utilities, Inc.'s rate case for Marion and Pinellas Counties. Also, as I
16 mentioned earlier, Commission staff's May 12 draft of used and useful
17 rules recognizes this principle in so far as the maximum day is selected
18 from five years of historic information notwithstanding whether that day
19 happens to fall within a rate case test year.

20 With regard to distribution and collection lines, I have seen more
21 than one instance where the Commission has utilized the used and useful
22 percentages of a prior case for a subsequent case. For example, in

1 Southern States' 1992 consolidated rate case, the Commission expressly
2 adopted the 100% used and useful determinations it made for water
3 distribution lines in Southern States' earlier Seminole County rate case in
4 Docket No. 890868-WS. The Commission did the same thing in Southern
5 States' recent Marco Island rate case; that is, it found that the Marco
6 Island water distribution and wastewater collection lines were 100% used
7 and useful because those were the used and useful percentages determined
8 in the prior Marco Island rate case.

9 I agree with the Commission decisions in the cases I've referenced,
10 and I believe the Commission's decision in this case should be consistent
11 with those decisions.

12 **Q. THE THIRD SUBJECT AREA YOU REFERRED TO WAS**
13 **SOUTHERN STATES' TREATMENT OF ALL LAND AND**
14 **FACILITIES DEDICATED TO REUSE AS 100% USED AND**
15 **USEFUL. WHAT JUSTIFICATION DO YOU OFFER FOR THIS**
16 **PROPOSAL?**

17 **A.** Two provisions of the Florida Statutes support Southern States' position
18 regarding reuse facilities. Section 403.064(10) states:

19 Pursuant to chapter 367, the Florida Public Service
20 Commission shall allow entities under its jurisdiction which
21 conduct studies or implement reuse projects, including, but
22 not limited to, any study required by subsection (2) or

1 facilities used for reliability purposes for a reclaimed water
2 reuse system, to recover the full, prudently incurred cost of
3 such studies and facilities through their rate structure.

4 Section 367.0817(3) states:

5 All prudent costs of a reuse project shall be recovered in
6 rates. The legislature finds that reuse benefits water,
7 wastewater, and reuse customers. The Commission shall
8 allow a utility to recover the costs of a reuse project from
9 the utility's water, wastewater, or reuse customers or any
10 combination thereof as deemed appropriate by the
11 Commission.

12 I note incidentally that Section 403.064(10) was modified in 1994,
13 making its statement regarding reuse costs clearer, and then renumbered
14 from Section 403.064(6) to 403.064(10). The legislative intent which I
15 perceive from the statutory provisions I have quoted is that reuse shall be
16 encouraged by allowing utilities to recover the complete costs of reuse
17 facilities without a used and useful adjustment. It goes without saying that
18 reuse is essential to conserving Florida's water resources and protecting the
19 environment. Southern States in particular has made great strides in
20 developing reuse over the last several years. However, if the Commission
21 were to apply a used and useful adjustment to facilities associated with
22 reuse, the incentive for a utility to invest in reuse would be greatly

1 diminished, to the detriment of Florida's conservation and environmental
2 efforts.

3 My opinion is also based on and supported by two letters from
4 representatives of the DEP contained in Exhibit ____ (GCH-1) and by a
5 memorandum of understanding between the Commission and DEP
6 contained in Exhibit ____ (GCH-2). I believe the contents of both of these
7 exhibits are public record.

8 The first letter in Exhibit ____ (GCH-1) is from Mr. Richard M.
9 Harvey, Director of the Division of Water Facilities, dated July 30, 1992,
10 and addressed to Mr. Charles Hill of the Commission staff. The second
11 is from Mr. Richard Drew, Bureau Chief of Water Facilities, Planning and
12 Regulation, dated July 14, 1993, and addressed to Mr. John Williams of
13 the Commission staff. Both Mr. Harvey, in the second paragraph of his
14 letter, and Mr. Drew, in the first numbered comment attached to his letter,
15 state that "the entire cost of a reuse project should be considered used and
16 useful." I know Mr. Harvey and Mr. Drew, and both are responsible for
17 policy and rule applications and determinations with respect to utilities for
18 DEP.

19 In paragraph six on page five of Exhibit ____ (GCH-2), the
20 Commission and DEP agreed that "as noted in Section 403.064(6), F.S.,
21 and pursuant to Chapter 367, F.S. the PSC shall allow utilities which
22 implement reuse projects to recover the full cost of such facilities through

1 their rate structures." The intent of the statement in the Memorandum of
2 Understanding is, in my perception, the same as the intent of the other
3 material referenced -- that reuse facilities not be adjusted for used and
4 useful.

5 Moreover, it must be understood that, if the Commission desires to
6 encourage reuse and advance the environmental and conservation benefits
7 that go along with reuse, the Commission must award utilities complete
8 recovery of all of the utilities' investment in reuse facilities without a used
9 and useful adjustment.

10 **Q. THE FOURTH SUBJECT AREA YOU WERE TO ADDRESS**
11 **CONCERNS MARGIN RESERVE. DO YOU HAVE ANY**
12 **GENERAL COMMENTS REGARDING MARGIN RESERVE?**

13 **A.** Yes. In previous cases, I have described margin reserve as the additional
14 water and wastewater facilities needed to meet customer demand while
15 additional facilities are being constructed.

16 With regard to the definition of margin reserve, I am of the opinion
17 that where regulations require capacity for future connections, it is not
18 necessarily proper to consider that additional capacity as something
19 separate and apart from what should be considered used and useful in the
20 first place. In other words, if DEP requires Southern States to maintain
21 excess capacity, there is no reason to evaluate and treat that excess
22 capacity as a margin reserve in the manner which the Commission has

1 done traditionally. It is simply excess capacity required by regulations and
2 therefore used and useful. This notwithstanding, Southern States has
3 isolated its requested margin reserve per standard Commission practice.

4 **Q. WHAT IS YOUR OPINION OF THE METHODOLOGY THE**
5 **COMMISSION HAS USED TO CALCULATE MARGIN RESERVE**
6 **IN THE PAST?**

7 A. I do not take issue in this case with the Commission's margin reserve
8 methodology for water distribution and wastewater collection lines. I
9 disagree only with the Commission's historic practice of limiting the
10 margin reserve for water and wastewater treatment facilities to 18 months.

11 **Q. WHY DO YOU DISAGREE WITH THE COMMISSION'S MARGIN**
12 **RESERVE LIMITATION FOR TREATMENT PLANT?**

13 A. My reasons fall into two general categories: theoretical and regulatory.
14 I will address my theoretical points first.

15 In a very fundamental way, I do not believe that the Commission's
16 past practice of allowing an 18 month margin reserve for treatment plant
17 can achieve the purpose of the margin reserve, to insure that utilities have
18 additional capacity available to meet changing demand. It should be noted
19 that the purpose of the margin reserve is summarized in the Commission
20 staff's May 12 draft used and useful rules as follows:

21 The Commission recognizes that for a utility to
22 meet its statutory responsibility, it must have

1 sufficient capacity and investment to meet the
2 existing and changing demands of present customers
3 and the demands of potential customers within a
4 reasonable time. The investment needed to meet the
5 demands of potential customers and the changing
6 needs of existing customers is defined as margin
7 reserve.

8 In most instances today, if a utility must construct additional
9 capacity to keep ahead of the customer demands, it needs more than
10 eighteen months to complete the process. This is especially true in some
11 areas such as Lehigh where there is a fragile water supply and a relatively
12 complex treatment process necessary to treat the water. For a very "clean"
13 process in which there are no permitting, design or construction delays,
14 two years is about the minimum time period in which additional capacity
15 can be provided. However, in reality, a two year completion time is not
16 frequently experienced. Three years is more realistic. Below I have
17 outlined a step by step process for the addition of water treatment capacity:

- 18 1. In house review of records, capacity, customer commitments, etc.
19 and the determination of the abilities and manpower to complete
20 the work.
- 21 2. Depending on the project's scope, a request for a proposal, review
22 of qualifications and selection of an outside consultant may be

- 1 undertaken.
- 2 3. Determination of the needed capacity increase to meet the demands
- 3 of the current and future customers via a planning document.
- 4 4. Study of the various raw water supply alternatives and the required
- 5 treatment facilities, as applicable.
- 6 5. Selection of the raw water supply and treatment alternatives and
- 7 selection of plant sites, as applicable, so as to ensure the highest
- 8 quality product for the lowest customer price.
- 9 6. Determination of the source of supply and the sizing of treatment
- 10 facilities taking into account economies of scale and used and
- 11 useful considerations.
- 12 - 7. Preliminary planning level engineering estimate of planning, design
- 13 permitting, construction and start up costs including overhead
- 14 expenses, capitalized interest, etc.
- 15 8. If applicable, study of financing alternatives and determination of
- 16 lowest cost financing alternatives.
- 17 9. If applicable, preliminary approval of financing alternative by
- 18 financial institution, local government, etc.
- 19 10. Consumptive Use Permit (CUP) application preparation with
- 20 supporting documentation.
- 21 11. Water Management District (WMD) review and request for
- 22 additional information.

- 1 12. Complete request for additional information.
- 2 13. WMD review and staff report.
- 3 14. WMD Board approval, noticing and CUP issuance.
- 4 15. Design wells and local government approval of wells.
- 5 16. Bidding, evaluation and award of well drilling contract.
- 6 17. Confirming funding for the well drilling contract.
- 7 18. Well construction and testing.
- 8 19. Water sampling and analysis.
- 9 20. Determination of water quality and its applicability to the treatment
10 process. At this point, project redesign may be necessary causing
11 significant delays.
- 12 21. Water treatment facilities design completion.
- 13 22. Application for DEP construction permit.
- 14 23. DEP review and request of additional information.
- 15 24. Complete request for additional information.
- 16 25. DEP review and notice of intent.
- 17 26. DEP construction permit noticing and permit issuance if no
18 objections.
- 19 27. Local government approvals: local jurisdictional agency's review
20 and permitting of construction; local zoning agency's review and
21 approval of any requested zoning changes; and local planning
22 agency's review for consistency with planning documents.

- 1 28. Final design completion and preparation of bidding documents.
- 2 29. Bidding, evaluation and award of construction contract.
- 3 30. Confirming funding for construction contract.
- 4 31. Water treatment plant construction and disinfection.
- 5 32. Substantial completion inspection and certification.
- 6 33. Punch list determination and completion of items.
- 7 34. Start up, operator training and operation and maintenance manual
- 8 review.
- 9 35. Final walk through and inspection and completion of final punch
- 10 list items.
- 11 36. Final payment to contractor and project close-out.
- 12 37. Final DEP certification and preparation of as built drawings.

13 It should be noted that the above list is not all inclusive and
14 outlines only the major activities for the addition of water system treatment
15 plant. This outline assumes a relatively simple water treatment facility
16 with no major delays in the permitting, design or construction processes.
17 In a more complicated process, for example one involving an R.O. facility
18 with an injection well, the permitting and construction time would more
19 than likely be extended by at least one year.

20 I have outlined these steps to illustrate the complexity of the
21 process. Some of the steps can be performed simultaneously; however, in
22 my experience, the process is only rarely completed within 18 months.

1 The basic steps for wastewater treatment plant expansion are
2 extensive and similar to the water treatment plant list discussed previously.
3 With wastewater plants, further delays can arise after construction. Since
4 effluent quality standards must be met for all wastewater treatment plant
5 additions as of the start-up date, additional time may be required to adjust
6 treatment operations prior to a plant's becoming fully operational.

7 In prior cases, including Southern States' rate cases in which I have
8 testified, the Commission has concluded that the margin reserve for
9 treatment plant should only represent the time necessary to construct
10 additional treatment plant. The Commission has justified this conclusion,
11 at least in part, with the statement that most of the costs expended for
12 adding additional treatment-capacity are incurred during the construction
13 period. However, by its decision, the Commission has assumed that the
14 utility will not have any delay or difficulty anywhere along the processes
15 which I have described above. Stated differently, the Commission's
16 margin reserve theory assumes the utility is in the construction phase and
17 that construction will come off without a hitch. In today's complex
18 regulatory environment, I believe these presumptions are incomplete, in
19 error, and flawed. I also do not understand the importance of the
20 Commission's rationale that construction costs and construction time
21 should be matched for purposes of the margin reserve. I think this
22 matching argument ignores the goals which the Commission should strive

1 to achieve through the margin reserve, namely encouraging sound
2 planning, environmental responsibility, and economies of scale.

3 Furthermore, I have testified in previous cases that from an
4 engineering standpoint, the imputation of CIAC on the margin reserve is
5 incorrect because the margin reserve is a known and continuous obligation
6 whereas the collection of CIAC is an unpredictable future event. This
7 point remains my testimony, but I also point out that the imputation of
8 CIAC significantly undermines the stated purpose of the margin reserve
9 and negatively impacts the goals of achieving proper planning,
10 environmental preservation, and economies of scale for the benefit of the
11 customers. I have reviewed a number of instances where the CIAC
12 imputed on the margin reserve completely or substantially eliminates the
13 margin reserve.

14 In summary, my comments on margin reserve tie back to the
15 general comments I made earlier regarding used and useful. From an
16 engineering standpoint, I do not believe that the margin reserve in its
17 present form promotes the goals it should promote. The Commission is
18 sending an economic signal contrary to the stated purpose of the margin
19 reserve.

20 **Q. THE SECOND REASON YOU STATED FOR DISAGREEING WITH**
21 **THE 18 MONTH MARGIN RESERVE FOR TREATMENT PLANT**
22 **WAS REGULATORY IN NATURE. COULD YOU EXPLAIN WHAT**

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YOU MEAN?

A. DEP's rules concerning planning for wastewater facilities expansion dictate the extension of the margin reserve period beyond eighteen months for wastewater treatment facilities. DEP Rule 62-600.405, F.A.C., attached to my testimony as Exhibit ___ (GCH-3), requires a utility to provide timely planning, design and construction of plant expansions based on the schedule delineated in the rule. Essentially, this rule requires a utility providing wastewater service to submit annual capacity analysis reports to the DEP once a certain level of capacity is reached. These reports must analyze an existing facility and its capacity to provide service. Basically, the rule has established four triggers to determine when certain activities need to be commenced concerning the design, permitting and construction of additional wastewater treatment facilities. If the projected flows of the facility exceed the permitted capacity of the facility within 5 years of the date of the report, then the report must include a statement by a registered engineer that planning and preliminary design of a plant expansion has been initiated. When the projected flows are expected to exceed the capacity within 4 years, the report must include a statement from the registered engineer that plans and specifications for the expansion are being prepared. If the engineer determines that projected flows are going to exceed the capacity within 3 years, then a construction permit application must be submitted to the DEP within 30 days of such a

1 determination. The final trigger is that if the capacity analysis report
2 indicates that the projected flows are going to exceed the permitted
3 capacity of the treatment facilities within 6 months, an operating permit
4 application must be submitted by the utility along with the capacity
5 analysis report.

6 Although the rule does not directly state that a utility must maintain
7 capacity necessary to meet demand for the next 5 years, the clear intent of
8 the rule is that capacity should be maintained for a 5-year window,
9 especially if the utility does not wish to perpetually be in a permitting and
10 expansion mode for every wastewater treatment plant it operates. The
11 stated purpose of the rule is to provide for the "timely planning, design,
12 and construction of wastewater facilities necessary to provide proper
13 treatment and reuse or disposal" Clearly, the rule reflects DEP's
14 recognition that the planning, design, and construction process takes five
15 years.

16 This situation with wastewater treatment plant expansions appears
17 to be another instance of DEP's requiring one thing -- reserve capacity for
18 five years -- and the Commission's sending a contrary signal -- by limiting
19 utilities to an 18 month margin reserve and by imputing CIAC. I can
20 bring this disparity into focus by stating that if a utility filed a permit
21 application in accordance with this DEP rule and suggested in the
22 application that it would build capacity sufficient only to serve 18 months

1 of growth beyond its present capacity, I have no doubt the application
2 would be rejected.

3 Therefore, in consideration of the DEP rule I have referenced, I
4 recommend that the Commission allow a five year margin reserve for
5 wastewater treatment plant.

6 **Q. DO THE COUNTIES AND CITIES WHICH YOU DO WORK FOR**
7 **GENERALLY CONSTRUCT WASTEWATER TREATMENT PLANT**
8 **IN INCREMENTS NEEDED TO MEET DEMAND OVER AT LEAST**
9 **A 5-YEAR PERIOD?**

10 A. Yes. A good number build for demand beyond five years. Their reasons
11 for building for at least five years include all of those I've already
12 mentioned, the rule requirements, prudent planning, environmental
13 protection, and economies of scale. Local governments also consider
14 growth management requirements. Although the Commission does not
15 enforce growth management laws, I mention this because it relates to
16 prudent planning. State planning requirements are such that public
17 facilities, including utilities, must be in place concurrent with growth. In
18 order to fulfill these requirements, local governments size their wastewater
19 and their water facilities to meet planned changes in demand within their
20 service areas over a five year, or longer, period.

21 **Q. DO THE COUNTIES AND CITIES WHICH YOU DO WORK FOR**
22 **GENERALLY CONSTRUCT WATER TREATMENT PLANT IN**

1 **INCREMENTS NEEDED TO MEET DEMAND OVER AT LEAST**
2 **A 3-YEAR PERIOD?**

3 A. Yes, and frequently beyond, for the same reasons I have just mentioned.

4 **Q. IN FORMULATING YOUR OPINION CONCERNING THE NEED**
5 **FOR A THREE YEAR MARGIN RESERVE FOR WATER**
6 **TREATMENT AND A FIVE YEAR MARGIN RESERVE FOR**
7 **WASTEWATER PLANT DID YOU RELY ON ANY SOURCES OF**
8 **INFORMATION OTHER THAN THAT WHICH YOU HAVE JUST**
9 **REFERENCED?**

10 A. Yes. In both of the letters contained in Exhibit ___ (GCH-1), specifically
11 in the second comment on page 2 of Mr. Drew's letter and in the second
12 paragraph of the first page of Mr. Harvey's letter, DEP's representatives
13 stated that the Commission's rules should allow a utility to recover
14 investment for timely expenses for needed wastewater treatment facilities
15 consistent with the rule which I have cited. I also note that the May 12,
16 1995, draft rule from the Commission staff recognizes the need for a three
17 year margin reserve for water treatment plant and a three year margin
18 reserve for wastewater treatment. The draft rule also states that utilities
19 are encouraged to undertake planning that recognizes conservation,
20 environmental protection, and economies of scale. While I agree with the
21 three year margin reserve proposed for water treatment plant, a three year
22 margin reserve for wastewater treatment plant would be in conflict DEP

1 rules. For the reasons I have explained, I believe a five year margin
2 reserve for wastewater treatment plant is appropriate.

3 **Q. THE FIFTH SUBJECT AREA YOU SAID YOU WISHED TO**
4 **ADDRESS CONCERNS SOUTHERN STATES' USE OF THE**
5 **HYDRAULIC MODELING TO DETERMINE USED AND USEFUL**
6 **FOR WATER TRANSMISSION AND DISTRIBUTION FACILITIES**
7 **IN FOUR OF SOUTHERN STATES SERVICE AREAS. WHAT**
8 **JUSTIFICATION DO YOU OFFER FOR THE COMMISSION'S**
9 **ACCEPTANCE OF THIS HYDRAULIC MODELING TO**
10 **DETERMINE USED AND USEFUL?**

11 **A.** I have performed hydraulic modeling in numerous instances in the past.
12 I agree with Southern States' witness Edmunds' testimony that: (1)
13 regulatory requirements and generally accepted design criteria dictate that
14 transmission and distribution facilities be designed to accommodate peak,
15 maximum day, and fire flow conditions, (2) hydraulic modeling will more
16 accurately reflect the demands placed on the transmission and distribution
17 facilities by current connections than would the Commission's
18 conventional lot count method for determining transmission and
19 distribution used and useful, (3) fire flow must be considered in the design
20 of water transmission and distribution facilities, and (4) the lot count
21 method does not accurately evaluate lines used for looping a system. I
22 also completely agree with Mr. Edmunds that the lot count method poses

1 a direct disincentive for proper facility design. Used and useful
2 considerations should parallel design and regulatory requirements, as I
3 have already testified, so as to abate this disincentive. I also agree that the
4 lot count method poses a disincentive for utilities to take advantage of the
5 economies of scale available through the bulk purchasing of materials,
6 taking advantage of the time value of money, competitively bidding
7 projects, paralleling water lines with other utility facilities, and minimizing
8 other costs such as contractor mobilization costs, permitting costs, pressure
9 testing, bacteriological testing and engineering costs. In fact, the
10 Commission's conventional lot count method for determining used and
11 useful for transmission and distribution facilities thoroughly discourages
12 utilities from taking advantage of the economies of scale. I also add that
13 the Commission's lot count methodology does not account for those fill-in
14 lots (unconnected lots located between connected lots) which may never
15 be built on by reason of zoning, the owner's purchase of a fill-in lot
16 adjacent to the one upon which he/she has built, or any other reason. The
17 utility has no control over the level of customer disuse of fill-in lots, so
18 the utility should not bear the cost of that disuse. Additionally, the lot
19 count method fails to recognize those situations, such as those present in
20 this filing, where no less than the investment the utility has already made
21 in lines could have been made in order for the utility to provide current
22 connections with reliable service.

1 **Q. DO YOU HAVE ANYTHING TO ADD?**

2 **A. Yes, in designing its rate structure for this proceeding, Southern States has**
3 **created two rate categories, conventional treatment and reverse osmosis.**
4 **I agree with Southern States that reverse osmosis treatment has a**
5 **permanent cost difference associated with the treatment of brackish water**
6 **supplies as compared to the cost of conventional treatment methods used**
7 **for the treatment of fresh water supplies. I believe the Commission should**
8 **consider this difference in establishing rates as Southern States has**
9 **proposed.**

10 **Q. DOES THAT CONCLUDE YOUR TESTIMONY?**

11 **A. Yes.**



Lawton Chiles
Governor

Florida Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

July 14, 1993

Virginia B. Wetherell
Secretary

RECEIVED

JUL 16 1993

Mr. John Williams, Chief
Bureau of Certification
Florida Public Service Commission
101 East Gaines Street
Tallahassee, Florida 32399-0850


Florida Public Service Commission
Division of Water and Wastewater

Dear Mr. Williams:

Thank you for the opportunity to review the draft version of Rule 25-30.432, Florida Administrative Code (F.A.C.), "Used and Useful in Rate Case Proceedings." This version was hand-delivered on June 18 by Patti Daniel. We commented on a previous draft of this rule by letter dated July 30, 1992. It appears that many of our previous comments were not incorporated into this version. Our general and specific comments on the wastewater portions are enclosed.

- If you have any questions about our comments, please contact Elsa Potts, P.E., Administrator, Domestic Wastewater Section, at the letterhead address or at 904/488-4524.

Sincerely,


Richard D. Drew, Chief
Bureau of Water Facilities
Planning and Regulation

RDD/ra/btm

Enclosure

cc: Patti Daniel

Rule 25-30.432, F.A.C.
Used and Useful in Rate Case Proceedings

General Comments

1. Section 403.064(6), Florida Statutes, states "Pursuant to Chapter 367, the Florida Public Service Commission shall allow entities which implement reuse projects to recover the full cost of such facilities through their rate structure." The intent of this statutory provision was that the full cost of capital investments be included in the cost recoverable through a rate structure. In essence, the entire cost of a reuse project should be considered used and useful. We recommend that Chapter 25-30, F.A.C., include this provision.
2. A significant wastewater management problem in Florida involves overloaded wastewater treatment facilities. Rule 17-600.405, F.A.C., (copy attached) is a pollution prevention measure designed to ensure that the permittees conduct the planning necessary to allow for timely expansion of the wastewater facilities. This rule contains requirements for capacity analysis reports. The capacity analysis report is a detailed assessment of flow projections as they relate to future needs for expansion of domestic wastewater facilities. Time frames are established in the rule for submittal of the initial capacity analysis report, as well as for updates of the report and for the planning design, and construction of expanded facilities. This rule became effective in 1991 and has been well received by the regulated public, as well as the utilities. We believe that Chapter 25-30, F.A.C., should allow utilities to recover investment for timely expansion of needed wastewater treatment facilities consistent with our rule requirements.

Specific Comments

1. Rule 25-30.432(3)(a), F.A.C. - Design and construction requirements for collection systems and transmission facilities are contained in Chapter 17-604, F.A.C. We suggest including this chapter as a reference.
2. Rule 25-30.432(4), F.A.C. - The statement "To encourage long-term planning and least cost system design, the Commission, at a minimum, shall consider as used and useful the level of investment that would have been required had the utility designed and constructed the system to serve only its existing customer base" is unclear. This statement doesn't seem to promote long-term planning. Suggest deletion of "To encourage long-term planning and least cost system design."
3. Rule 25-30.432(5)(a)4, F.A.C. - The margin reserve for treatment facilities is 12 percent of the permitted or actual ERC capacity, whichever is greater. The previous draft we reviewed contained a 20 percent margin reserve. We agree that there is a need to balance a utilities' incentive for making plant investment and planning for future needs with some type of mechanism to control imprudent investments in order to protect existing ratepayers. How was the 12 percent derived? Have other mechanisms to achieve this balance been explored?

4. Rules 25-30.432(5)(a)4 b and c, F.A.C. - It is suggested that definitions for "off-site" and "on-site" be included in the rule.
5. Rule 25-30.432(5)(a)4 e, F.A.C. - The relationship between "available capacity" and the used and useful default formulas is unclear. How were the 500 percent and five-year customer base derived?
6. Rules 25-30.432(5)(d)1 and 2, F.A.C. - The Environmental Protection Agency (EPA) used the following standard in the Construction Grants program to determine if a system would be subject to further I/I analysis: No further I/I analysis will be necessary if domestic wastewater plus non-excessive infiltration does not exceed 120 gallons per capita per day (gpcd) during periods of high ground water. The total daily flow during a storm should not exceed 275 gpcd, and there should be no operational problems, such as surcharges, bypasses, or poor treatment performance resulting from hydraulic overloading of the treatment works during storm events. The PSC could consider this criteria as an alternative to the 500 gpd/inch/diameter/mile allowance for infiltration and 7 percent of treated flows allowance for inflow.
7. Rule 25-30.432(5)(d)1, F.A.C. - The rule states that a utility "has little control over inflow" and allows inflow of "7 percent of treated flows." There are numerous methods for correction of inflow sources, including manhole raising, manhole cover replacement, cross connection plugging, and drain disconnection. A utility should discover the locations of inflow, determine legitimacy and assign responsibility for cost-effective correction. How was the 7 percent of treated flows allowance for inflow derived?
8. Rule 25-30.432(5)(e), F.A.C. - It is suggested that analysis for "inflow" be added to this section. Cost effective correction of inflow should be encouraged.
9. Rule 25-30.432(6)(d) 3 and 4, F.A.C. - The basis of design of a WWTP can be stated in various ways including, annual average daily flow, maximum monthly average daily flow, or three-month average daily flow. It appears that only "Maximum Month Flow" is considered.
10. Rule 25-30.432(7)(h), F.A.C. - Firm reliable capacity is defined as the capacity of a treatment plant component in which "at least the largest unit is assumed to be out of service." Would a treatment plant with one aeration basin, without regard to design or permit capacity, be considered 100 percent used and useful because of no firm reliable capacity in the used and useful default formula? You could consider the use of the EPA technical bulletin entitled "Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability" referenced in Rule 17-500.300(4)(1), F.A.C., for reliability criteria.

*Florida Department of Environmental Regulation*

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

July 30, 1992

Carol M. Browner, Secretary

Mr. Charles H. Hill, Director
Division of Water and Wastewater
Florida Public Service Commission
101 East Gaines Street
Tallahassee, Florida 32399-0873

Dear Mr. Hill:

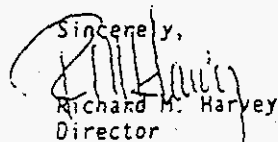
Thank you for the opportunity to review the draft version of Rule 25-30.432, Florida Administrative Code (F.A.C.), Used and Useful in rate case proceedings. Our specific comments are enclosed, but I would like to highlight two of our major concerns.

Section 403.064(6), Florida Statutes, states "Pursuant to Chapter 367, the Florida Public Service Commission shall allow entities which implement reuse projects to recover the full cost of such facilities through their rate structure." The intent of this statutory provision was that the full cost of capital investments be included in the costs recoverable through a rate structure. In essence, the entire cost of a reuse project should be considered used and useful. We recommend that Chapter 25-30, F.A.C., include this provision.

A significant wastewater management problem in Florida involves overloaded wastewater treatment facilities. Rule 17-600.405, F.A.C., (copy enclosed) is a pollution prevention measure designed to ensure that the permittees conduct the planning necessary to allow for timely expansion of the wastewater facilities. This rule contains requirements for capacity analysis reports. The capacity analysis report is a detailed assessment of flow projections as they relate to future needs for expansion of domestic wastewater facilities. Timeframes are established in the rule for submittal of the initial capacity analysis report as well as for updates of the report and for the planning design, and construction of expanded facilities. This rule became effective in 1991 and has been well received by the regulated public, as well as the utilities. We believe that Chapter 25-30, F.A.C., should allow utilities to recover investment for timely expansion of needed wastewater treatment facilities consistent with our rule requirements.

If you have any questions about our comments, please contact Robert Heilman, P.E., Chief, Bureau of Water Facilities Planning and Regulation, at the letterhead address or at 904/487-0563.

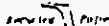
Sincerely,



Richard M. Harvey
Director
Division of Water Facilities

RMH/ra/btm

Enclosures



Rule 25-30.432, F.A.C.

Used and Useful in Rate Case Proceedings

Specific Comments

1. Rule 25-30.432(3)(a), F.A.C. - Design and construction requirements for collection systems and transmission facilities are contained in Chapter 17-604, F.A.C. We suggest including this chapter as a reference.
2. Rule 25-30.432(4), F.A.C. - The statement that to "encourage long-term planning and least cost system design, the Commission, at a minimum, shall consider as used and useful the level of investment that would have been required had the utility designed and constructed the system to serve only its existing customer base" is unclear. This statement doesn't seem to promote long-term planning.
3. Rule 25-30.432(5), F.A.C. - The definition of ERC demand, as that used for design/permitting and actual historical demand, is unclear. When would each apply?
4. Rule 25-30.432(5)(a)4, F.A.C. - Here margin reserve for treatment facilities is 20 percent of the permitted or actual ERC capacity, whichever is greater. We agree that there is a need to balance a utilities' incentive for making plant investments and planning for future needs with some type of mechanism to control imprudent investments in order to protect existing ratepayers. How was the 20 percent derived? Have other mechanisms to achieve this balance been explored?
5. Rule 25-30.432(5)(a)4 ii and iii, F.A.C. - It is suggested that definitions for "off-site" and "on-site" be included in the rule.
6. Rule 25-30.432(5)(d)1, F.A.C. - The rule states that a utility "has little control over inflow." There are numerous methods for correction of inflow sources including, manhole raising, manhole cover replacement, cross connection plugging, and drain disconnection. A utility should discover the locations of inflow, determine legitimacy and assign responsibility for cost-effective correction.
7. Rule 25-30.432(5)(d)2, F.A.C. - The EPA used the following standard in the Construction Grants program to determine if a system would be subject to further I/I analysis: No further I/I analysis will be necessary if domestic wastewater plus non-excessive infiltration does not exceed 120 gallons per capita per day (gpcd) during periods of high groundwater. The total daily flow during a storm should not exceed 275 gpcd, and there should be no operational problems, such as

surcharges, bypasses, or poor treatment performance resulting from hydraulic overloading of the treatment works during storm events. You may want to consider this as an alternative to the Water Pollution Control Federation Manual of Practice No. 9.

8. Rule 25-30.432(5)(e), F.A.C. - It is suggested to add "inflow" in the first sentence of this section. Cost effective correction of inflow should be encouraged.
9. Rule 25-30.432(5)(f)2 ii, F.A.C. - We suggest that Number "2" be defined as the same time period as that used for Number "1" (capacity of the plant) in order for the formula to be consistent. The basis of design of a WWTP can be stated in various ways including, annual average daily flow, maximum monthly average daily flow, or three-month average daily flow. Also, we suggest that excessive "inflow" in Number "4" be added.

MEMORANDUM OF UNDERSTANDING

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

AND

FLORIDA PUBLIC SERVICE COMMISSION

The Florida Department of Environmental Regulation (DER) and the Florida Public Service Commission (PSC) recognize that water conservation and reuse of reclaimed water are key elements of Florida's long-term water management strategy. It is our joint goal and high priority to ensure that Florida water and wastewater utilities provide safe and efficient treatment and use of water and wastewater. This memorandum of understanding (MOU) formally establishes the policies and procedures to be followed by the DER and PSC to promote and encourage water conservation and reuse, and safe and efficient water supply and wastewater management services.

BACKGROUND

Water Supply

The Federal Safe Drinking Water Act requires certain monitoring, testing, treatment, and reporting to ensure the quality of potable waters. The Florida Safe Drinking Water Act, contained in Chapter 403, Florida Statute (F.S.), outlines the basic requirements for Florida's water supply program. Chapters 17-550, 17-551, 17-555, and 17-560, Florida Administrative Code (F.A.C.), contain specific requirements governing water supply in Florida. The PSC's responsibilities for regulation of private water supply utilities are outlined in Chapter 367, F.S.

Wastewater Management

The Federal Clean Water Act requires effective treatment and management of wastewater in order to protect the nation's ground water and surface water resources. Florida's wastewater management and environmental control programs are contained in Chapter 403, F.S. Specific regulations governing domestic wastewater management are contained in Chapters 17-600, 17-601, 17-602, 17-604, 17-610, 17-611, 17-640, and 17-650, F.A.C. The PSC's responsibilities for regulation of private wastewater utilities are outlined in Chapter 367, F.S.

Reuse of Reclaimed Water

The encouragement and promotion of water conservation and reuse of reclaimed water are established as state objectives in Section 403.064(1), F.S.

The D2R has developed and implemented a comprehensive reuse program designed to meet those objectives. This reuse program includes:

1. Comprehensive rules governing the reuse of reclaimed water (Chapter 17-610, F.A.C.);
2. A mandatory reuse program;
3. An Antidegradation Policy;
4. The Indian River Lagoon System and Basin Act; and
5. Requirements for evaluation of reuse feasibility.

Section 403.064, F.S., requires that after January 1, 1992, all applicants for permits to construct or operate a domestic wastewater treatment facility in a critical water supply problem area evaluate the cost and benefits of reusing reclaimed water as part of their application for the permit.

The Antidegradation Policy is contained in Chapter 17-4, F.A.C., "Permits," and Chapter 17-302, F.A.C., "Surface Water Quality Standards." These rules require an applicant for a new or expanded discharge to surface waters to demonstrate that the discharge is clearly in the public interest. As part of this public interest test, the applicant must evaluate the feasibility of reuse of reclaimed water. If reuse is economically and technologically reasonable, it will be preferred over the surface water discharge.

The Indian River Lagoon System and Basin Act, which is contained in Chapter 20-262, Laws of Florida, provides increased protection to the Indian River Lagoon System. Section 3 of the Act requires the owner of an existing sewage treatment facility within the Indian River Lagoon Basin to investigate the feasibility of using reclaimed water for beneficial purposes. These reuse feasibility studies were to be completed before July 1, 1992.

EXHIBIT

(GCH-2)

PAGE 3 OF

9

OBJECTIVES

The common objectives, as they relate to domestic water supply and wastewater management facilities subject to regulation by the DER and the PSC, are as follows:

1. To monitor water supply systems to ensure that safe and reliable water is produced and delivered in accordance with applicable rules and drinking water standards;
2. To monitor domestic wastewater systems to ensure the safe and efficient collection, treatment, and reuse or disposal of wastewater and residuals;
3. To encourage and promote water conservation and reuse of reclaimed water;
4. To foster conservation and to reduce the withdrawal of ground and surface water through employment of conservation-promoting rate structures, reuse of reclaimed water, and consumer education programs.

PSC RESPONSIBILITIES

The following presents the general description of the roles and responsibilities of the PSC related to water supply, water conservation, wastewater management, and reuse of reclaimed water. The PSC's jurisdiction is limited to economic regulation of investor-owned utilities and is effective in only some of the counties in Florida. The PSC will offer assistance to the extent provided by law and agency priority and workload. The PSC agrees to adopt and implement policies and procedures necessary to administer these duties.

Water Supply

1. When appropriate, arrange for joint public meetings with customers to ensure that customers are aware of the need for water supply system improvement projects, and the potential impacts the projects will have on service rates.
2. Inform the DER of the PSC public meetings with customers and hearings in which water supply projects will be discussed.
3. Review proposed rate structures for private utilities within PSC jurisdiction.

4. Provide assistance in review of water conservation rate structures within PSC jurisdiction.
5. Monitor abandonment and bankruptcy proceedings for private water utilities within PSC jurisdiction. Inform the DER of pending abandonment and bankruptcy cases.
6. If an applicant for a DER permit challenges the interpretation of Section 167.031, F.S., the PSC agrees to provide legal and technical support to the DER in any related administrative hearings or legal proceedings.

Wastewater Management

1. When appropriate, arrange for joint public meetings with customers to ensure that customers are aware of the need for wastewater management system improvement projects, and the potential impacts the projects will have on service rates.
2. Inform the DER of the PSC public meetings with customers and hearings in which wastewater management projects will be discussed.
3. Review proposed rate structures for private wastewater management utilities within PSC jurisdiction.
4. Monitor abandonment and bankruptcy proceedings for private wastewater utilities within PSC jurisdiction. Inform the DER of pending abandonment and bankruptcy cases.
5. If an applicant for a DER permit challenges the interpretation of Section 167.031, F.S., the PSC agrees to provide legal and technical support to the DER in any related administrative hearings or legal proceedings.
6. The DER has adopted rules requiring utilities to perform timely planning, design, and construction of expanded facilities to ensure that sufficient wastewater treatment, disposal, and reuse capacity is available. In light of DER rules, the PSC agrees to evaluate capacity constraints imposed by statute and rules on private utilities within PSC jurisdiction, by PSC's application of the "used and useful" concept. If justified, this evaluation shall include assessment of possible need for statutory or rule revisions.

Reuse

1. When appropriate, arrange for joint public meetings with customers to ensure that customers are made aware of the need for reuse system improvement projects, and the potential impacts the projects will have on service rates.

2. Inform the DER of the PSC public meetings with customers and hearings in which reuse of reclaimed water will be discussed.
3. Provide feasibility analyses of the financial impacts, if any, of reuse system projects on both the customers and the wastewater utilities within PSC jurisdiction.
4. Within 10 days of receipt of a reuse feasibility study, the PSC staff shall review the document for completeness of the financial aspects and shall notify the DER whether or not the document is complete and whether or not the PSC will be able to conduct a complete review. If the PSC staff determines that it will be able to review the document, the PSC staff shall provide comments and recommendations to the DER within 30 days of receipt of the complete document.
5. Participate in appropriate DER hearings in which the feasibility of reuse will be discussed.
6. Review proposed rate structures for reuse projects for private utilities within PSC jurisdiction. As noted in Section 403.064(6), F.S., and pursuant to Chapter 167, F.S., the PSC shall allow utilities which implement reuse projects to recover the full cost of such facilities through their rate structures.
7. Assist the water management districts in review of reuse feasibility studies associated with the mandatory reuse program in Chapter 17-40, F.A.C., and other reuse-related activities of the water management districts in the counties within PSC jurisdiction. A separate MOU between the water management districts and the PSC governs these activities.

DER RESPONSIBILITIES

The following is a general description of the roles and responsibilities of the DER related to potable water supply, water conservation, wastewater management, and reuse of reclaimed water. The DER agrees to adopt and implement policies and procedures necessary to administer these duties.

Water Supply

1. Review applications for construction of potable water supply systems.
2. Monitor compliance of potable water supply systems with applicable rules and drinking water standards.

3. Notify the PSC of impending abandonment or bankruptcy cases involving water utilities and assist the PSC in such cases, as needed.
4. For utilities subject to Chapter 367, F.S., the DER shall verify the existence of a certificate of authorization or order indicating exempt status from the PSC before issuance of a construction permit for a new water system.

Wastewater Management

1. Review applications for construction and operation of domestic wastewater facilities.
2. Monitor compliance of domestic wastewater management facilities with applicable rules and effluent discharge limitations.
3. Monitor water quality in the State's ground waters and surface waters.
4. Notify the PSC of impending abandonment or bankruptcy cases involving wastewater utilities and assist the PSC in such cases, as needed.
5. For utilities subject to Chapter 367, F.S., the DER shall verify the existence of a certificate of authorization or order indicating exempt status from the PSC before issuance of a construction permit for a new wastewater facility.

Reuse

1. Administer the State's reuse program.
2. Review reuse feasibility studies required by Section 403.064, F.S., the Antidegradation Policy, or the Indian River Lagoon System and Basin Act.
3. Within five working days after receipt of a reuse feasibility study required by Section 403.064, F.S., the Antidegradation Policy, or the Indian River Lagoon System and Basin Act, the DER shall provide a copy of the reuse feasibility study to the PSC. This applies only to feasibility studies produced by private utilities located within counties regulated by the PSC.
4. Final determinations on the adequacy of reuse feasibility studies will be made by the DER. Comments and recommendations made by the PSC on the financial aspects of these reuse feasibility studies will be considered by the DER.

5. Participate in appropriate PSC public meetings with customers and hearings in which raise issues raised by the DER are to be discussed. This may include, but is not limited to, expert witness testimony.

PROJECT COORDINATION

Water Supply

1. The PSC will designate a Water Supply Project Manager.
2. The DER's Drinking Water Section Administrator will serve as the DER's Water Supply Project Manager.
3. Exchange of information between the DER and the PSC shall be through the designated Water Supply Project Managers. Copies of pertinent correspondence related to water supply and water conservation issues shall be sent to the appropriate agency's Water Supply Project Manager.

Wastewater Management

1. The PSC will designate a Wastewater Management Project Manager.
2. The DER's Domestic Wastewater Section Administrator will serve as the DER's Wastewater Management Project Manager.
3. Exchange of information between the DER and the PSC shall be through the designated Wastewater Management Project Managers. Copies of pertinent correspondence related to wastewater management issues shall be sent to the appropriate agency's Wastewater Management Project Manager.

Reuse

1. The PSC will designate a Reuse Project Manager. All reuse feasibility studies provided to the PSC by the DER will be directed to this Project Manager.
2. The DER's Reuse Coordinator will serve as the DER's Reuse Project Manager for purposes of this agreement.
3. Reuse feasibility studies to be submitted to the PSC will be submitted over the signature of the DER Reuse Coordinator or over the signature of one of the six Water Facilities Administrators located in the DER district offices.

4. The DER Reuse Coordinator shall be copied on any correspondence between the PSC's Project Manager and the DER's Water Facilities Administrators regarding reuse feasibility studies.
5. Whenever a potential conflict regarding a specific project is identified, each agency will examine the alternative solutions available and then meet to discuss the issues involved and attempt to reach an agreement before announcing a position. If an agreement cannot be reached after due deliberations, several positions may be advocated. Such disagreements, if any, will not obviate this MOU.
6. Exchange of information between the DER and the PSC shall be through the designated Reuse Project Managers. Copies of pertinent correspondence between an agency and other parties concerning a reuse project shall be sent to the Reuse Project Manager of each agency until project completion.

Overall Coordination

The designated Water Supply, Wastewater Management, and Reuse Project Managers from the DER and the PSC shall meet as necessary, but at least annually, with the Director of the Water and Wastewater Division of the PSC and the Director of the Division of Water Facilities of the DER. The meetings will address and review progress on the water supply, wastewater management, and reuse programs in Florida and attempt to resolve any issues which may be identified by the staffs.


AMENDMENTS


This MOU may be amended by mutual agreement of the DER and PSC. It shall remain in effect until it is dissolved by mutual agreement among the agencies or terminated by an agency after giving written notice 30 days in advance to the other agency.

SENT BY FAX TELEPHONE TO THE SECRETARY

EFFECTIVE DATE AND SIGNATURES

This MOU will become effective after being signed by both parties.


Thomas M. Beard, Chairman
Florida Public Service
Commission


Carol M. Browner, Secretary
Department of Environmental
Regulation

Date

Nov 20, 92
Date

DOMESTIC WASTEWATER FACILITIES

DEP 62-600.400(3)(b)2.

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2. The preliminary design report does not provide reasonable assurances that the proposed wastewater facility technology will function as intended at the design capacity requested by the permittee.

(c) When the permit includes the treatment facilities and reuse or disposal systems, different permitted capacities may be established for the treatment, reuse, and disposal systems.

(4) Sampling Points

(a) Provisions shall be made in the design for easy access points for the purpose of obtaining representative influent and effluent samples. These access points shall be dry points which can be reached safely.

(b) Provisions for flow measurements shall be in accordance with Chapter 62-601, F.A.C.

Specific Authority: 403.061, 403.087, F.S.

Law Implemented: 403.021, 403.061, 403.062, 403.086, 403.087, 403.088, F.S.

History: New 11-27-89, Amended 1-30-91, 6-8-93, Formerly 17-600.400.

62-600.405 Planning for Wastewater Facilities Expansion.

(1) The permittee shall provide for the timely planning, design, and construction of wastewater facilities necessary to provide proper treatment and reuse or disposal of domestic wastewater and management of domestic wastewater residuals.

(2) The permittee shall routinely compare flows being treated at the wastewater facilities with the permitted capacities of the treatment, residuals, reuse, and disposal facilities.

(3) When the three-month average daily flow for the most recent three consecutive months exceeds 50 percent of the permitted capacity of the treatment plant or reuse and disposal systems, the permittee shall submit to the Department a capacity analysis report.

(4) The initial capacity analysis report shall be submitted according to the following:

(a) For new or expanded wastewater facilities for which the Department received a complete construction permit application after July 1, 1991, the initial capacity analysis report shall be submitted within 180 days after the last day of the last month in the three-month period referenced in Rule 62-600.405(3), F.A.C.

(b) For wastewater facilities for which the Department received a complete construction permit application on or before July 1, 1991, the initial capacity analysis report shall be submitted when the next application for a permit to construct or operate wastewater facilities is submitted to the Department unless:

1. The three-month average daily flow for any three consecutive months during the period July 1, 1990, to June 30, 1991, exceeds 90 percent of the permitted

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capacity. In such cases, the initial capacity analysis report shall be submitted to the Department no later than January 1, 1992.

2. The three-month average daily flow for any three-consecutive months during the period July 1, 1990, to June 30, 1991, exceeds 75 percent of the permitted capacity. In such cases, the initial capacity analysis report shall be submitted to the Department no later than July 1, 1992.

(c) In no case shall the initial capacity analysis report be required to be submitted before July 1, 1991, or before the three-month average daily flow exceeds 50 percent of the permitted capacity of the treatment plant or reuse or disposal systems, as described in Rule 62-600.405(3), F.A.C.

(5) The permittee shall submit updated capacity analysis reports to the Department according to the following:

(a) If the initial capacity analysis report or an update of the capacity analysis report documents that the permitted capacity will not be equaled or exceeded for at least 10 years, an updated capacity analysis report shall be submitted to the Department at five-year intervals or at each time the permittee applies for an operation permit or renewal of an operation permit, whichever occurs first.

(b) If the initial-capacity analysis report or an update of the capacity analysis report documents that the permitted capacity will be equaled or exceeded within the next 10 years, an updated capacity analysis shall be submitted to the Department annually.

(6) The capacity analysis report or an update of the capacity analysis report shall evaluate the capacity of the plant and contain data showing the permitted capacity; monthly average daily flows, three-month average daily flows, and annual average daily flows for the past 10 years or for the length of time the facility has been in operation, whichever is less; seasonal variations in flow; flow projections based on local population growth rates and water usage rates for at least the next 10 years; an estimate of the time required for the three-month average daily flow to reach the permitted capacity; recommendations for expansions; and a detailed schedule showing dates for planning, design, permit application submittal, start of construction, and placing new or expanded facilities into operation. The report shall update the flow-related and loading information contained in the preliminary design report submitted as part of the most recent permit application for the wastewater facilities pursuant to Rules 62-600.710 and 62-600.715, F.A.C.

(7) The capacity analysis report shall be signed by the permittee and shall be signed and sealed by a professional engineer registered in Florida.

(8) Documentation of timely planning, design, and construction of needed expansions shall be submitted according to the following schedule:

(a) If the initial capacity analysis report or an update of the capacity analysis report documents that the permitted capacity will be equaled or exceeded within the next five years, the report shall include a statement, signed and sealed by a professional engineer registered in Florida, that planning and preliminary design of the necessary expansion have been initiated.

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(b) If the initial capacity analysis report or an update of the capacity analysis report documents that the permitted capacity will be equaled or exceeded within the next four years, the report shall include a statement, signed and sealed by an engineer registered in Florida, that plans and specifications for the necessary expansion are being prepared.

(c) If the initial capacity analysis report or an update of the capacity analysis report documents that the permitted capacity will be equaled or exceeded within the next three years, the permittee shall submit a complete construction permit application to the Department within 30 days of submittal of the initial capacity analysis report or the update of the capacity analysis report.

(d) If the initial capacity analysis report or an update of the capacity analysis report documents that the permitted capacity will be equaled or exceeded within the next six months, the permittee shall submit to the Department an application for an operation permit for the expanded facility. The operation permit application shall be submitted no later than the submittal of the initial capacity analysis report or the update of the capacity analysis report.

(9) If requested by the permittee, and if justified in the initial capacity analysis report or an update to the capacity analysis report based on design and construction schedules, population growth rates, flow projections, and the timing of new connections to the sewerage system such that adequate capacity will be available at the wastewater facility, the Secretary or Secretary's designee shall adjust the schedule specified in Rule 62-600.405(8), F.A.C.

Specific Authority: 403.061, 403.087, F.S.

Law Implemented: 403.021, 403.061, 403.086, 403.087, 403.088, 403.0881, ²403.101, F.S.

History: New 1-30-91, Formerly 17-600.405.

62-600.410 Operation and Maintenance Requirements.

(1) All domestic wastewater treatment plants shall be operated and maintained in accordance with the applicable provisions of this chapter and so as to attain, at a minimum, the reclaimed water or effluent quality required by the operational criteria specified in this chapter, and to meet the appropriate domestic wastewater residuals management criteria specified in Chapters 62-2, 62-7, 62-640, and 62-701, F.A.C.

(2) All reuse and land application systems shall be operated and maintained in accordance with the applicable provisions of this chapter and the provisions of Chapter 62-610, F.A.C.

(3) All underground injection effluent disposal systems shall be operated and maintained in accordance with the applicable provisions of this chapter and the provisions of Chapter 62-28, F.A.C.

(4) Wetlands application systems shall be operated and maintained in accordance with the applicable provisions of this chapter and the provisions of Chapter 62-611, F.A.C.