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10	REBUTTAL TESTIMONY OF RICHARD M. HARVEY, P.E.
11	BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
12	ON BEHALF OF
13	SOUTHERN STATES UTILITIES, INC.
14	DOCKET NO. 950495-WS
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1 **Q**. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS. 2 Α. My name is Richard M. Harvey. My business address 3 is Kimley-Horn and Associates, Inc., 2700 Blair 4 Stone Road, Suite D, Tallahassee, FL 32301. 5 Q. COULD YOU BRIEFLY DESCRIBE YOUR EDUCATIONAL 6 BACKGROUND AND YOUR PROFESSIONAL QUALIFICATIONS? 7 Α. I have a Bachelor of Science degree in Zoology from 8 the University of Florida, a Bachelor of Science 9 degree in Civil Engineering from Florida State 10 University, and a Master of Science degree in

11 Environmental Engineering from the University of 12 Florida. I am a registered Professional Engineer 13 in the State of Florida, and I am currently a 14 member of the American Water Works Association. 15 Throughout my career I have been a member of a 16 number of professional organizations which focus on 17 water and wastewater utility issues, including the 18 Water Pollution Control Federation (now known as 19 the Water Environment Federation) and the North 20 American Lake Management Society.

Q. PLEASE DESCRIBE YOUR EMPLOYMENT EXPERIENCE RELATING
 TO WATER AND WASTEWATER UTILITY SERVICE.

A. From 1972 until 1976, I worked for the Florida
 Department of Pollution Control. The Florida
 Department of Pollution Control became the Florida

1 Department of Environmental Regulation by act of 2 the Legislature in 1975. My primary job 3 responsibilities during that period included the 4 administration of a program charged with developing 5 river basin water quality management plans for all 6 thirteen basins in Florida and providing technical 7 support to the municipal wastewater facilities 8 planning/construction grants program for the state. 9 These two programs were designed not just to fund 10 wastewater facility construction, but to identify 11 the treatment levels the facilities had to meet to 12 protect water quality and the most cost-effective 13 ways to achieve those treatment levels as well.

14 From 1976 to 1985, I worked for the United 15 States Environmental Protection Agency ("EPA") 16 Region IV office in Atlanta, Georgia. While 17 employed by EPA, one of the jobs I held was Chief 18 of the Alabama/Georgia 201 Facilities Planning 19 Section. That Section was responsible for 20 coordinating the development of "Facilities Plans" 21 for municipal wastewater utilities in Alabama and 22 Georgia. The Facilities Plans were planning 23 documents which evaluated and recommended cost-24 effective collection, treatment, and disposal 25 options for the municipal wastewater facilities.

From 1988 to 1991, I served as Deputy Director 1 of the Water Facilities Division of the Florida 2 Department of Environmental Regulation ("DER"). 3 The Water Facilities Division was and still is, 4 responsible for a number of important water 5 resources and water facility programs, including 6 7 the domestic wastewater program, the drinking water National the Pollutant Discharge 8 program, 9 Elimination System ("NPDES") program, the state 10 revolving loan fund program, and the Underground Injection Control ("UIC") program. Essentially, 11 the Water Facilities Division is responsible for 12 13 administering all state and delegated federal 14 regulatory programs for over 11,000 domestic 15 wastewater and drinking water treatment facilities in Florida -- the vast majority of which are 16 17 privately owned and operated. From 1991 until the end of 1995, I served as Director of the Water 18 19 Facilities Division at DER, which became the Department of Environmental Protection ("DEP") in 20 1994. 21

From December 1995 until the present, I have been employed by Kimley-Horn and Associates, Inc. as Director of Water Resources. In that capacity, I provide consulting services on permitting related

issues for both publicly and privately owned
 domestic wastewater and drinking water treatment
 facilities.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

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The purpose of my testimony is to rebut certain 5 Α. assertions made in the direct testimony of Office 6 7 of Public Counsel ("OPC") witness Mr. Ted Biddy, 8 Marco Island Civic Association ("MICA") witness Mr. 9 Michael Woelffer, and Sugarmill Woods Civic 10 Association, Inc. ("SMWCA") witness Mr. Buddy L. Hansen. Specifically, I will rebut the following 11 from the testimony of these witnesses: 12 1) that Southern States Utilities, Inc. ("SSU") not be 13 14 allowed its requested margin reserve in its rate base and 2) that plant facilities dedicated to 15 reuse should not be considered 100% used and 16 17 useful. I will also comment on certain portions of the prefiled direct testimony of staff witness Mr. 18 19 Gregory Shafer. Since I believe my comments on the 20 testimony of Mr. Shafer are an appropriate introduction to my comments on the intervenors' 21 22 testimony, I will begin there.

23 Q. WHAT COMMENTS DO YOU HAVE CONCERNING THE TESTIMONY
24 OF MR. SHAFER?

25 A. Mr. Shafer makes a number of statements on the role

1 of the Commission in relation to the role of environmental agencies, such as DEP and the water 2 management districts. For example, on page 3, 3 beginning at line 6, Mr. Shafer states that the 4 5 Commission is obligated to provide utilities the opportunity to generate funds necessary to meet 6 environmental standards and that the Commission has 7 always recognized the importance of providing 8 adequate financial coverage for utilities to meet 9 10 those standards even though the Commission itself does not set those standards. On page 5, beginning 11 at line 15, Mr. Shafer discusses the Commission's 12 function in assisting environmental agencies to 13 14 facilitate compliance with the requirements of those agencies. On page 9, beginning on line 14, 15 Mr. Shafer mentions that cooperation between the 16 Commission and the environmental agencies reduces 17 regulatory inefficiency and allows utilities to 18 19 achieve environmental compliance. I agree with Mr. 20 Shafer that cooperation between the Commission and 21 the environmental agencies is highly desirable. 22 However, I am concerned that because of certain 23 used and useful conventions the Commission has 24 employed in the past, the Commission has neither 25 substantially encouraged compliance with

environmental/public health requirements nor
 substantially promoted resource protection.

Q. COULD YOU EXPLAIN WHAT YOU MEAN?

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4 Α. Yes. I think SSU witness Hartman's direct 5 testimony framed this broader issue very concisely, 6 and I am in complete agreement with Mr. Hartman. 7 The Commission must formulate economic regulation 8 practices and policies which encourage and advance 9 environmental compliance, protection of public 10 health environmental preservation, proper facility 11 design, and economies of scale. Economic 12 regulation which does little to promote these ends 13 is deleterious to the environment, the utility, the 14 customers, and the citizens of the state at large. 15 As Mr. Hartman pointed out, if the Commission's 16 used and useful conventions do not parallel design 17 and regulatory requirements, used and useful is a 18 direct financial disincentive for regulatory 19 compliance and environmental protection. Such a 20 disincentive promotes resource endangerment. 21 Furthermore, as a matter of principle, I think it 22 is fundamentally unfair for one or more agencies of 23 the state to require compliance with certain level 24 and service, public health, of environmental 25 standards and for the Commission's enabling statute

and its rules to require the same, but for the Commission to disallow the full costs of such compliance.

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On page 5 of his testimony, Mr. Shafer 4 mentions the goal of resource protection and how 5 the Commission may help achieve that goal by, for 6 7 example, setting conservation rates. Mr. Shafer's 8 example is illustrative and appropriate. However, 9 it seems to me that the most conspicuous mechanism for the Commission to achieve the goal of resource 10 protection is the used and useful mechanism. 11 Used and useful dictates on what level of investment a 12 13 utility under Commission regulation may earn. 14 Therefore, it has a direct influence on a utility's action or inaction regarding compliance and a 15 direct influence on what type and size of water and 16 facilities a utility 17 wastewater constructs. Neither the Commission nor the environmental 18 19 agencies can expect a utility to achieve meaningful 20 compliance with environmental requirements and 21 protect the public health and preserve the 22 environment if the utilities which the Commission 23 regulates do not have a meaningful opportunity to 24 recover the costs associated with compliance, 25 protection, and preservation.

It is my testimony that the Commission must in 1 this case and in all cases, in Mr. Shafer's words, 2 3 "provide the utility with the opportunity to generate the funds necessary to meet environmental, 4 5 and safety standards," and "reduce health. confusion on the part of utilities and allow 6 7 utilities flexibility in the way that they achieve 8 compliance with each agency." However, in my observation, certain of the Commission's used and 9 useful actions have been susceptible to a rates-10 driven resistance which is counterproductive to 11 environmental and public health concerns. 12

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Q. ON WHAT DO YOU BASE THIS OBSERVATION?

Until a few years ago, I was personally not even 14 Α. familiar with the concept of used and useful 15 16 despite my many years of experience in the water and wastewater industry. It was only when the 17 18 Water Facilities Division began hearing complaints 19 from some utilities about their inability to 20 recover the costs associated with reuse projects identified in their legislatively mandated reuse 21 22 feasibility studies that it was brought to my 23 It had always been my belief, and the attention. 24 belief of the other engineers at DER/DEP, that 25 privately owned utilities, having no access to

public funds, would and must prudently spend the money they had available to maintain and expand their facilities and, at the same time, take advantage of economies of scale wherever possible. After all, constructing and maintaining these water and wastewater facilities is a capital intensive proposition.

8 Upon hearing the utilities' complaints, I 9 asked my staff to meet with the Commission staff so we could obtain a better understanding of the used 10 and useful concept. We had several meetings, some 11 12 of which I attended. Eventually, the Commission 13 and DER came to agree to a Memorandum of 14 Understanding ("MOU") which set forth various 15 cooperative efforts and responsibilities. Ι 16 thought the MOU was a very positive step, even 17 though in the process of negotiating the MOU there 18 appeared to be a certain measure of resistance to 19 the rates impacts of DER's goals of protecting the 20 public health and the environment. With regard to 21 DER's reuse concern, the MOU reinforced the law at 22 the time. The MOU states,

As noted in Section 403.064(6), F.S., and
pursuant to Chapter 367, the PSC shall
allow utilities which implement reuse

projects to recover the full cost of such facilities through their rate structures. For ease in reference and identification, a copy of the MOU is attached to my testimony as Exhibit _____ (RMH-1).

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6 At about the same time as the MOU was being 7 worked out, the Commission staff was working on 8 proposed rules which addressed used and useful on a 9 broad scale. These proposed rules were discussed 10 at various meetings between Commission staff and 11 DER employees under my supervision. When drafts of 12 the used and useful rules were completed, the 13 Commission staff sought DER's comments on the rules. Attached to my testimony as Exhibit _____ 14 (RMH-2) are two letters from DER to the Commission 15 16 staff commenting on the proposed rules as they 17 existed at the time. The first letter, dated July 30, 1992, is from me to Mr. Charles Hill, and the 18 19 second, dated July 14, 1993, is from one of my 20 Bureau Chiefs, Richard Drew, to Mr. John Williams. 21 Both letters, emphasize, among other things, that 22 the proposed rules should be written so all 23 facilities necessary for reuse be considered 100% 24 used and useful and so the Commission's used and 25 useful policies parallel the requirements of Rule

1 17-600.405, Florida Administrative Code (which has since be renumbered as Rule 62-600.405). 2 This rule planning for wastewater facility 3 addresses Sometime after these letters were 4 expansions. 5 sent, the Commission decided to postpone 6 consideration of the proposed used and useful 7 rules.

After the MOU was signed, DER included PSC 8 9 staff members on the Reuse Coordinating Committee, consisting of representatives from DER/DEP, the 10 management districts, and, 11 five water now. Commission staff. When Commission staff contacted 12 DER/DEP staff for input on the used and useful 13 rules still being worked on, we provided input. 14

15 By a letter from Mr. Charles Hill dated May 15, 1995, to Ms. Elsa Potts and Mr. Van Hoofnagle, 16 Section Administrators under my supervision as 17 Division Director, the Commission staff transmitted 18 to DEP for comment staff's latest draft of the 19 proposed used and useful rules. A copy of the 20 21 letter and the draft rules is attached as Exhibit (RMH-3). I note from this Exhibit that the 22 Commission staff did not change any of its previous 23 24 drafts to adequately address the reuse question and 25 it refused DEP's repeated recommendations

concerning Rule 62-600.405. On June 29, 1995, I 1 wrote a letter to Mr. John Williams of the 2 Commission staff commenting on the draft rules. A 3 copy of this letter is attached as Exhibit ____ 4 5 (RMH-4). In the letter, I emphasized that the used 6 and useful rules should and must separately 7 identify reuse facilities and declare those facilities to be 100% used and useful. 8 I also 9 stressed that the margin reserve component for used and useful be at least five years for both water 10 and wastewater facilities, the latter being 11 consistent with Rule 62-600.405. On July 12 and 12 1995, the Commission staff held a public 13 13, 14 workshop to discuss the staff's May 10, 1995, draft 15 used and useful rules. I directed persons under my 16 supervision to participate in the workshop on behalf of DEP. Representatives from DEP, the water 17 and wastewater industry, Commission staff, and OPC 18 19 were present. From the reports of my people and 20 the transcript of the workshop, the Commission 21 staff was, again, not receptive to the above two 22 recommendations in my letter. On February 20, 23 1996, DEP Secretary Wetherell wrote Commission 24 Chairman Clark emphasizing the need for cooperation 25 between agencies on the used and useful rules. A

copy of this letter is attached as Exhibit _____
 (RMH-5).

I do not understand why, after three years and 3 several law changes which solidify the issue, the 4 used and useful status of reuse facilities can even 5 be considered subject to debate. Further, during 6 the time the used and useful rules were being 7 discussed, the Commission has more than once 8 9 rejected the assertion that Rule 62-600.405 mandates at least a five-year margin reserve for 10 wastewater treatment plants, contrary to DEP's 11 12 recommendations.

consideration of the 13 above, and in In consideration of the comments I read 14 in the transcript from recent Commission 15 a agenda conference at which a reuse project plan for Aloha 16 Utilities was considered, I think a rates-driven 17 18 resistance to environmental and public health 19 protection and environmental preservation is 20 present. The intervenors in this case, needless to 21 say, make no bones about their motivation for the 22 used and useful recommendations in their testimony. 23 Q. WHAT ARE THE DANGERS OF A RATES-DRIVEN RESISTANCE TO PROTECTING THE ENVIRONMENT AND PUBLIC 24 25 HEALTH?

If a Mr. Shafer seems to acknowledge the dangers. 1 Α. 2 utility does not have sufficient earnings to comply with regulatory requirements, the utility cannot 3 It is that simple. Depending on the 4 comply. utility's situation, the environmental and public 5 health impacts of noncompliance may be devastating 6 7 and not easily, if ever, reversed.

The Commission must understand that since 8 regulatory compliance is an expensive proposition 9 and is becoming even more expensive, as Mr. Shafer 10 and staff witness Dr. Beecher assert, the risk to 11 the public health and the environment can be 12 measured by the financial viability of the 13 utilities who bear the ultimate responsibility for 14 protecting the environment and public health. 15 Α utility "on the edge" financially is a utility "on 16 the edge" as far as the environment and public 17 health are concerned. Focusing again on used and 18 useful, I will make my point this way. If the 19 Commission's used and useful practices 20 do not provide an incentive for utilities to promote 21 22 environmental compliance and preservation and protect the public health, the utilities cannot 23 function in a way which achieves those goals. 24

Let me offer some examples of the dangers I

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have referred to. First is the example of the 1 2 Miami-Dade wastewater collection, treatment, and disposal system. Exhibit _____ (RMH-6) is an 3 article from the Engineering News Record describing 4 the circumstances of the case. Since the situation 5 6 arose while I was at DEP, I am personally familiar 7 with the pertinent facts. For many years, the 8 Miami-Dade sewer rates failed to generate adequate 9 revenues to properly operate and maintain the sewer system. As a result, and not unexpectedly, major 10 problems developed in the wastewater system. 11 Eventually, thousands of sewer overflows and 12 numerous pipe and pump station failures occurred 13 which resulted in, among other things, street 14 intersections being periodically flooded with 15 thousands of gallons of raw sewage and raw sewage 16 spilling into the Miami River and other bodies of 17 In order to correct the problems, Miami-18 water. Dade is spending over \$1.1 billion to rehabilitate 19 its facilities, the largest wastewater collection 20 21 and treatment system in the Southeast. To generate the revenues needed to fund the rehabilitation, 22 monthly water and sewer bills have more than 23 24 doubled, with no end in sight. The point of this 25 that the financial example is disaster, the environmental disaster, and the public health hazard could have been avoided in the first place had Miami-Dade not insisted on keeping rates as low as the public wanted the rates and instead charged rates sufficient to operate and maintain the system in an environmentally sound manner.

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7 The contamination of the Apalachicola Bay also 8 illustrates the impact of ignoring environmental 9 and public health concerns in rate setting. The 10 City of Apalachicola is located at the mouth of the Apalachicola River, which flows into Apalachicola 11 12 Bay. The Apalachicola Bay is a Class II water body 13 and was one of Florida's last remaining water 14 bodies approved for shellfish harvesting. The 15 City's wastewater utility rates did not generate revenues sufficient for the City to adequately 16 17 operate and maintain its existing wastewater collection, treatment, and disposal system or to 18 19 design, construct, and install additional 20 facilities. The latter aspect was of particular 21 concern because had the City's rates generated adequate revenue, the City may have provided 22 23 central wastewater service to areas served by malfunctioning septic tanks. Over time the City's 24 25 facilities deteriorated and continued to

1 malfunction. Downstream water quality problems 2 became significant. Shellfish harvesting was 3 halted. To help correct the environmental and 4 public health problems in and around the Bay, the State of Florida, through Legislatively approved 5 6 grants and, more recently, a loan exceeding \$4 7 million, will financially assist the City with its wastewater problems so the water quality issues can 8 9 be avoided in the future. Again, all of this may 10 have been avoided if proper consideration been given to the environment and the public health in 11 12 rate-setting.

13Q.WHY ARE THESE MATTERS IMPORTANT TO YOUR REBUTTAL14TESTIMONY IN THIS CASE?

DEP's recommendations on the used and useful 15 Α. 16 considerations of the Commission are stated in the referred to and the MOU. 17 letters I DEP's recommendations were offered, not in support of the 18 19 utility industry, not in support of utility 20 customers, but in support of environmental 21 preservation, the public health, and the statutes, 22 rules, regulations, and permits which DEP enforces. 23 The reuse and margin reserve used and useful 24 proposals offered by the intervenor witnesses in 25 this case are contrary to those DEP recommendations

and, therefore, will put SSU at risk of regulatory noncompliance and potentially put the environment and public health at risk. SSU's used and useful proposals in these areas are consistent with DEP's recommendations.

6 BEFORE DISCUSSING THE SPECIFIC SUBJECT AREAS OF Q. 7 YOUR REBUTTAL TO THE INTERVENORS' TESTIMONY, DO YOU 8 HAVE ANY PRELIMINARY COMMENTS TO THEIR TESTIMONY? 9 Α. It is entirely too clear to me that the Yes. 10 intervenor witnesses have not given due 11 consideration, or any consideration, to the broader 12 issues I have mentioned. The intervenors instead 13 insist that used and useful is exclusively a 14 mechanism to financially partition indivisible system components in order to artificially and 15 16 temporarily reduce what current customers will pay. 17 I am astounded by the intervenors' proposals that 18 there be no margin reserve whatsoever and that 19 facilities necessary to provide reuse not be 20 considered 100% used and useful, the latter despite 21 clear authority to the contrary. legal Ι 22 understand perfectly the customers' interests in 23 these matters. However, for the reasons I, and 24 SSU's other witnesses, have explained, used and 25 useful cannot be as the intervenors say it should

be.

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it is 2 addition, Ι believe totally In 3 inappropriate for anyone to consider SSU's used and useful proposals as some sort of opposite extreme 4 5 to the proposals of the intervenors and, therefore, not really supportable and subject to pruning to 6 7 reach a middle-ground. SSU's used and useful 8 reserve proposals on margin and reuse are consistent with DEP's recommendations. Contrary to 9 10 the impression some people unfortunately have, DEP is not an extremist, fringe environmental advocacy 11 12 group. DEP is an agency of the State of Florida, charged by the Florida Legislature with enforcing 13 statutes of the Legislature's creation and rules 14 the Legislature has authorized DEP 15 which to 16 implement. Contrary to another impression some does 17 people unfortunately have, DEP in fact 18 consider the financial impacts of its regulations. 19 Like every state agency, DEP is required by law to 20 study those impacts before it passes a rule. There is little point to the Legislature and DEP making 21 22 public interest determinations regarding issues of 23 public health and environmental impact if the 24 Commission takes counteractive measures such as 25 those advocated by the intervenors.

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 Q. WHAT DO YOU BELIEVE WOULD BE THE RAMIFICATIONS OF

 2
 ELIMINATING SSU'S REQUESTED MARGIN RESERVE AS THE

 3
 INTERVENOR'S PROPOSE?

believe the results would be the sort of 4 Α. Т perpetual capacity crises mentioned in the DEP 5 letters and referred to by Mr. Hartman. 6 With the 7 capacity crises comes: 1) compliance problems, 2) 3) increased risk of 8 service problems, 9 environmentally harmful conditions, 4) increased risk to the public health and 5) higher costs to 10 customers in the long run. The Commission would 11 12 place utilities in the position of having to 13 constantly catch up to capacity and reliability requirements because the utilities have no economic 14 incentive to plan ahead. This will almost 15 inevitably lead to service and compliance issues, 16 17 such as insufficient water pressure, connection 18 moratoria, lack of sufficient disposal facilities, 19 improper discharge of wastewater, and insufficient wastewater treatment to name a few. 20 Building 21 plants in increments sized to meet short-term 22 demand, and only as that demand becomes immediate, costs the utility and the customers more in the 23 24 long run. The economies of scale referenced in the 25 DEP letters and supported by the economies of scale

evaluation Mr. Hartman sponsors in his rebuttal are not encouraged without a margin reserve.

I noted with curiosity that Mr. Buddy L. 3 Hansen on page 14, line 7, of his testimony 4 expresses concern with SSU's building water plants 5 sized only to meet immediate needs, yet he opposes 6 7 a margin reserve. Mr. Hansen apparently fails to understand the cause and effect correlation: 8 the 9 lack of a sufficient margin reserve is one very 10 clear way a Commission regulated utility is encouraged to operate at or near capacity. This is 11 12 so whether the margin reserve period is eliminated or insufficient or if the Commission imputes 13 contributions against the margin reserve and 14 15 thereby diminishes the margin's incentive, as Mr. 16 Hartman states.

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17 Q. CAN YOU ADDRESS HOW DEP RULES ADDRESS THE PURPOSE 18 AND NEED OF A MARGIN RESERVE?

While the term "margin reserve" is not 19 Α. Yes. specifically used in the DEP rules, the concept is 20 21 most conspicuously embodied in Rule 62-600.405, "Planning 22 which is entitled for Wastewater 23 Facilities Expansion." A copy of this rule is attached as Exhibit _____ (RMH-7). 24 This rule 25 states,

1 The permittee **shall** provide for the 2 timely planning, design, and construction 3 of wastewater facilities necessary to 4 provide proper treatment and reuse or 5 disposal of domestic wastewater.

The rule then goes on to establish a schedule of 6 expansion activities when certain conditions exist, 7 as I will discuss later. The purpose/goal of the 8 9 rule is to insure that utilities have adequate facilities for the proper collection, treatment and 10 reuse or disposal of wastewater flows and thereby 11 12 avoid exposure to the environmental and health hazards of improper wastewater discharges which 13 14 result when facilities are inadequate. When this 15 rule was being developed under my supervision in 16 1991, DEP and all those participating in the rule-17 making process recognized that to plan, permit, 18 design, and construct wastewater treatment 19 facilities routinely takes a significant period of 20 Because of this, and in order to ensure the time. 21 proper protection of the public health and the 22 environment, a process was developed in the rule to 23 make certain that utilities began the expansion process for treatment facilities when five years or 24 25 less of reserve capacity was available. In

recognition of how long it takes to go through the 1 2 expansion process, DEP wanted to make certain that 3 utilities started the process early enough so 4 adequate treatment plant capacity would be 5 available when that capacity was needed, again, 6 with the goal of avoiding improper discharges 7 attributable to capacity deficiencies. What this 8 means is that if a wastewater facility does not 9 have at least five years of available capacity, the 10 utility **must** have begun the expansion process.

11 think it important to understand that Ι 12 expansion is the subject of the rule. The 13 difficulty and impact of each step in the expansion 14 process will vary from case to case, as DEP and the 15 The construction step of the rule recognize. 16 expansion process may be long or short, expensive 17 or inexpensive, in relation to the other steps. 18 For instance, the Town of Jupiter recently spent 19 over \$600,000 just to get a discharge permit for 20 one of its facilities, and the Pace Water Board has spent the last three years trying to identify an 21 22 acceptable disposal option for its excess (that 23 which cannot be reused) reclaimed water. 24 Nonetheless, the expansion requirements of the rule 25 must be met within the times prescribed.

DEP's existing rules address drinking water 1 facility sizing and planning in that those rules 2 establish design standards and level of service 3 requirements. The existing drinking water rules do 4 not have a provision which parallels Rule 62-5 6 600.405. However, as mentioned in my June 29, Exhibit (RMH-4), DEP has 7 letter, 1995, recognized the need for a drinking water facilities 8 rule similar to Rule 62-600.405 and has for the 9 last year or so been working on one. 10 I note that Exhibit _____ (RMH-4) states that DEP recommends at 11 for 12 least a five year margin reserve water facilities. Many of the reasons justifying a five-13 year margin reserve for wastewater facilities apply 14 15 to water facilities as well. The search for a 16 suitable well site and obtaining a consumptive use permit, for example, can very often take a 17 considerable period of time, contrary to what Mr. 18 Biddy seems to imply. 19

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 Q. DO YOU DISAGREE WITH MR. BIDDY'S TESTIMONY

 21
 REGARDING THE MEANING OF RULE 62-600.405 AS IT

 22
 RELATES TO MARGIN RESERVE?

A. Yes. In Mr. Biddy's testimony, he states that
the five year time frame in the rule is mainly used
as the interval for submitting a capacity analysis

report ("CAR") and that the Commission should not 1 translate that five year time frame as the actual 2 time required for new plant expansions. Mr. 3 Biddy's interpretation is flatly incorrect. The 4 rule prescribes actions that are to be taken to 5 insure that facility expansions are completed in a 6 The rule mandates actions the 7 timely manner. permittee must take depending on how much time the 8 CAR indicates is remaining before the facility 9 capacity is exceeded. If the CAR indicates less 10 than five years of capacity are left, the permittee 11 must take appropriate actions to expand the 12 facility. Specifically, if less than five years of 13 CAR has to include 14 capacity remain, the а statement, signed and sealed by a professional 15 16 engineer that planning and preliminary design of the necessary expansion have been initiated. 17 If less than four years of capacity remain, the CAR 18 must include a signed and sealed statement that 19 20 plans and specifications for the necessary expansion have been prepared. If less than three 21 22 years remain, a complete construction permit 23 application must be submitted. And if less than 24 six months remain, an application for an operating 25 permit for the newly expanded facility must be

submitted. So clearly, once a CAR identifies that
less than five years of capacity remain, the rule
prescribes a process to follow to insure the
facility expansion is completed in a timely manner
(always less than five years).

6 Mr. Biddy interprets the rule in such a way as 7 to suggest that utilities are discouraged from plant expansion until the last possible moment. 8 That is precisely the situation the rule was 9 10 designed to avoid. If the Commission accepts Mr. Biddy's proposal or any margin reserve period for 11 12 wastewater treatment facilities less than five years, the Commission will defeat the purpose of 13 cost-effective rule disregard the 14 the and 15 resolution to the environmental and public health 16 issues.

17 Q. WHY IS THAT?

A. For all of the reasons DEP representatives have
already explained to the Commission staff in person
and in writing and as I and Mr. Hartman have
already said.

22 Exhibit _____ (RMH-4) provided comment on 23 staff's proposed three year margin reserve for 24 wastewater plant on the premise that the margin 25 reserve should only reflect a period for

construction time. As Mr. Hill acknowledged in his 1 letter included in Exhibit (RMH-3), this 2 premise was motivated by the Commission staff's 3 concern with rate levels. On page 6 of Exhibit 4 (RMH-4) DEP refuses the Commission staff's proposal 5 6 of a three year margin reserve for wastewater 7 treatment plants, as well as water treatment plants, as follows (bold type in original): 8 9 BY SPECIFYING THAT "USED AND USEFUL" INCLUDE NO MORE THAN A THREE-YEAR 10 RESERVE CAPACITY FOR WATER 11 AND WASTEWATER TREATMENT FACILITIES, THE 12 13 PSC WILL BE ENCOURAGING UTILITIES TO BUILD THESE FACILITIES IN THREE-YEAR 14 15 STAGES. AND BY ENCOURAGING 16 UTILITIES TO BUILD WATER AND WASTEWATER TREATMENT FACILITIES IN 17 THREE-YEAR STAGES, THE PSC WILL BE 18 19 ENCOURAGING UTILITIES TO IGNORE 20 ECONOMIES OF SCALE AND LONG-TERM 21 ECONOMIC BENEFITS TO THEIR 22 CUSTOMERS, WHICH IS EXACTLY THE 23 OPPOSITE OF WHAT THE PSC WANTS TO 24 ENCOURAGE. (THE PSC'S PROPOSED RULE 25 25-30.432(3) STATES, "UTILITIES ARE

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1ENCOURAGED TO UNDERTAKE PLANNING2THAT RECOGNIZES CONSERVATION,3ENVIRONMENTAL PROTECTION, ECONOMIES4OF SCALE, AND [THAT] WHICH IS5ECONOMICALLY BENEFICIAL TO ITS6CUSTOMERS OVER THE LONG TERM.")

7 FURTHERMORE, BY RECOGNIZING 8 ONLY A THREE-YEAR RESERVE CAPACITY, 9 THE PSC WILL BE PUTTING UTILITIES IN 10 AN AWKWARD POSITION. THE DEP'S 11 EXISTING RULE 62-600.405 REQUIRES 12 UTILITIES TO BEGIN PLANNING AND 13 DESIGNING THE EXPANSION OF 14 WASTEWATER TREATMENT FACILITIES WHEN 15 THERE IS FIVE YEARS OR LESS OF 16 RESERVE CAPACITY AT THE FACILITIES. 17 (NOTE THAT WE INTEND TO IMPLEMENT A 18 SIMILAR RULE FOR COMMUNITY DRINKING 19 WATER TREATMENT FACILITIES.) YET, 20 UTILITIES WILL HAVE TO CONSTRUCT 21 WATER AND WASTEWATER TREATMENT 22 FACILITIES IN NO MORE THAN THREE-23 YEAR STAGES IF THEY WANT TO RECOVER 24 THE FULL COST OF THE FACILITIES. 25 THUS, UTILITIES THAT WANT TO RECOVER

THE FULL COST OF THEIR WATER AND 1 2 WASTEWATER TREATMENT FACILITIES WILL 3 HAVE TO BE CONTINUOUSLY PLANNING AND 4 DESIGNING THE NEXT THREE-YEAR 5 EXPANSION OF THESE FACILITIES EVEN 6 WHILE THEY ARE CONSTRUCTING THE 7 PRESENT THREE-YEAR EXPANSION OF 8 THESE FACILITIES.

9 WE STRONGLY RECOMMEND THAT THE 10 PSC ALLOW AT LEAST A FIVE-YEAR 11 RESERVE CAPACITY FOR WATER AND 12 WASTEWATER TREATMENT FACILITIES. 13 ALTHOUGH A FIVE-YEAR RESERVE 14 CAPACITY MAY STILL NOT FULLY 15 ENCOURAGE USE OF ECONOMIES OF SCALE. 16 IT WILL MAKE THE PSC'S "USED AND 17 USEFUL" RULE SOMEWHAT CONSISTENT 18 WITH THE DEP'S RULE 62-600,405. 19 (UTILITIES THAT WANT TO RECOVER THE 20 FULL COST OF THEIR WASTEWATER 21 TREATMENT FACILITIES WILL HAVE TO 22 BEGIN PLANNING AND DESIGNING THE 23 NEXT FIVE-YEAR EXPANSION OF THESE 24 FACILITIES ONLY AFTER THEY HAVE 25 COMPLETED CONSTRUCTING THE PRESENT

EXPANSION 1 FIVE-YEAR OF THESE FACILITIES.) IF THE PSC TRULY WANTS 2 3 TO ENCOURAGE UTILITIES TO TAKE ADVANTAGE OF ECONOMIES OF SCALE, THE 4 SHOULD CONSIDER PSC ALLOWING AT 5 6 LEAST A TEN-YEAR RESERVE CAPACITY FOR WATER AND WASTEWATER TREATMENT 7 FACILITIES. GUIDELINES DEVELOPED 8 9 UNDER THE U.S. ENVIRONMENTAL 10 PROTECTION AGENCY'S OLD CONSTRUCTION 11 GRANTS PROGRAM FOR WASTEWATER 12 TREATMENT FACILITIES RECOMMENDED CONSTRUCTING WASTEWATER TREATMENT 13 FACILITIES IN NO LESS THAN TEN-YEAR 14 STAGES. 15

This correspondence exemplifies all of the 16 things I have talked about so far. DEP recommended 17 a margin reserve consistent with the rules it 18 implemented to protect the public health and the 19 environment and consistent with DEP's expertise in 20 water and wastewater facilities. As Mr. Shafer, 21 22 Mr. Hartman, and Secretary Wetherell all agree, 23 economic regulatory policies must be consistent 24 with environmental goals so the environmental goals 25 can be attained. Yet, a three-year margin reserve

1 has been urged because of a rate-driven resistance 2 which not only serves to defeat environmental and 3 public health goals, but which is not in the least bit cost-effective. As illustrated by the Miami-4 5 Dade and Apalachicola examples, overdue capital 6 investment can be extraordinarily costly, and as 7 explained in detail by Mr. Hartman in his rebuttal, 8 a margin reserve of five years is needed for the 9 utility to take even modest advantage of economies 10 of scale.

 11
 Q. IS IT YOUR TESTIMONY THEN THAT THE MARGIN RESERVE

 12
 ALLOWANCES SSU HAS REQUESTED IN THIS CASE ARE

 13
 JUSTIFIED?

A. Yes. SSU's requested margin reserve allowances are
less than, but consistent with, DEP's
recommendations and should be adopted for the
reasons I have explained.

18 Q. SHOULD FACILITIES NECESSARY TO PROVIDE REUSE BE
 19 CONSIDERED 100% USED AND USEFUL?

A. Absolutely. My answer is not just a matter of
opinion, it is a matter of law, as previously
stated by DEP and by Mr. Hartman. Neither Mr.
Biddy nor Mr. Woelffer made any attempt whatsoever
to address the legal authority cited by Mr. Hartman
in his direct testimony. It is ridiculous to me

1 that this even an issue in this case. All prudent 2 investment in facilities required by rule or permit to provide reuse must by law be considered 100% 3 used and useful, this would include all prudent 4 investment in facilities necessary for wet weather 5 6 discharge and storage of effluent, such as SSU's percolation ponds for Marco Island and the wetlands 7 8 at Buenaventura Lakes.

9 Q. DO YOU HAVE ANYTHING TO ADD TO CONCLUDE YOUR 10 TESTIMONY?

Yes. I would like the Commission to know that SSU's 11 Α. 12 reputation with DEP for overall environmental 13 compliance, responsiveness, communication and cooperation is very good. DEP is aware of SSU's 14 15 efforts as an advocate and leader in effluent 16 reuse, having converted or being in the process of 17 converting each of its largest plants to reuse. 18 acquired facilities from other SSU also has 19 and made possible a new utilities level of cooperation with DEP and which did not exist with 20 the pre-existing owner. 21

EXHIBIT		(RM#-1)
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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 basicrequirements 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.

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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 DER 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 90-262, 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.

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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

- "I. 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.
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- 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 367.031, F.S., the PSC agrees to provide legal and technical support to the DER in any related administrative hearings or legal proceedings.

Wastewater Management

- 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.
- 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.
- 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 367.031, 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.

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PAGE 5 OF 9

- 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 DEP 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 367, 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

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- 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.

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- 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.

Nastewater 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.
- 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.

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5. Participate in appropriate PSC public meetings with customers and hearings in which reuse 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.

<u>Wastewater Management</u>

- 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 pertiment correspondence related to wastewater management issues shall be sent to the appropriate agency's Wastewater Management Project Manager.

<u>Reuse</u>

- 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.

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- 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.

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EFFECTIVE DATE AND SIGNATURES

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

Chairman Thomas M. Beard, Florida Public Service Commission

Date

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Carol M. Browner, Secretary Department of Environmental Regulation

a 20,92 Date

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	Envir	Florida Department of conmental Prote	ection	
•	Lawton Chiles Gavernae	Twin Towers Office Building 2600 Blair Stone Road Tallahassee, Florida 32399-2400 July 14, 1993	Vieginia II. Wetherell Sourceury RECEIVED	
	Mr. John Williams, Chi	lef	Finitio Fullin Service Commission	
	Bureau of Certificatio Florida Public Service 101 East Gaines Street Tallahassee, Florida	on Commission 2 32399-0850	Division of Water and Wastowater	
	Dear Mr. Williams:	<u>.</u>	•	
(Thank you for the opport Rule 25-30.432, Florid Useful in Rate Case Pr on June 18 by Patti Da this rule by letter da our previous comments general and specific of enclosed	Administrative Code (F. coceedings." This version aniel. We commented on a ated July 30, 1992. It an were not incorporated int comments on the wastewater	A.C.), "Used and h was hand-delivered previous draft of opears that many of to this version. Our r portions are	-
. [.]	- If you have any quest Elsa Potts, P.E., Adm the letterhead address	ions about our comments, p inistrator, Domestic Waste s or at 904/488-4524. Singerely,	awater Section, at	
		Richard D. Drev Bureau of Water	W, Chief Facilities	
2 1		Planning and	Regulation	
	RDD/ra/btm			
·.	Enclosure		· · ·	
	cc: Patti Daniel			
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EXHIBIT PAGE

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

General Comments

- 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.
- A significant wastewater management problem in Florida 2. 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.

<u>Specific Comments</u>

- 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 at 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?

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- 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?
- Rules 25-30.432(5)(d)1 and 2, F.A.C. The Environmental 6. 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 The PSC could consider this criteria as an events. 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?
 - 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.

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- 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 entitles "Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability" referenced in Rule 17-500.000(4)(1), F.A.C., for reliability criteria.

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Florida Department of Environmental Keguunon --

Twin Towers Office Bidg. • 2600 Blair Sione Road • Tallahassee, Florida 32399-2400 Carol M. Browner, Secrement

Lawson Childs, Governor

July 30, 1992

Mr. Charles H. Hill, Director Division of Water and Wastewater Florida Public Service Commission 10) 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.



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Enclosures

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Rule 25-30.432, F.A.C.

Used and Useful in Rate Case Proceedings

Specific Comments

- 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?
 - 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

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surcharges, bypasses, or poor treatment performance resulting from bydraulic 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.

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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 the section 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.

State of Florida

PAGE OF

Commissioners: SUSAN F. CLARK, CHAIRMAN J. TERRY DEASON JULIA L. JOHNSON DIANE K. KIESLING JOE GARCIA



DIVISION OF WATER & WASTEWATER CHARLES HILL DIRECTOR (904) 48S-8482

Public Service Commission

May 15, 1995

Ms. Elsa A. Potts P.E. Administrator Wastewater Section Department of Environmental Protection Twin Towers Office Building Tallahassee, Florida Mr. Van Hoofnagle
 P.E. Administrator
 Drinking Water Section
 Department of Environmental Protection
 Twin Towers Office Building Tallahassee, Florida

VIA HAND DELIVERY

Re: Proposed Rulemaking, 25-30.432 F.A.C.

Dear Ms. Pous and Mr. Hoomagle:

Enclosed is a revised version of the draft rules regarding used and useful adjustments in rate proceedings. Your input at the March meeting was very helpful, and you will note changes in the revised draft reflecting your comments. There are a few areas in which the staff engineers deviated from your suggestions, and these areas will be specifically addressed. It is staff's current goal to send this draft of the rules to all of the water and wastewater utilities under our jurisdiction as well as to the Office of Public Counsel, each Water Management District, and other parties who have expressed interest. Along with the draft will be a notice of workshop which would cover two days. As you suggested, we intend to cover water issues on one day and address wastewater issues on the next. It appears that the first two-day workshop will be held in July.

The items with which this rule draft differs from your recommendations are as follows. In asking for historical, reliable data, staff has kept the minimum of five years time frame, rather than change it to a longer time period. However, language has been added such that if the utility has a Capacity Analysis Report filed with DEP, a copy of such report should be part of its rate filing.

A question was raised at the March meeting as to the options for determining a utility's projected growth; staff has kept the linear regression language as this is a simple,

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straightforward approach and achieves the level of accuracy needed for this particular projection.

For the "construction factors" for each margin reserve category, the following has been done. Staff has maintained the 3 year construction factor for the wastewater treatment and disposal but changed the water construction factor to mirror the wastewater factor as DEP's envisioned rules would do. The construction factor for lines has been kept as 1 year. Staff is concerned with asking the current customers of a utility to subsidize future growth for longer than the 3 years DEP states is necessary to construct new plant.

Infiltration and inflow definitions have been moved to the appropriate place. With respect to determining excessive infiltration, staff has maintained the language for 500 gpd/inch diameter/mile of pipe in order to assess infiltration with respect to lines rather than on a per capita basis. With respect to inflow, staff intends to review a utility's inflow problems on a case-by-case basis. Your comments that a utility has more control over inflow was a consideration in making this change.

With respect to the actual formulas, staff has incorporated the suggested changes with one exception. The high service pumping formulas have not been separated into two formulas which would depend on the storage type and location. Your point is well taken with this respect; however, for simplicity, the original formula bas been maintained.

The time frame for determining a utility's maximum day demand or the wastewater "customer demand" has been kept to 5 years rather than change it to the past 12 months. It has been our experience that peak days have occurred prior to the past 12 months, and this allows the utility the opportunity to use such data. We would not want a situation where a utility is experiencing lower and lower peak days (perhaps due to conservation) so that the peak day from the recent 12 months is less than what the utility experienced, say, three years ago. The utility could conceivably receive a lower used and useful percentage based on this criteria.

Lastly, this draft includes the charts we obtained from Mr. Sowerby regarding instantaneous demands. It shows a smaller instantaneous demand than what the Ameen "Source Book..." provided. This will likely be an issue at workshop.

In addition to those changes, staff has changed the wording from "average annual daily demand" to "maximum day demand" for the definitions on emergency storage and equalization volume.

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Please review the revised draft and be prepared to bring your comments or concerns to the workshops. If you have questions regarding the rule revisions, please contact Karen Amaya at (904) 488-8482. Again, thank you for your help and suggestions.

Sincerely, // C_

Charles H. Hill Director

CHH:ka Enclosure

cc: John Sowerby, Richard Addison, Richard Drew (DEP)

B. Lowe, J. Williams, J. Chase, R. Crouch, K. Amaya, J. Starling, S. Rieger, R. Von Fossen, N. Walker, L. Jaber, S. Edmonds (PSC)

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25-30,432 Used and Useful in Rate Case Proceedings.

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(1) Definitions - the following definitions apply to Rule 25-30.432, F.A.C., for determining used and useful water and wastewater facilities.

(a) Economies of scale - The decrease in unit cost of water or wastewater plant that typically occurs with an increase in system capacity. Economies of scale can be defined either in the context of total system capacity or changes in a single component of the system.

(b) Effluent Disposal Facilities - this includes, but is not limited to, the transmission lines, percolation and evaporation ponds, spravfields. irrigation systems, effluent pumping equipment, and deep wells utilized in the disposal of effluent or reclaimed water, as required to meet applicable federal, state and local requirements.

(c) Emergency Storage - that storage required by a water system to meet the emergency-like demands of the customers. Typically, Emergency Storage is made available when it is more cost effective to provide the storage and pumping facilities than to add redundancy to the system for emergency conditions. The quantity of Emergency Storage need is a function of the duration of the emergency condition and is assumed to be approximately one half of the maximum day demand.

(d) Equalization Volume - the quantity of storage in a water system necessary to meet the customers' greatest demands which are beyond the throughput capacity of the source of supply or water treatment

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<u>1</u>	equipment. The Equalization Volume is assumed to be approximately one-
<u>2</u>	quarter of the maximum daily demand.
<u>3</u>	(e) Equivalent Residential Connection (ERC) - 350 gpd per ERC for
<u>4</u>	water and 280 gpd per ERC for wastewater.
<u>s</u> .	(f) Fire Flow Requirement - as defined in 25-30.432(5)(b), F.A.C.
<u>6</u>	(g) Firm Reliable Capacity - the capacity of a particular
7	component of a water facility in which at least the largest unit is
<u>8</u>	assumed to be out of service. If the used and useful category contains
<u>9</u>	several components, the Firm Reliable Capacity is assumed to be the
10	limiting component in that category with the largest unit out of service.
<u>11</u> -	If there is only one component, then that component's capacity becomes the
	Firm Reliable Capacity. For finished water storage, the Firm Reliable
<u>13</u>	Capacity excludes any unusable or dead storage (10% of ground storage
14	<u>capacity).</u>
<u>15</u>	(h) Infiltration - refers to those extraneous flows (usually from
<u>16</u>	groundwater sources) that enter the wastewater system through openings in
<u>17</u>	pipes that may be caused by normal deterioration, corrosion, or damage
18	from ground movement or structural overload.
19	(i) Inflow - refers to extraneous flows from sources other than
20	infiltration, such as surface water run-off into manholes or from
21	unauthorized connections to surface water sources.
22	(i) Instantaneous Demand - the greatest demand that a water system
23	attains. It is typically used only as a design criteria for small water
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<u>1</u>	systems with no storage and a small distribution system that does not have
<u>2</u>	the ability to absorb these instantaneous demands through depressurization
<u>3</u>	of the distributions system. The charts in Rule 25-30.432(7), F.A.C.,
<u>4</u> ·	shall be used to decermine the instantaneous demand unless specific
<u>5</u>	quantitative information indicates greater demands.
<u>6</u>	(k) Large Water System - a system that has a firm reliable
<u>7</u>	capacity of 1 million gallons per day or greater. Staffing shall be as
<u>8</u>	mandated in Rule 62-699, F.A.C.
<u>9</u>	(1) Margin Reserve - as defined in 25-30.432(5)(a). F.A.C.
10	(m) Maximum Day Demand - the maximum daily demand that a water
<u>11</u>	system attained during the past 5 years of time, exclusive of emergency or
	fire flow events.
<u>13</u>	(n) Other Wastewater Facilities - this includes, but is not
14	limited to, disinfection units, emergency generators, auxiliary engines.
<u>15</u>	customer service laterals. laboratory equipment. utility office and other
16	general plant and equipment used in the operation of a wastewater system.
<u>17</u>	Specifically excluded from this definition are a wastewater system's
<u>18</u>	pumping stations and collection mains (both gravity and force).
<u>19</u>	(o) Other Water Facilities - this includes, but is not limited to.
20	<u>hydropneumatic tanks disinfection facilities, emergency generators.</u>
<u>21</u>	auxiliary engines, customer service lines and meters, laboratory
22	equipment, utility office and other general plant used in the operation of
23	a water system. Specifically excluded from this definition are a water

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<u>1</u>	system's transmission and distribution lines.
2	(p) Peak Hour Demand - the greatest demand attained by a water
<u>3</u>	svstem over a sustained period of 60 minutes. Typical design criteria for
<u>4</u>	a Peak Hour Demand of 2 times the maximum day demand or 1.1 gpm per ERC
<u>5</u>	can be used if historical flow data is not available.
<u>6</u>	(g) <u>Small Water System - a system that has a firm reliable</u>
7	capacity of less than 1 million gallons per day. Staffing shall be as
<u>8</u>	mandated in Rule 62-699, F.A.C.
9	(r) Unaccounted for water - all water produced or purchased by a
10	water utility that is neither sold, metered nor accounted for in the
<u>11</u>	records.of the utility. Water, other than that sold, that shall be
	accounted for includes, but is not limited to, water for plant operations,
13	line flushing, hydrant testing, hydrant use, sewer cleaning, and street
14	cleaning.
<u>15</u>	(s) Wastewater Customer Demand - the wastewater flows which match
<u>16</u>	the utility's specified time frame in its Department of Environmental
<u>17</u>	Protection (DEP) permit annual average daily flow, the three month
<u>18</u>	average daily flow, or the maximum month average daily flow.
<u>19</u>	(t) Wastewater Permitted Capacity - the established design
<u>20</u>	capacity of a wastewater facility in its DEP permit and the specified time
21	frame (annual average daily flow, maximum monthly average daily flow,
<u>22</u>	three-month average daily flow).
<u>23</u>	(u) Wastewater Treatment Equipment - this includes, but is not

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limited to, the influent structure, pretreatment facilities, pumps, aerators, clarification tanks, filters, digestors, and chlorine contact equipment.

(2) The utility's investment, prudently incurred, in meeting its statutory obligations to provide safe, efficient and sufficient service, shall be considered used and useful.

(3) Utilities are encouraged to undertake planning that recognizes conservation, environmental protection, economies of scale, and which is economically beneficial to its customers over the long term.

(4) In determining those portions of water and wastewater systems that are used and useful in serving the public, the Commission shall consider:

(a) the design and construction requirements set forth in Chapters 62-532, 62-555, 62-600, 62-601, 62-604, 62-620 and 62-640, F.A.C.

(b) the investment in land acquired or facilities constructed or to be constructed in the public interest within a reasonable time in the future:

(c) the prudence of the investment. taking into consideration such factors as the treatment process, water storage capacity, economies of scale, the historical and projected rate of growth in customers and demand, regulatory requirements, including those requiring plant redundancies, seasonal demand characteristics, residential and commercial mix, and the configuration of the service area.

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(5) For the purpose of calculating used and useful, the following specific factors shall apply. When applying these factors, references to demand shall mean the demand per connection (in ERCs) used for design or permitting, or the actual historical demand per connection if such data has been shown by the utility to be accurate and reliable.

(a) Margin Reserve

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1. The Commission recognizes that for a utility to meet its statutory responsibility, it must have sufficient capacity and investment to meet the existing and changing demands of present customers and the demands of potential customers within a reasonable time. The investment needed to meet the demands of potential customers and the changing demands of existing customers is defined as margin reserve. Margin reserve is recognized as a component of used and useful rate base. The Commission shall include an allowance for margin reserve if requested by the utility.

2. In determining the allowable investment in margin reserve, the Commission shall consider, but not be limited to, the functions of each component of plant, regulatory lag, the rate of growth in customers and demand, and the time needed to construct plant (the "construction factor").

3. As a part of its rate filing, the utility shall submit historical, reliable data for a minimum of four years, if available, preceding the test year and including the test year for the year-end number of customers by class and meter size: the annual sales by class:

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<u>1</u>	the annual treated or pumped flows for the system; and system peak day
<u>2</u>	flows for each year. The utility's most recent_wastewater capacity
<u>3</u>	analysis report. If any, filed with DEP shall also be submitted as part of
<u>4</u>	the rate filing.
<u>5</u>	4. Unless otherwise justified, margin reserve shall be calculated
<u>6</u>	by applying linear regression to the utility's five years historical
<u>7</u>	growth data (in ERCs) so that a projected growth can be determined and
<u>8</u>	then multiplying that growth by the appropriate construction factor.
9	a. Water source and treatment facilities and wastewater treatment
<u>10</u>	and disposal facilities: the calculated growth (in ERCs) multiplied by the
<u>11</u> -	following construction factors:
<u>ر ا</u>	(i) water source, treatment facilities, and each water system
<u>13</u>	component_have a construction factor of 3 years:
<u>14</u>	(ii) wastewater treatment and disposal facilities have a
<u>15</u>	construction factor of 3 years:
<u>16</u>	b. Margin reserve for transmission and distribution lines and
<u>17</u>	pumping stations and collection mains shall be the calculated growth
18	multiplied by a construction factor of 1 year.
<u>19</u>	(b) Fire Flow
20	1. Fire flow shall be considered in used and useful default
21	formulas for storage and high service pumping for any utility that
<u>22</u>	requests that fire flow be a consideration in its system requirements. If
23	the Commission determines that a utility can provide fire flow in a more

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economical manner than through storage and high service pumping, it may 1 allow fire flow to be considered in used and useful calculations for 2 components other than storage and high service pumping. However, any 3 utility that receives an allowance for fire flow in used and useful 4 calculations shall maintain the ability to provide adequate, reliable fire 5 flow at all times in the future, unless it meets the requirements in 25-6 30.432(5)(b)2 for adding fire flow capacity. For a utility meeting the 7 requirements in 25-30.432(5)(b)2 for adding fire flow capacity, once the 8 ability to provide adequate, reliable fire flow has been achieved, such 9 ability shall be maintained from that point on. If a utility has 10 previously received fire flow consideration in used and useful 11 calculations but fails to maintain adequate, reliable capacity for fire) fighting (e.g. sells fire flow capacity), then the Commission may reduce 13 the utility's rate of return by up to 50 basis points until adequate fire 14 protection is once again maintained. 15

An allowance for fire flow shall be included in used and 16 2. 17 useful calculations up to the capacity of the appropriate component. If a utility cannot provide adequate, reliable fire flow and is requesting an 18 allowance for fire flow in used and useful calculations, the Commission <u>19</u> <u>20</u> shall require the utility to take the steps necessary to provide such fire flow capacity. In doing so, the Commission shall set a reasonable <u>21</u> timetable for compliance and may later reduce rates for that portion <u>22</u> associated with allowed fire flow capacity if such requirements are not 23

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3. When fire flow requirements are set by a governmental authority, those requirements shall be the basis for determining the fire flow component of used and useful. In such cases, as part of its rate filing, the utility shall identify and file with the Commission a copy of the applicable governmental fire flow requirements. In all other cases, unless specific support is provided, the Commission shall consider a minimum fire flow demand to be 500 gallons per minute (gpm) for single family and 1,500 gpm for multiple family and commercial areas for a duration of 2 hours for needed fire flows up to 2500 gpm, and 3 hours for needed fire flows of 3000 and 3500 gpm. Such requirements shall be satisfied without causing deterioration of water pressure below 20 pounds per square inch (psi).

4. Inasmuch as Rule 25-30.432(5)(b) deviates from prior Commission practice whereby an allowance for fire flow capacity in composite used and useful plant calculations was considered, the impact on those utilities affected by a future reduction to used and useful percentages for source of supply and/or treatment plant due to such deviation from prior practice regarding fire flow allowance shall be considered on a case by case basis.

(c) Unaccounted for Water

<u>1</u><u>To recognize conservation of water as a fundamental and proper</u> concern of water system operation, water utilities are encouraged to

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exercise good operational and economic management toward preventing depletion and wasteful use of this important natural resource. Good modern water utility practice dictates that, wherever possible, all customer services and plant output and plant uses be metered and reasonable records be kept.

2. The Commission recognizes that some uses of water are readily measurable and others are not. Each utility is encouraged to establish procedures to measure or estimate the quantity of water used but not sold. by cause, and to maintain documentation for those measurements and estimates.

3. The Commission shall consider the amount of unaccounted for water in determining used and useful plant percentages and shall allow the American Water Works Association's (AWWA Manual M-8) design level of leakage (2-3 percent plus the standard 10 percent for a maximum of 12.5 percent) without further explanation. The Commission may impute revenues or reduce purchased power and chemical expenses where inadequate explanation is given for unaccounted for water in excess of this amount.

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(d) Infiltration and Inflow

1. The impact of infiltration and inflow on wastewater treatment and collection systems shall be considered in determining both the appropriate level of operation and maintenance expenses and used and useful plant percentages.

2. The Commission recognizes as reasonable the Infiltration

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Specification Allowances set forth in Water Pollution Control Federation (WPCF) Manual of Practice No. 9. Absent sufficient justification to the contrary, excess infiltration is defined as flows in excess of 500 gallons per day (gpd) per inch diameter of pipe per mile (gpd/in. diam./mile) for all gravity lines, including service laterals. Excessive inflow will be determined on a case-by-case basis if warranted.

(e) <u>Cost/benefit Analysis - The Commission may order a utility to</u> <u>perform a cost/benefit analysis to determine the amount of water losses or</u> <u>wastewater infiltration and inflow that may be economically eliminated.</u> <u>If the cost/benefit analysis is ordered by the Commission in the course of</u> <u>evaluating a rate application, the actual or estimated prudent cost of the</u> <u>analysis shall be recovered through the revenues authorized in that rate</u> <u>proceeding, and the cost shall be amortized over five years.</u> If the <u>analysis is ordered outside of a formal rate proceeding, the utility may</u> <u>request the cost be recovered through a limited proceeding pursuant to</u> <u>section 367.0822. F.S.</u>

(f) Used and Useful Analysis

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1. As a part of its rate filing, each utility shall provide a determination of the used and useful percentage for each primary plant account along with the supporting formulas and documentation.

2. In lieu of presenting evidence in support of used and useful percentages, the utility may elect to use the default formulas in Rule 25-30.432(6), F.A.C., for calculating used and useful percentages for water

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supply, treatment, pumping and storage equipment, and wastewater treatment and effluent disposal equipment. Documentation in support of requested used and useful percentages for a water utility's transmission and distribution lines and a wastewater utility's pumping stations and collection mains (both gravity and force) shall be presented by the utility.

(6) Used and useful default formulas. The appropriate units to be used are included with each default formula. Because of the unique nature of a water system's transmission and distribution lines and a wastewater system's pumping stations and collection mains (both gravity and force). the default formulas presented here do not address these items: however. as stated in Rule 25-30.432(5)(f)2. the utility shall present documentation in support of requested used and useful percentages for these items.

(a) Small water systems (less than 1 million gallons per day (MGD) firm reliable capacity).

1. Small water systems with adequate reliable finished water storage capacity to meet the local fire flow ordinances and to meet the peak hour demand of its customers shall use the following formulas:

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a. Water source of supply:

(Maximum Day Demand + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpd)

b. Water treatment equipment:

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<u>1</u>		(Maximum Day Demand + Margin Reserve - Excessive Unaccounted
<u>2</u>		For Water)/Firm Reliable Capacity (gpd)
<u>3</u>	<u>c.</u>	Finished water storage:
<u>4</u>		(Equalization Volume + Fire Flow Requirement + Emergency
<u>5</u>		<u> Storage + Margin Reserve)/Firm Reliable Capacity (gallons)</u>
. <u>6</u>	<u>d.</u>	Water high service pumping:
<u>7</u>		(Instantaneous Demand + Margin Reserve - Excessive Unaccounted
<u>8</u>		For Water)/Firm Reliable Capacity (gpm)
<u>9</u>		or, if the utility chooses:
<u>10</u>		(Maximum Day Demand + Fire Flow Requirement + Margin Reserve -
<u>11</u>		Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)
)	<u>e.</u>	Other water facilities: 100 percent used and useful
<u>13</u>	<u>2.</u>	Small water systems with no storage facilities other than
<u>14</u>	hydropneuma	tic tanks or with insufficient storage capacity to meet the
<u>15</u>	local fire	flow ordinances and to meet the instantaneous demand of its
<u>16</u>	customers s	hall use the following formulas:
<u>17</u>	<u>a.</u>	Water source of supply:
<u>18</u>		(Instantaneous Demand + Margin Reserve - Excessive Unaccounted
<u>19</u>		For Water)/Firm Reliable Capacity (gpm)
<u>20</u>		or, if the utility can show it is the most economical way to
<u>21</u>	provide fir	e flow:
<u>22</u>		(Maximum Dav Demand + Fire Flow Requirement + Margin Reserve -
<u>23</u>		Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)
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<u>1</u>	<u>b.</u>	<u>Water treatment equipment:</u>
<u>2</u>		(Instantaneous Demand + Margin Reserve - Excessive Unaccounted
<u>3</u>		For Water)/Firm Reliable Capacity (gpm)
4		or, if the utility can show it is the most economical way to
<u>5</u>	- provide fin	re_flow:
<u>6</u>		<u>(Maximum Day Demand + Fire Flow Requirement + Margin Reserve -</u>
<u>7</u>		Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)
<u>8</u>	<u>c.</u>	Finished water storage: 100 percent used and useful (gallons)
<u>9</u>	<u>d.</u>	Water high service pumping:
<u>10</u>		(Instantaneous Demand + Margin Reserve - Excessive Unaccounted
<u>11</u>		For Water)/Firm Reliable Capacity (gpm)
1		or, if the utility chooses:
<u>13</u>		<u>(Maximum Day Demand + Fire Flow Requirement + Margin Reserve -</u>
14		Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)
<u>15</u>	<u>e.</u>	Other water facilities: 100 percent used and useful
<u>16</u>	(b)	Large water systems (1 MGD or greater firm reliable capacity):
<u>17</u>	<u>1.</u>	Large water systems with adequate reliable finished water
<u>18</u>	storage ca	pacity to meet the local fire flow ordinances and to meet the
<u>19</u>	peak hour a	demand of its customers shall use the following formulas:
20	<u>a.</u>	Water source of supply:
21		(Maximum Day Demand + Margin Reserve - Excessive Unaccounted
22		For Water)/Firm Reliable Capacity (gpd)
23	<u>b.</u>	Water Treatment Equipment:
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1		(Maximum Day Demand + Margin Reserve - Excessive Unaccounted
. <u>2</u>		For Water)/Firm Reliable Capacity (gpd)
3	<u>c.</u>	Finished water storage:
<u>4</u>		(Equalization Volume + Fire Flow Requirement + Emergency
<u>5</u>		<u> Storage + Margin Reserve)/Firm Reliable Capacity (gallons)</u>
. <u>6</u>	<u>d.</u>	Water high service pumping:
<u>7</u>		(Peak Hour Demand + Margin Reserve - Excessive Unaccounted For
<u>8</u>		<u>Water)/Firm Reliable Capacity (gpm)</u>
<u>9</u>		or, if the utility chooses:
<u>10</u>	-	<u>Maximum Day Demand + Fire Flow Requirement + Margin Reserve -</u>
<u>11</u>		Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)
	<u>e.</u>	Other water facilities: 100 percent used and useful
<u>13</u>	2.	Large water systems with no storage facilities other than
<u>14</u>	hvdro	pneumatic tanks or with insufficient storage capacity to meet
<u>15</u>	the 1	ocal fire flow ordinances and to meet the peak hour demand of
<u>16</u>	its c	ustomers shall use the following formulas:
<u>17</u>	<u>a.</u>	Water source of supply:
<u>18</u>		(Peak Hour Demand + Margin Reserve - Excessive Unaccounted For
<u>19</u>		Water)/Firm Reliable Capacity (gpm)
<u>20</u>		or, if the utility can show it is the most economical way to
21	<u>provide fir</u>	e flow:
<u>22</u>	· .	(Maximum Day Demand + Fire Flow Requirement + Margin Reserve -
<u>23</u>		Excessive Unaccounted For Water)/Firm Reliable Canacity (gpm)
an an An an An an		CODING: Words underlined are additions; words in struck through type are deletions from existing law.

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<u>1</u>	<u>b.</u>	Water treatment equipment:
<u>2</u>		(Peak Hour Demand + Margin Reserve - Excessive Unaccounted For
3		<u>Water)/Firm Reliable Capacity (gpm)</u>
<u>4</u>		or, if the utility can show it is the most economical way to
<u>5</u>	provide fin	<u>e flow:</u>
6		(Maximum Day Demand + Fire Flow Requirement + Margin Reserve-
7		Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)
<u>8</u>	<u>c.</u>	Finished water storage: 100 percent used and useful (gallons)
2	<u>d.</u>	Water high service pumping:
<u>10</u>		(Peak Hour Demand + Margin Reserve - Excessive Unaccounted For
<u>11</u>	-	<u>Water)/Firm Reliable Capacity (epm)</u>
)	-	or, if the utility chooses:
<u>13</u>		(Maximum Day Demand + Fire Flow Requirement + Margin Reserve-
<u>14</u>		Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)
<u>15</u>	<u>e .</u>	Other water facilities: 100 percent used and useful
<u>16</u>	<u>(b)</u>	Wastewater systems:
<u>17</u>	<u>1.</u>	Wastewater treatment equipment:
<u>18</u>		<u>(Wastewater Customer Demand + Margin Reserve - Excessive</u>
<u>19</u>		Infiltration and Inflow)/Permitted Capacity (gpd)
<u>20</u>	<u>2.</u>	Effluent disposal facilities:
<u>21</u>		(Wastewater Customer Demand + Margin Reserve - Excessive
<u>22</u>		Infiltration and Inflow)/Permitted Capacity (gpd)
<u>23</u>	<u>3.</u>	Other wastewater facilities: 100 percent used and useful
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1	(7) Unless specific quantitative information indicates greater
2	demands, a water system's Instantaneous Demand, for purposes of
3	determining used and useful, will be calculated from the following charts
<u>4</u>	which are from the U.S. Environmental Protection Agency Manual "Small
5	Water Systems Serving The Public".

<u>6</u>

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[chart]

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PAGE	21	OF	24

manual

SMALL WATER SYSTEMS SERVING THE PUBLIC

correlated with

NATIONAL DRINKING WATER REGULATIONS

CONFERENCE OF STATE SANITARY ENGINEERS

FRANK R. LIGUORI, PE, Technical Writer

in cooperation with

OFFICE OF DRINKING WATER

U.S. ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C., 20460

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An example snowing the method of using the tables and curver is to when

I METEL

Assume a 40 unit motel with a small coffee cuc; and unel, swimming pool. Water pressure assumed at 40 pcl. Air conditioners are air cooled and require no water.

DAT	A TASU.	LE LON			
Fixture	Tixto at 3 (Tab)	ure Value 5 psi 1e 3-2)	No. of Fixtures in Use	Total Fixtur Value	e
Water closets, tank	3		47	141	
Uninels, well	12	,	2	24	
Lavatory: 3/8-in. connection	2		40	80	
Lavatory: 1/2-in. connection	ш		Ľ	lõ	
Barbruhs	8		40	320	
Drinking Fountains	2		1	2	
Firchen sink, 3/4-in.	7		l	7	
Dichuscher 3/4-in.	10		1	10	
Wach sink	4		<u>1</u>	24	
Hose 50 ft $5/8-in$	9		3	27	
Suimming Dool	15	(estimated	크) 그	15	
Service sink: 1/2-in.	3		7	3	

Combined Fixture Value - 549

From Figure 3-1, probably peak demand based on 35 psi = 35 gpm

From Table 3-3, adjusted multiplication factor for 40 psi delivery pressure = 1.07

Adjusted (probably) peak demand = 55 x 1.07 = 59 gpm

Demand loads for lawn sprinkling systems or other special uses must be added as appropriate.

Peak Demand for Residential Communities and Mobile Home Parks

Figures 3-3 and 3-4, which follow, are curves developed from experience showing the instantaneous (peak) demands for various sizes of typical residential communities and mobile home parks.

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FICURE3-3

INSTANTANEOUS DEMAND FOR RESIDENTIAL COMMUNITY WATER SYSTEMS

(Number of Connections vs Gallons Per Minute)

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Number of Connections

Source: Standards and Oriteria for Design and Construction of Public Water Supply Systems to Serve Residential Communities:Division of Health Services - Sanitary Eng. Section, State of Worth Carolina, 1974

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PAGE 24 OF

PEAK DEMAND FOR MOBILE HONE PARK WATER SYSTERS

(Number of Connections vs Gallons Per Minute)



Number of Connections

ource:Standards and Oriteria for Design and Construction of Hublid Water Supply Systems to Serve Residential Communities:Divison of Health Services-Sanitary Engineering Dection, State of Worth Carolina.1974
EXHIBIT	(RMH4)
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PAGE OF 8



Department of Environmental Protection

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

June 29, 1995

Mr. John Williams Chief

Bureau of Policy Development and Industry Structures Division of Water and Wastewater Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, Florida 32399-0850 Virginia B. Wetherell Secretary

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Flonda Public Service Commission Division of Water and Wastewate

Dear Mr. Williams:

We have reviewed the Commission's May 12 draft rule regarding "used and useful" in rate case proceedings. Our comments concerning this draft rule are enclosed.

As you can see, we have a substantial number of comments. We consider two of these comments -- Comments 18 and 19--to be especially significant. As stated in Comment 18, we strongly recommend that the Commission recognize at least a five-year reserve capacity when calculating the "used and useful" percentage of water and wastewater treatment facilities. By recognizing only a three-year reserve capacity, the Commission will be discouraging utilities from taking advantage of economies of scale and from providing long-term economic benefits to their customers. Additionally, utilities that want to recover the full cost of their treatment facilities and that try to comply with our rules will be put in an awkward position if the Commission recognizes only a three-year reserve capacity. Such utilities will have to construct their treatment facilities in three-year stages, but our existing wastewater rules and future drinking water rules will require utilities to begin planning and designing the expansion of treatment facilities when there is five years or less of reserve capacity at the facilities. Thus, such utilities will have to be continuously planning and designing the next three-year expansion of their treatment facilities even while they are constructing the present three-year expansion of the facilities.

As noted in Comment 19, we recommend that the Commission consider reclaimed water reuse facilities to be 100 percent "used and

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Mr. John Williams Page Two June 29, 1995

useful." We believe that this is clearly required by Section 403.064(6) of the Florida Statutes.

If you have any questions about the attached comments, please call John Sowerby, P.E., in the Drinking Water Section at 487-1762 or Richard Addison, P.E., in the Domestic Wastewater Section at 488-4524.

Sincerely,

Richard M. Harvey Director Division of Water Facilities

RMH/dgw/js Enclosure

cc/enc.: Richard Drew Mary E.S. Williams

Mary E.S. Williams Van R. Hoofnagle, P.E. Elsa A. Potts, P.E.

EXHIBIT	(RM(1-4)

PAGE 3 OF 8

THE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S (DEP'S) COMMENTS ON THE PUBLIC SERVICE COMMISSION'S (PSC'S) MAY 12, 1995, DRAFT RULE REGARDING "USED AND USEFUL" IN RATE CASE PROCEEDINGS

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- 1. PAGE 1, LINES 2 THROUGH 4: We recommend that the PSC add to Rule 25-30.432(1) definitions of the following terms: "finished water storage," "pumping stations and collection mains," "transmission and distribution lines," "wastewater customer demand," "water high service pumping," "water source of supply," and "water treatment equipment." Is "wastewater customer demand" intended to mean the maximum average daily flow to a wastewater system over the same time frame as that associated with the permitted capacity (one year, one month, or three months) based on data for the past five years? Is it the PSC's intent to include booster pumping stations under "other water facilities," "transmission and distribution lines," or "water high service pumping"? Is it the PSC's intent to include booster disinfection facilities under "other water facilities," "transmission and distribution lines," or "water treatment equipment"?
- 2. PAGE 1, LINES 9 THROUGH 13: We recommend that the PSC exclude reclaimed water reuse facilities from the definition of "effluent disposal facilities" and that the PSC provide a separate definition for "reclaimed water reuse facilities." See Comment 19 for more details.
- 3. PAGE 1, LINES 18 THROUGH 20: The quantity of emergency storage needed is indeed a function of the duration of the emergency condition. Sometimes an emergency storage volume sufficient to last for several days may be necessary. Therefore, we recommend that the PSC revise the last sentence in Rule 25-30.432(1)(c) to read, "The quantity of Emergency Storage needed is a function of the duration of the emergency condition and, unless otherwise justified, is assumed to be appreximately one half of the maximum day demand."
- 4. PAGE 2, LINES 1 AND 2: We recommend that the PSC revise the last sentence in Rule 25-30.432(1)(d) to read, "<u>Unless</u> <u>otherwise justified, t</u>The Equalization Volume is assumed to be approximately one quarter of the maximum daily demand."
- 5. PAGE 2, LINES 3 AND 4: We recommend that the PSC clarify that the demand/flow rates of 350 gpd per ERC for water and 280 gpd per ERC for wastewater are <u>annual average</u> daily demand/flow rates.
- 6. PAGE 2, LINES 3 AND 4; AND PAGE 6, LINES 2 THROUGH 5: Rule 25-30.432(1)(e) defines ERC as a demand of 350 gpd for water and a flow of 280 gpd for wastewater. However, the second sentence in Rule 25-30.432(5) seems to be saying that ERC means the demand/flow per connection used for design/permitting or the historical demand/flow per connection if such data has been shown by the utility to be accurate and reliable. We recommend that the PSC resolve this apparent conflict between rules.

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PAGE 4 OF 8

PAGE 2, LINES 12 THROUGH 14: We recommend that the PSC revise the last sentence in Rule 25-30.432(1)(g) to read, "For finished water storage, the Firm Reliable Capacity excludes any unusable or dead storage (<u>which, unless</u> justified otherwise, is assumed to be 10% of ground storage capacity)."

7.

- 8. PAGE 3, LINES 3 THROUGH 5; PAGE 4, LINES 3 THROUGH 5; AND PAGE 17, LINES 1 THROUGH 6: There is an apparent conflict between the instantaneous demand charts in Rule 25-30.432(7) and the design criteria for peak hour demand in Rule 25-30.432(1)(p). For example, the instantaneous demand charts show that the instantaneous demand for 300 residential connections is 255 gpm or 0.85 gpm per connection, which is <u>less</u> than the specified design criteria of 1.1 gpm per ERC for peak hour demand. We recommend that the PSC resolve this apparent conflict between rules.
- PAGE 3, LINES 6 THROUGH 8; PAGE 4, LINES 6 THROUGH 8; PAGE 9. 12, LINES 15 AND 16; AND PAGE 14, LINE 16: For the purpose of the PSC's "used and useful" rule, small water systems are systems that <u>can not</u> absorb instantaneous demands through depressurization of their distribution systems, and large water systems are systems that <u>can</u> absorb instantaneous demands through depressurization of their distribution systems. Given this, we question the appropriateness of using a system capacity of 1 MGD as the dividing point between small and large water systems. Perhaps a system capacity of 0.25 to 0.5 MGD would be a more appropriate dividing point. Or perhaps the dividing point should be based on the design number of ERCs to be served, in which case perhaps 200 to 300 ERCs would be an appropriate dividing point.
- 10. PAGE 3, LINES 13 THROUGH 16; AND PAGE 4, LINE 23, THROUGH PAGE 5, LINE 3: There appears to be a conflict between the definition of "other wastewater facilities" and the definition of "wastewater treatment equipment." Rule 25-30.432(1)(n) states that "other wastewater facilities" includes disinfection units, while Rule 25-30.432(1)(u) states that "wastewater treatment equipment" includes chlorine contact equipment. We recommend that the PSC resolve this apparent conflict between rules.
- 11. PAGE 3, LINES 19 THROUGH 23: Rule 25-30.432(1)(o) states that disinfection facilities are included under "other water facilities," but one would think that disinfection facilities should be included under "water treatment equipment." We recommend clarification.
- 12. PAGE 4, LINES 3 THROUGH 5: We recommend that the PSC revise the last sentence in Rule 25-30.432(1)(p) to read, "Typical design criteria for a Peak Hour Demand of 2 times the maximum day demand or <u>1.0</u> 1-1 gpm per ERC can be used if historical flow data is not available." (Maximum day demand is typically two times annual average day demand, and the PSC is

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considering peak hour demand to be equal to two times maximum day demand and is considering annual average day demand per ERC to be equal to 350 gpd. Therefore, peak hour demand per ERC would typically be $2 \times 2 \times 350$ gpd = 1400 gpd-or 1.0 gpm.)

13. PAGE 4, LINES 19 THROUGH 22: The DEP's Rule 62-600.200(62) defines "permitted capacity" as "the <u>treatment</u> (emphasis added) capacity for which a plant is <u>approved</u> (emphasis added) by Department permit expressed in units of mgd." Consequently, we recommend that the PSC revise its definition of "wastewater permitted capacity" to read, "the <u>approved</u> <u>treatment</u> established-design capacity of a wastewater facility in its DEP permit and..."

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- 14. PAGE 4, LINE 23, THROUGH PAGE 5, LINE 3: The DEP's Rule 62-600.200(87) defines "treatment plant" as "any plant or other works used for the purpose of treating, stabilizing or holding wastes." Thus, we recommend that the PSC revise its definition of "wastewater treatment equipment" to read, "this includes works used for the purpose of treating, stabilizing, or holding wastewater, residuals, or effluent; -but-is-net limited-to; -the-influent-structure; -pretreatment-facilities; pumps; -aeraters; -elarification-tanks; -filters; -digests; -and ehlerine-contact-equipment."
- 15. PAGE 5, LINES 13 AND 14: Please include Chapters 62-610 and 62-611 in the list of design and construction requirements for water and wastewater facilities. Also, we recommend that the PSC delete Chapter 62-601 from this list because Chapter 62-601 deals only with wastewater treatment plant monitoring requirements.
- 16. PAGE 6, LINES 15 THROUGH 19: We recommend that the PSC revise Rule 25-30.432(5)(a)2 to read, "In determining the allowable investment in margin reserve, the Commission shall consider, but not be limited to, the functions of each component of plant, regulatory lag, the rate of growth in customers and demand, and the time needed to <u>plan, design,</u> <u>and</u> construct plant (the 'construction factor')." See Comment 18 for more details.
- 17. PAGE 6, LINE 20, THROUGH PAGE 7, LINE 2: The type of flow data that is requested as part of rate filings appears to be appropriate for water systems only. We recommend that the PSC revise Rule 25-30.432(5) (a) 3 to clearly indicate what type of flow data must be submitted for water systems and what type of flow data must be submitted for wastewater systems. Maximum day flows should be submitted for water systems; and either annual average daily flows, maximum month average daily flows, or three-month average daily flows, whichever flow is associated with the permitted capacity, should be submitted for wastewater systems.
- 18. PAGE 7, LINES 5 THROUGH 15: BY SPECIFYING THAT "USED AND USEFUL" INCLUDES NO MORE THAN A THREE-YEAR RESERVE CAPACITY FOR WATER AND WASTEWATER TREATMENT FACILITIES, THE PSC WILL

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PAGE 6 OF 8

BE ENCOURAGING UTILITIES TO BUILD THESE FACILITIES IN THREE-YEAR STAGES. AND BY ENCOURAGING UTILITIES TO BUILD WATER AND WASTEWATER TREATMENT FACILITIES IN THREE-YEAR STAGES, THE PSC WILL BE ENCOURAGING UTILITIES TO <u>LGNORE</u> ECONOMIES OF SCALE AND LONG-TERM ECONOMIC BENEFITS TO THEIR CUSTOMERS, WHICH IS EXACTLY THE OPPOSITE OF WHAT THE PSC WANTS TO ENCOURAGE. (THE PSC'S PROPOSED RULE 25-30.432(3) STATES, "UTILITIES ARE ENCOURAGED TO UNDERTAKE PLANNING THAT RECOGNIZES CONSERVATION, ENVIRONMENTAL PROTECTION, ECONOMIES OF SCALE, AND [THAT] WHICH IS ECONOMICALLY BENEFICIAL TO ITS CUSTOMERS OVER THE LONG TERM.")

. . .

FURTHERMORE, BY RECOGNIZING ONLY A THREE-YEAR RESERVE CAPACITY, THE PSC WILL BE PUTTING UTILITIES IN AN AWKWARD POSITION. THE DEP'S EXISTING RULE 62-600.405 REOUIRES UTILITIES TO BEGIN PLANNING AND DESIGNING THE EXPANSION OF WASTEWATER TREATMENT FACILITIES WHEN THERE IS FIVE YEARS OR LESS OF RESERVE CAPACITY AT THE FACILITIES. (NOTE THAT WE INTEND TO IMPLEMENT A SIMILAR RULE FOR COMMUNITY DRINKING WATER TREATMENT FACILITIES.) YET, UTILITIES WILL HAVE TO CONSTRUCT WATER AND WASTEWATER TREATMENT FACILITIES IN NO MORE THAN THREE-YEAR STAGES IF THEY WANT TO RECOVER THE FULL COST OF THE FACILITIES. THUS, UTILITIES THAT WANT TO RECOVER THE FULL COST OF THEIR WATER AND WASTEWATER TREATMENT FACILITIES WILL HAVE TO BE CONTINUOUSLY PLANNING AND DESIGNING THE NEXT THREE-YEAR EXPANSION OF THESE FACILITIES EVEN WHILE THEY ARE CONSTRUCTING THE PRESENT THREE-YEAR EXPANSION OF THESE FACILITIES.

WE STRONGLY RECOMMEND THAT THE PSC ALLOW AT LEAST A FIVE-YEAR RESERVE CAPACITY FOR WATER AND WASTEWATER TREATMENT FACILITIES. ALTHOUGH ALLOWING A FIVE-YEAR RESERVE CAPACITY MAY STILL NOT FULLY ENCOURAGE USE OF ECONOMIES OF SCALE, IT WILL MAKE THE PSC'S "USED AND USEFUL" RULE SOMEWHAT CONSISTENT WITH THE DEP'S RULE 62-600.405. (UTILITIES THAT WANT TO RECOVER THE FULL COST OF THEIR WASTEWATER TREATMENT FACILITIES WILL HAVE TO BEGIN PLANNING AND DESIGNING THE NEXT FIVE-YEAR EXPANSION OF THESE FACILITIES ONLY AFTER THEY HAVE COMPLETED CONSTRUCTING THE PRESENT FIVE-YEAR EXPANSION OF THESE FACILITIES.) IF THE PSC TRULY WANTS TO ENCOURAGE UTILITIES TO TAKE ADVANTAGE OF ECONOMIES OF SCALE, THE PSC SHOULD CONSIDER ALLOWING AT LEAST A TEN-YEAR RESERVE CAPACITY FOR WATER AND WASTEWATER TREATMENT FACILITIES. GUIDELINES DEVELOPED UNDER THE U.S. ENVIRONMENTAL PROTECTION AGENCY'S OLD CONSTRUCTION GRANTS PROGRAM FOR WASTEWATER TREATMENT FACILITIES RECOMMENDED CONSTRUCTING WASTEWATER TREATMENT FACILITIES IN NO LESS THAN TEN-YEAR STAGES.

19. PAGE 7, LINES 14 AND 15; AND PAGE 16, LINES 20 THROUGH 22: SECTION 403.064(6) OF THE 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." THEREFORE, THE PSC'S "USED AND USEFUL" RULE SHOULD INDICATE THAT RECLAIMED WATER REUSE FACILITIES ARE 100 PERCENT "USED AND USEFUL."

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EXHIBIT (AMH-4) PAGE 7 OF 8

20. PAGE 7, LINES 10 AND 14: The word "effluent" should be inserted before the words "disposal facilities."

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- PAGE 7, LINES 16 THROUGH 18: It is unclear how "the 21. calculated growth rate multiplied by a construction factor of one year" is to be applied when determining "used and useful" percentages for transmission and distribution lines and pumping stations and collection mains. (Typically, water mains and sewers are designed for a ten- to 50-year period, and pumping facilities are designed for a ten- to 20-year period. Thus, recognizing only a one-year reserve capacity for these facilities would be totally unreasonable.) We recommend that the PSC clarify Rule 25-30.432(5)(a)4.b. (Per our discussions with the PSC staff, we understand that transmission and distribution lines and pumping stations and collection mains will be considered 100 percent "used and useful" as long as it can be documented that these facilities are necessary to provide service to customers during the next one-year period.)
- 22. PAGE 9, LINES 6 THROUGH 11: We recommend that the PSC indicate in Rule 25-30.432(5)(b)3 the basis for the third sentence in this rule, which reads, "In all other cases, unless specific support is provided, the Commission shall consider a minimum fire flow demand to be 500 gallons per minute (gpm) for single family and 1,500 gpm for multiple family and commercial areas for a duration of 2 hours for needed fire flows up to 2500 gpm, and 3 hours for needed fire flows of 3000 and 3500 gpm." These flows and durations appear to be too low.
- 23. PAGE 10, LINE 23, THROUGH PAGE 11, LINE 5: How will actual infiltration rates be determined and verified for rate case proceedings if infiltration/inflow studies or sewer system evaluation surveys are not available?
- 24. PAGE 12, LINE 15, THROUGH PAGE 14, LINE 15: The PSC has provided default formulas for small water systems with adequate finished water storage capacity to meet peak hour demand, and the PSC has provided default formulas for small water systems with insufficient finished water storage capacity to meet instantaneous demand. It appears that the PSC needs to provide default formulas for small water systems with adequate finished water storage capacity to meet instantaneous demand but insufficient finished water storage capacity to meet peak hour demand.
- 25. PAGE 13, LINES 6 THROUGH 11; AND PAGE 15, LINES 6 THROUGH 11: In Rules 25-30.432(6)(a)1.d and 25-30.432(6)(b)1.d, the set of default formulas for "water high service pumping" is appropriate only if the high-service pumps are located after, or downstream from, finished water storage. This set of formulas is not appropriate for, and will grossly overestimate the "used and useful" percentage of, high-service pumps that are located before, or upstream from, finished water storage. The appropriate default formula for high-service pumps that are located before, or upstream from,

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finished water storage is as follows: (Maximum Day Demand + Margin Reserve - Excessive Unaccounted for Water)/(Firm Reliable Capacity). We strongly recommend that the PSC revise Rules 25-30.432(6)(a)1.d and 25-30.432(6)(b)1.d to specify one set of default formulas for "water high service pumping" located downstream from finished water storage and another default formula for "water high service pumping" located upstream from finished water storage.

ADE 3. LIAES 6 THROUGH 11: We recommend that the PSJ "diverse in Hule 2510 403(3) (a) 3 the basis for the third reterned in the rule which teaus, "10 al. Other cames inters specific support is provided, the Cumussion sizil unsider a minimum fire flow demand to be 200 galians per sinute (gam) for single family and 1.500 gam for multigle lamely and cummercial acade for a duration of 2 multiple redec fire flows up to 1200 gam, and 1 hours for meeded fir we of 3000 and 3500 gam." These flows and durations

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PAGE 10, LLME 23, TEROUCH PAGE 11, LLME 5: How Will actual infiltration rates be determined and verified for rate case. proceedings if infiltration/infilew studies or sewer system evaluation surveys are not available?

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EAGE 1: LINES 6 THROUGH 1: AND PACE 15, LINES 6 THROUGH 11: In Rules 25-30,432 (81%) is and 25-30,432 (6) (3)1.d the set of default formulas for "mater high service pumping" is appropriate only if the high service pumps are located after, or downstream true, finished water storage. This set of formulas is <u>dot</u> appropriate for and will grouply vorestimate the 'used and apping of uppreshtage of itor-service pumps that are located before or upstream from the supropriate for set of before or upstream from the supropriate for set of the set of the set of the second set of the supropriate of the set of the set of the set of the second set

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Department of

Environmental Protection

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

Virginia B. Wetherell Secretary

OF

February 20, 1996

Commissioner Susan F. Clark Chairperson | | Public Service Commission 2540 Shumard Oak Blvd. | Tallahassee, Florida 32399-0850

Dear Commissioner Clark:

As you are aware, our agencies share regulatory responsibilities for many private water and wastewater utilities throughout the state. It has long been the practice of the Department of Environmental Protection to require advance planning and design for expansions and improvements identified as necessary through our various capacity analysis reviews.

Staff from both our agencies have been working together over the last several years to achieve enhanced understanding of the basis and application of our respective regulations and policies. This cooperative relationship was memorialized in the Memorandum of Agreement focusing on reuse which was signed in 1992, and continues with recurrent staff work groups which are designed to address common issues. The most recent topic under active discussion has been the proposed Used and Useful rule, and we have submitted comments to you as recently as June 29, 1995. The Department supports and encourages you to continue your efforts to finalize this rule as quickly as possible. It is my understanding that your staff anticipates re-initiating rulemaking within the next few months.

As your agency continues to address these issues of common concern, please remember that my staff is available to offer whatever technical support the Commission, individual commissioners, or your staff may require to ensure that the actions of our sister agencies are as complimentary and consistent as possible. I encourage you to encourage your staff to contact either Van Hoofnagle, Drinking Water Program Administrator, at 488-3601, or Elsa Potts, Domestic Wastewater Program Administrator, at 488-4524, for any direct assistance.

"Protect, Conserve and Mahage Florida's Environment and Natural Resources"

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Commissioner Susan F. Clark Page Two February 20, 1996

If you have any questions or would like to discuss this issue further, please feel free to call my office, or you may call Mimi Drew, Director, Division of Water Facilities, at 487-1855.

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Sincerely,

Virginia B. Wetherell Secretary

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cc: Mimi Drew Van Hoofnagle Elsa Potts



Miami looks for alternatives to blue-chip sewer overhaul

nder detailed and stringent state and federal mandates, Miami is spending \$1.1 billion to rehabilitate the largest wastewater col-

lection and treatment system in the Southeast. The program, about onethird the way toward a 2002 completion deadline, has more than doubled monthly water and sewer bills since 1988, with no expected end in sight.

To date, Miami has made all 194 milestones in the compliance orders, but officials claim the decrees are arbitrary in places, putting construction ahead of planning and forcing costly improvements that may be ultimately unnecessary. The city wants the federal government to devise a sanitary sewer overflow policy that considers local conditions, particularly a groundwater table only 3 ft to 6 ft below the surface and average rainfall of 60 in. per year. Otherwise, they fear, the massive upgrade will still not bring the city's wastewater collection and treatment system into Clean Water Act compliance.

Wake-up call. The 400-sq-mile system comprises 2,400 miles of gravity sewers, 640 miles of force main, 874 pump stations and three treatment plants that together process 320 million gal per day of wastewater on average. Peak flow tops 700 mgd. Thousands of sanitary sewer overflows, coupled with a series of pipe and pump station failures in the late 1980s and early 1990s, caught the attention of media, environmentalists and regulators.

After several well-publicized pipe failures flooded intersections downtown and spilled raw sewage into the Miami River and other bodies of water, many began to question the integrity of a force main under Biscavne Bay. The 72-in. dia Cross Bay line is the primary conduit for wastewater from the mainland to the 143-mgd Central District treatment plant on Virginia Key. It was built in the 1950s, when the city was desperately trying to keep pace with booming development.

In a 1993 agreement, the Florida Dept. of Environmental Protection specified replacement of the line with a 102-in.-dia alternative. The job came in a year early and well under its \$72million estimated cost (ENR 9/12/94 p. 16). Indianal to a subject to the second states of

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But the regulators were just getting started. In July 1993, a second pact with the state specified expansion of two treatment plants, odor control improvements at the central facility, additional capacity throughout the collection and transmission systems and expansion of a detailed infiltration and inflow program already under way.

The U.S. Environmental Protection

ENR/January 1/8, 1996

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Agency also stepped in, filing a federal lawsuit that raised the same issues covered by the state's regulators. The U.S. Dept. of Justice, representing EPA, refused to acknowledge the settlement agreements. Miami settled the suit by signing detailed consent decrees, the first in August 1993, and the second in February 1995. In addition to signing off on a program currently pegged at \$1.1 billion, the city agreed to spend \$5 million to build advanced wastewater treatment works and install reuse and low-flow toilets in public housing. Fi-nally, Miami paid \$2 million to the U.S. Treasury, the largest penalty ever collected under the Clean Water Act.

City officials acknowledge the repairs were overdue. But they also maintain the settlements with state and federal regulators duplicate paperwork and put construction's cart before design's horse. A peak-flow study and system-wide sanitary sewer evaluation, both under way but not yet complete, would generate a more cost-effective upgrade plan by the end of next year, they say. The compliance documents are "clearly a premature enforcement of the Clean Water Act," says Anthony J. Clemente, director of the Miami-Dade Water and Sewer Dept.



Small pipe installation is done by city crews.



Force main expansion mandate requires construction of 60 miles of new transmission lines.

"We could spend 40% less to achieve the same goals," estimates Luis Aguiar, the department's assistant director in charge of transmission systems. "But with the agreements in place, we have no room to maneuver."

EPA's intervention after the state already initiated an aggressive enforcement program in 1993 "really was inappropriate," Clemente adds. He suspects the reason may be political, since Attorney General Janet Reno and EPA Administrator Carol Browner are both

natives of South Florida. In any case, the city says the requirements are overlapping and heavy-handed, mandating elimination of all sanitary sewer overflows, even though EPA has yet to develop a national SSO policy. "Will the regulatory agencies recognize that all SSOs cannot be eliminated?" asks Clemente. He adds that EPA's regional offices do not apply the same standards across the board to releases of raw or untreated sewage from sanitary collection systems.

SSO SOS. EPA counters that it is drafting SSO enforcement action guidelines, giving localities more say in

developing management plans, says Michael B. Cook, the agency's director of the office of wavewaver manage-



SSO enforcement action guidelines, giving in Miami, especially after heavy rain.

long overdue. "We felt the [operation and maintenance] budget had been inadequate for years. It's like a car. If you never change the oil.

ment. "We want to reduce monitoring

and reporting requirements by 25%

within the next year," he told the Water

Environment Federation convention

based approach to ... scientific risk-

based analysis on a cost-benefit basis." adds Tudor Davies, EPA's director cf

the office of science and technology. But he insists, "I don't believe there

are different quality criteria for water

Despite EPA's promis-

es of policy changes,

the goal in Miami re-

mains "zero overflows

from the collection sw-

tem," says Roy Herwig,

an enforcement officer in the agency's Atlanta office. "These overflows

run through school-

yards and playgrounds. It's a public health issue." He adds that frag-

ile ecosystems in two

national parks within

Dade County, Biscavne

Bay and the Everglades.

could be compromised

by a large-scale failure of the county's waste-

water treatment system

program," says Herwig,

who adds that it was

Miami has put together "a tremendous

quality standards for wet weather."

EPA is "moving from a technolog-

last October.

EXHIBIT PAGE 3 OF

vou shouldn't complain about having to replace a shot engine."

Clemente and engineers with Montgomery Watson, the Pasadena, Calif., consultant leading program manage-

ment for the department, say a consistent SSO policy, considering actual risks and local conditions, would be more cost-effective. "You can engineer a brick to fly but it will be mighty expensive," says Ron Ballard, MW program director.

Expense was also a concern with EPA, says Adam M. Kushner, the Justice - Dept.'s chief attorney on the Miami case. The government filed suit to pro- Clemente says EPA pushed tect public health, but also to secure its own investment. Miami had used

\$300 million in federal funds to expand its system over the last 25 years, he notes, but spent little to keep it in shape. "We're working at the confluence of two principal problems-unstemmed growth that limited hydraulic capacity and a failure to invest in O&M," he says. "Between 1985 and 1994 we noted between 2,200 and 2,600 overflows system wide, according to the department's own records. If somebody in Miami even thought about rain they had an overflow.

Observers agree. "There's no ques-tion that they were plaving catch-up," says Rick Arbour, president of Rick Arbour & Associates, Inc., a Hopkins, Minn., consulting engineer that has advised EPA on Miami's problems. Some of those problems date back to

reforms already under way.

1973, when the city established a single metropolizan water and sewer agency that cobbled together a large system from 30 smaller ones. The clean water law provided federal funds so

Miami and other cities could bring their systems into compliance. Regulators say officials found it politically expedient to take federal money for capital expansion, while keeping customer rates low, at the expense of the existing pipe and pump stations.

"Miami had one of the lowest sewer rates in the nation," says EPA's Her-wig. In 1988, the city billed \$20.64 for average monthly levels of 10,000 gal each of water and wastewater. By 1995, to

fund the compliance orders, the levy

had climbed to \$44.22-comparable to rates in Dallas and Orlando, but well below rates in San Francisco, Boston and even communities in northern Florida.

Best practice? Underfunding maintenance led to massive infiltration and inflow in the deteriorating collection system. Compounding this were design methods regarded as "best practice" 20 years ago, but since disproved, says Aguiar. Oversized force mains

caused widespread cavitation and in several instances blew out manhole covers. Installing manual air release valves and using certain pipe materials encouraged corrosion instead of inhibiting it, as intended, he adds.

In the late 1980s, the system started to break down frequently under peak flow conditions. The city started an infiltration and inflow remediation program in 1991, following an agreement with the county. Extensive inspection of the system, mainly through smoke testing and televised line inspections, revealed the weak spots. "We have the largest TV and grout fleet in the U.S .---16 trucks," boasts Aguiar.

An estimated 40% of the total flow to treatment plants during wet weather is tied to infiltration and inflow. Still, the condition "is very hard to quantify," says Aguiar. Some solutions, especially with inflow, are inexpensive and lowtech. Smoke bombs showed extensive inflow from missing cleanout caps on private property. The owner is respon-



Computer-operated system tells sewer line repair crews where to go and what to fix.

sible, but the process-notification and follow-up to secure replacement-costs \$250 per site, says Aguiar. It's cheaper and easier to supply crews with \$3 caps and replace the caps themselves.

Plastic inserts that fit below manhole covers and seal the aperture during storms are also inexpensive, at \$7 or \$8 each. Aguiar was first skeptical these would work, "but after putting a camera in a manhole during a storm and watching water just pouring in, I decided to try them." The city has installed 55,000 since 1991 and has reduced peak flows during wet weather.

EPA wants 20% of the gravity system evaluated annually. Inspection crews doubled up on repair efforts, which cost 200 to 800 hours per worker in overtime last year, but "kept us ahead of the curve," Aguiar says.



Pump station improvements involve 874 units scattered throughou. ENR/January 1/8. 1996

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Pipe repairs have added 40 mgd of capacity.

Fixing infiltration requires more expensive, longer-term projects-replacing and repairing pipe. The department is encouraging a full range of techniques: grouting, sliplining, resinimpregnated liners and pipe-bursting. Still, says Aguiar, "this country is way behind Europe in trenchless technology. We're just picking up on techniques they've had for 30 or 40 years.'

Department crews handle trenching pipe of 20 in. diameter or less, and bid out the rest. Three projects totaling some \$64 million are under construction. They involve 17 miles of force main and interconnections of lines ranging from 60 to 72 in. in diameter.

Infiltration and inflow work has cut peak flow to the treatment plants by 40 mgd and eliminated proposed capacity upgrades for 90 pump stations, saving \$10 million in construction, says Aguiar. But there is plenty of pump station work in the program. Within the next three years, 358 stations are scheduled for upgrading, along with construction of 60 miles

of new force main. Estimated cost is \$195 million. All 874 pump sta-tions will be equipped with remote monitoring equipment tied together in a Supervisory Control and Data Acquisition system.

The consent decree establishes a design criterion for the pump stations based on a net average pump operating time for a day. "EPA set forth the 10hour criteria as a shortterm fix," says Rosanne

W. Cardoza, MW's deputy program manager. "The peak-flow study will show if 10 hours is correct, too much or too little.

No time. Post, Buckley, Schuh & Jernigan Inc., Miami, is developing a digitized model of the collection and transmission system, due next September, and will deliver the peak flow management study a year later. "Houston had the advantage of a detailed water quality study that guides the design of their whole program," says William M. Brant, sewer department deputy director. "We weren't given time to do that."

The study will extract data from the collection model to reach a single goal: "to develop a capital improvement plan that will mitigate storm-induced wastewater overflows in a feasible cost-effective manner," says Marc P. Walch, a PB-SJ engineer. The collection model will combine data from the pump stations and force mains to determine how much wastewater the system can store and transport. The peak flow study will factor in weather impacts. In a new

r odor control.



Central district plant will replace activated sludge tanks with pure or

station reports can generate accurate

Brant fears aquifer contamina-

tion will trigger another decree.

storm event data every 15 minutes. A geographic information system combines weather information and collection system data to forecast wastewater flow through the

twist, officials will use a so-called Virtu-

al Rain Gauge. This computer link to

weather data from satellite and ground

system in a 24-hour interval. As a design tool, it will yield data regarding transmission capacity, pressure levels at connection points and possible overflow points within the gravity system, says Walch.

Miami's upgrade concentrates on the system's weakest link, the collection system, but treat-

ment plants will also be rehabbed. The 40-year-old central district plant features two parallel process trains that dewater sludge before discharging treated wastewater 3 miles offshore through a 120-in-dia. outfall. An 80-mgd pure oxygen activated sludge train will remain on-line, but a 60-mgd high-rate activated sludge train with open aeration tanks will be replaced by a second closed-tank pure oxygen unit for odor control. The other two plants are also slated for capacity expansions.

Despite all the work, Miami's troubles with regulators may not be over. They are now scrutinizing injection wells at the south district plant that are used for effluent reuse. The 1983-vintage plant, scheduled for upgrade from 100 mgd to 112.5 mgd, injects treated effluent about 3,000 ft deep into the Florida Aquifer's boulder zone. This lies several strata and hundreds of feet below the Biscayne Aquifer-source of Miami's drinking water. In 1994, a monitoring well in the Biscayne Aquifer detected ammonia, a possible indicator of treated effluent.

The department suspects a defective monitoring well. It was capped, but traces of ammonia have been detected at other points. The department is negotiating with regulators to develop a remediation program. "The burden of proof is on us to prove that we are not the source," says Brant.

The stakes are high, since the south district handles roughly one-third of the department's sewage. Any alternative to deep injection would be an expensive proposition for a city already on the hook for one of the most expensive wastewater treatment capital programs in the U.S.

By Andrew G. Wright in Miami

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PERMITTING AND CONSTRUCTION OF PUBLIC WATER SYSTEMS DEP 62–555.325(3)(b) 12/94

PART III: CONSTRUCTION, OPERATION, AND MAINTENANCE

(b) A means to determine daily fluoride chemical dosage shall be provided. When weighing scales are used to determine the amount of chemical fed, the scales shall be installed flush with the loading platform at floor level to avoid unnecessary lifting of large containers.

(c) Chemicals in powdered or granular form used for fluoridation shall be kept in color-coded containers to distinguish from other water treatment chemicals.

(d) Analytical equipment is required to accurately determine the fluoride ion concentration in the treated water. Analysis of the treated water for fluoride content shall be performed daily and reported to the HRS State Dental Health Office monthly along with the daily fluoride dosage and the daily quantity of chemical fed.

(4) Quality Assurance.

(a) At monthly intervals, each plant practicing fluoridation shall collect a raw, an effluent, and four distribution system samples. The samples shall be "split" and sent to a laboratory of the Department of Health and Rehabilitative Services or another certified laboratory for analysis. The results of analysis by the plant and the other laboratory shall be submitted to the HRS State Dental Health Office.

(b) If the Department finds that fluoridation is not being carried out in compliance with these rules, it may order corrective action.

(c) The HRS State Dental Health Office is authorized to conduct annual or more frequent inspections of fluoridation facilities at public water systems.

Specific Authority: 403.853(3), 403.861(6),(9); 403.862(1), F.S. Law Implemented: 403.852(12),(13), 403.853(3),(5), F.S. History: New 11-19-87, Formerly 17-22.625, Amended 1-18-89, 1-3-91, Formerly 17-555.325.

62–555.330 Engineering References for Public Water Systems. In addition to the requirements of this chapter, the standards and criteria contained in the following standard water works manuals and technical publications are hereby incorporated by reference and shall be applied in determining whether applications to construct or alter a public water system shall be issued or denied. They do not supersede the specific requirements detailed in these rules. Copies of these technical volumes may be obtained by writing the appropriate publisher at the address indicated.

(1) "Water Quality and Treatment: A Handbook of Community Water Supplies," American Water Works Association, 4th Edition, 1990, McGraw-Hill Publishing Company, 1221 Avenue of the Americas, New York, New York 10020.

(2) "Water Treatment Plant Design," 2nd Edition, 1990, American Society of Civil Engineers and American Water Works Association, Published by McGraw-Hill Publishing Company, 1221 Avenue of the Americas, New York, New York 10020.

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PERMITTING AND CONSTRUCTION OF PUBLIC WATER SYSTEMS DEP 62–555.330(3) 1

12/94

PART III: CONSTRUCTION, OPERATION, AND MAINTENANCE

(3) "Recommended Standards for Water Works," 1987 Edition, A Report of the Committee of the Great Lakes – Upper Mississippi River Board of State Public Health and Environmental Managers, Published by Health Research Inc., Health Education Service Division, P.O. Box 7126, Albany, N.Y. 12224.

(4) "Standards of the American Water Works Association," in effect on June 1, 1992, American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado 80235.

(5) "Water Fluoridation – A Manual for Engineers and Technicians," Thomas G. Reeves, P.E., National Fluoridation Engineer, Published by the U.S. Department of Health and Human Services, Public Health Service Centers for Disease Control, Dental Disease Prevention Services, Atlanta, Georgia 30333, September 1986.

(6) "Recommended Practice for Backflow Prevention and Cross-Connection Control (M14)," American Water Works Association, 1990, American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado 80235.

(7) "Cross Connections and Backflow Prevention," 2nd Edition, American Water Works Association, 1974, American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado 80235.

Specific Authority: 403.861(9), F.S. Law Implemented: 403.861(9), F.S. History: New 11-19-87, Formerly 17-22.630, Amended 1-18-89, 1-3-91, 1-1-93, Formerly 17-555.330.

62-555.335 Guidance Documents for Public Water Systems. The following publications are adopted as technical guidance to assist suppliers of water in achieving compliance with Chapters 62-550, 62-551, 62-555 and 62-560, F.A.C. Specific portions of a publication which contain enforceable criteria may be referenced in these rules. Information in the publications does not supersede the specific requirements detailed in these rules. Copies of the publications may be obtained from the source indicated:

(1) "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources," October 1990 Edition, Environmental Protection Agency, Science and Technology Branch, Criteria and Standards Division, Office of Drinking Water, Washington, D.C., Source: U.S. Department of Commerce, National Technical Information Service, Springfield, VA 22161.

(2) "The Lead and Copper Guidance Manual, Volume 1: Monitoring," September 1991 Edition, Environmental Protection Agency, Science and Technology Branch, Criteria and Standards Division, Office of Drinking Water, Washington, D.C., Source: U.S. Department of Commerce, National Technical Information Service, Springfield, VA 22161.

(3) "Lead and Copper Rule Guidance Manual, Volume II: Corrosion Control Treatment," March 1992 Edition, Environmental Protection Agency, Science and Technology Branch, Criteria and Standards Division, Office of Drinking Water, Washington, D.C., Source:

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PERMITTING AND CONSTRUCTION OF PUBLIC WATER SYSTEMS DEP 62–555.335(3) 12/94

PART III: CONSTRUCTION, OPERATION, AND MAINTENANCE

U.S. Department of Commerce, National Technical Information Service, Springfield, VA 22161.

(4) "Treatment Techniques for Controlling Trihalomethanes in Drinking Water," 1982, American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado 80235.

(5) "Disinfection By-Products: Current Perspectives," 1989, American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado 80235.

(6) "Distribution System Maintenance Techniques," 1987, American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado 80235.

(7) "Standard Methods for the Examination of Water and Wastewater, 17th Edition," 1989, American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado 80235.

(8) "Activated Carbon for Water Treatment," 2nd Edition, 1988, American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado 80235.

(9) "Manual of Small Public Water Supply Systems," May 1991, U.S. Environmental Protection Agency, Publication number EPA 570/9-91-003, Office of Water, Washington, D.C. 20020.

(10) "Air Stripping for Volatile Organic Contaminant Removal," 1989, American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado 80235.

Specific Authority: 403.861(9), F.S. Law Implemented: 403.861(9), F.S. History: New 1–3–91, Amended 1–1–93, Formerly 17–555.335.

62-555.340 Cleaning and Disinfection. No supplier of water shall put into service or resume the use of any plant, pumping station, main standpipe, reservoir, tank, or other pipe or structure through which water is delivered to consumers for drinking and household purposes unless the plant, pumping station, main standpipe, reservoir, tank, or other pipe or structure has been effectively disinfected and approved for operation by the Department. This prohibition may not necessarily apply to mains, reservoirs, tanks, or other structures which contain water before it is treated.

Specific Authority: 403.861(9),(10), F.S. Law Implemented: 403.852(12),(13), 403.853(1),(3), F.S. History: New 11-19-87, Formerly 17-22.640, Amended 1-18-89, Formerly 17-555.340.

62-555.345 Certification Letter and Clearance for Public Water Systems. Upon completion of construction, the engineer of record or the system's professional engineer who was responsible for overseeing construction shall submit a certification of completion letter to the Department. When the letter of certification and a copy of satisfactory bacteriological

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