96-04227



BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

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| In the Matter of | DOCKET NO. |
| **Application for a rate increase and increase in service availability charges by SOUTHERN STATES UTILITIES, INC. for Orange-Osceola Utilities, Inc. in Osceola County, and in Bradford, Brevard, Charlotte, Citrus, Clay, Collier, Duval, Highlands, Lake, Lee, Marion, Martin, Nassau, Orange, Osceola, Pasco, Putnam, Seminole, St. Johns, St. Lucie, Volusia and Washington Counties.** | **950495-WS** |

**EIGHTH DAY - MORNING SESSION**

**VOLUME 31**

**Pages 3430 through 3608**

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| PROCEEDINGS: | **HEARING** |
| BEFORE: | CHAIRMAN SUSAN F. CLARK<br>COMMISSIONER J. TERRY DEASON<br>COMMISSIONER JULIA L. JOHNSON<br>COMMISSIONER DIANE K. KIESLING<br>COMMISSIONER JOE GARCIA |
| DATE: | **May 8, 1996** |
| TIME: | Commenced at 9:00 a.m. |
| PLACE: | Betty Easley Conference Center<br>Room 148<br>4075 Esplanade Way<br>Tallahassee, Florida |
| REPORTED BY: | JOY KELLY, CSR, RPR<br>Chief, Bureau of Reporting<br>SYDNEY C. SILVA, CSR, RPR<br>Official Commission Reporter<br>ROWENA NASH HACKNEY<br>Official Commission Reporter |

**APPEARANCES:**

(As heretofore noted.)

**WITNESSES**



**EXHIBITS**

PROCEEDINGS

(Hearing reconvened at 9:08 a.m.)

(Transcript follows in sequence from Volume 30.)

CHAIRMAN CLARK: We'll reconvene the hearing. I have been handed a list of order for the witnesses that I understand everyone has agreed on. And my new order would be Richard Harvey, Van Hoofnagle, Bruce Adams, Mark Farrell, Elsa Potts, John Sowerby, Jay Yingling, Harold Wilkening, and then we would do Judge Mann, and then John Williams.

Where is Mr. Twomey.

MR. HANSEN: He's here.

CHAIRMAN CLARK: Mr. Twomey, did you here the order of witnesses?

MR. TWOMEY: I did not, but I agreed earlier with what the Company and Staff were proposing.

CHAIRMAN CLARK: Sounds good. Then we will start this morning with Mr. Richard Harvey.

Let me ask if there are other witnesses here today to give testimony. If you have not been sworn in, if you would please stand and raise your right hand, I will swear you in at the same time I swear in the rest of them.

(Witnesses collectively sworn.)

Thank you, you may be seated.

Mr. Armstrong.

MR. ARMSTRONG: Thank you, Madam Chair.

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**RICHARD HARVEY**

was called as a rebuttal witness on behalf of Southern States Utilities and, having been duly sworn, testified as follows:

**DIRECT EXAMINATION**

BY MR. ARMSTRONG:

Q Mr. Harvey, do you have before you 32 pages of prefiled rebuttal testimony which was submitted in this proceeding?

A Yes, I do.

Q Do you have any changes to that prefiled testimony?

A No, I do not.

Q If I were to ask you the questions contained in that 32 pages, would your answers be the same?

A Yes, they would.

MR. ARMSTRONG: Madam Chair, I request that the 32 pages of prefiled rebuttal testimony of Mr. Harvey be incorporated into the record as though read.

CHAIRMAN CLARK: The prefiled direct

testimony of Mr. Richard Harvey will be inserted in the record as though read.

MR. ARMSTRONG: Mr. Harvey, you're also sponsoring exhibits labeled --

CHAIRMAN CLARK: Mr. Armstrong, let the record be clear it is rebuttal testimony.

MR. ARMSTRONG: Rebuttal.

Q (By Mr. Armstrong) Mr. Harvey, is it true that you are also sponsoring exhibits identified as RMH-1 through RMH-7?

A Yes.

MR. ARMSTRONG: Madam Chair, we request that those exhibits be identified as a composite with the next available exhibit number.

CHAIRMAN CLARK: The next exhibit number I have is 198, and that's RMH -- give me the numbers again, 1 through --

MR. ARMSTRONG: -- 7.

CHAIRMAN CLARK: Okay. Thank you.

MR. ARMSTRONG: Madam Chair, it's just been brought to my attention as well that on April 29th there was a refiled Exhibit RMH-7, and I don't know which one the court reporter might have.

CHAIRMAN CLARK: Mr. Armstrong, if you would check that before we move it into the record, we'll

make sure that we get it correct.

(Exhibit No. 198 marked for identification.)

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Richard M. Harvey. My business address is Kimley-Horn and Associates, Inc., 2700 Blair Stone Road, Suite D, Tallahassee, FL 32301.

**Q. COULD YOU BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND YOUR PROFESSIONAL QUALIFICATIONS?**

A. I have a Bachelor of Science degree in Zoology from the University of Florida, a Bachelor of Science degree in Civil Engineering from Florida State University, and a Master of Science degree in Environmental Engineering from the University of Florida. I am a registered Professional Engineer in the State of Florida, and I am currently a member of the American Water Works Association. Throughout my career I have been a member of a number of professional organizations which focus on water and wastewater utility issues, including the Water Pollution Control Federation (now known as the Water Environment Federation) and the North 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

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

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

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

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?**

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

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

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

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

environmental/public health requirements nor substantially promoted resource protection.

**Q. COULD YOU EXPLAIN WHAT YOU MEAN?**

A. Yes. I think SSU witness Hartman's direct testimony framed this broader issue very concisely, and I am in complete agreement with Mr. Hartman. The Commission must formulate economic regulation practices and policies which encourage and advance environmental compliance, protection of public health environmental preservation, proper facility design, and economies of scale. Economic regulation which does little to promote these ends is deleterious to the environment, the utility, the customers, and the citizens of the state at large. As Mr. Hartman pointed out, if the Commission's used and useful conventions do not parallel design and regulatory requirements, used and useful is a direct financial **disincentive** for regulatory compliance and environmental protection. Such a disincentive promotes resource **endangerment**. Furthermore, as a matter of principle, I think it is fundamentally unfair for one or more agencies of the state to require compliance with certain level of service, public health, and environmental 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.

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

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

**Q. ON WHAT DO YOU BASE THIS OBSERVATION?**

A. Until a few years ago, I was personally not even familiar with the concept of used and useful despite my many years of experience in the water and wastewater industry. It was only when the Water Facilities Division began hearing complaints from some utilities about their inability to recover the costs associated with reuse projects identified in their legislatively mandated reuse feasibility studies that it was brought to my attention. It had always been my belief, and the belief of the other engineers at DER/DEP, that 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.

Upon hearing the utilities' complaints, I asked my staff to meet with the Commission staff so we could obtain a better understanding of the used and useful concept. We had several meetings, some of which I attended. Eventually, the Commission and DER came to agree to a Memorandum of Understanding ("MOU") which set forth various cooperative efforts and responsibilities. I thought the MOU was a very positive step, even though in the process of negotiating the MOU there appeared to be a certain measure of resistance to the rates impacts of DER's goals of protecting the public health and the environment. With regard to DER's reuse concern, the MOU reinforced the law at 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 198 (RMH-1).

At about the same time as the MOU was being worked out, the Commission staff was working on proposed rules which addressed used and useful on a broad scale. These proposed rules were discussed at various meetings between Commission staff and DER employees under my supervision. When drafts of the used and useful rules were completed, the Commission staff sought DER's comments on the rules. Attached to my testimony as Exhibit 198 (RMH-2) are two letters from DER to the Commission staff commenting on the proposed rules as they existed at the time. The first letter, dated July 30, 1992, is from me to Mr. Charles Hill, and the second, dated July 14, 1993, is from one of my Bureau Chiefs, Richard Drew, to Mr. John Williams. Both letters, emphasize, among other things, that the proposed rules should be written so all facilities necessary for reuse be considered 100% used and useful and so the Commission's used and useful policies parallel the requirements of Rule

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

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

By a letter from Mr. Charles Hill dated May 15, 1995, to Ms. Elsa Potts and Mr. Van Hoofnagle, Section Administrators under my supervision as Division Director, the Commission staff transmitted to DEP for comment staff's latest draft of the proposed used and useful rules. A copy of the letter and the draft rules is attached as Exhibit 198 (RMH-3). I note from this Exhibit that the Commission staff did not change any of its previous drafts to adequately address the reuse question and it refused DEP's repeated recommendations

concerning Rule 62-600.405. On June 29, 1995, I wrote a letter to Mr. John Williams of the Commission staff commenting on the draft rules. A copy of this letter is attached as Exhibit 198 (RMH-4). In the letter, I emphasized that the used and useful rules should and must separately identify reuse facilities and declare those facilities to be 100% used and useful. I also stressed that the margin reserve component for used and useful be at least five years for both water and wastewater facilities, the latter being consistent with Rule 62-600.405. On July 12 and 13, 1995, the Commission staff held a public workshop to discuss the staff's May 10, 1995, draft used and useful rules. I directed persons under my supervision to participate in the workshop on behalf of DEP. Representatives from DEP, the water and wastewater industry, Commission staff, and OPC were present. From the reports of my people and the transcript of the workshop, the Commission staff was, again, not receptive to the above two recommendations in my letter. On February 20, 1996, DEP Secretary Wetherell wrote Commission Chairman Clark emphasizing the need for cooperation between agencies on the used and useful rules. A

copy of this letter is attached as Exhibit 198 (RMH-5).

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

In consideration of the above, and in consideration of the comments I read in the transcript from a recent Commission agenda conference at which a reuse project plan for Aloha Utilities was considered, I think a rates-driven resistance to environmental and public health protection and environmental preservation is present. The intervenors in this case, needless to say, make no bones about their motivation for the used and useful recommendations in their testimony.

**Q. WHAT ARE THE DANGERS OF A RATES-DRIVEN RESISTANCE TO PROTECTING THE ENVIRONMENT AND PUBLIC HEALTH?**

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

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

Let me offer some examples of the dangers I

have referred to. First is the example of the Miami-Dade wastewater collection, treatment, and disposal system. Exhibit 198 (RMH-6) is an article from the Engineering News Record describing the circumstances of the case. Since the situation arose while I was at DEP, I am personally familiar with the pertinent facts. For many years, the Miami-Dade sewer rates failed to generate adequate revenues to properly operate and maintain the sewer system. As a result, and not unexpectedly, major problems developed in the wastewater system. Eventually, thousands of sewer overflows and numerous pipe and pump station failures occurred which resulted in, among other things, street intersections being periodically flooded with thousands of gallons of raw sewage and raw sewage spilling into the Miami River and other bodies of water. In order to correct the problems, Miami-Dade is spending over $1.1 billion to rehabilitate its facilities, the largest wastewater collection and treatment system in the Southeast. To generate the revenues needed to fund the rehabilitation, monthly water and sewer bills have more than doubled, with no end in sight. The point of this example is that the financial 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.

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

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

**Q. WHY ARE THESE MATTERS IMPORTANT TO YOUR REBUTTAL TESTIMONY IN THIS CASE?**

A. DEP's recommendations on the used and useful considerations of the Commission are stated in the letters I referred to and the MOU. DEP's recommendations were offered, not in support of the utility industry, not in support of utility customers, but in support of environmental preservation, the public health, and the statutes, rules, regulations, and permits which DEP enforces. The reuse and margin reserve used and useful proposals offered by the intervenor witnesses in 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.

**Q. BEFORE DISCUSSING THE SPECIFIC SUBJECT AREAS OF YOUR REBUTTAL TO THE INTERVENORS' TESTIMONY, DO YOU HAVE ANY PRELIMINARY COMMENTS TO THEIR TESTIMONY?**

A. Yes. It is entirely too clear to me that the intervenor witnesses have not given due consideration, or any consideration, to the broader issues I have mentioned. The intervenors instead insist that used and useful is exclusively a mechanism to financially partition indivisible system components in order to artificially and temporarily reduce what current customers will pay. I am astounded by the intervenors' proposals that there be no margin reserve whatsoever and that facilities necessary to provide reuse not be considered 100% used and useful, the latter despite clear legal authority to the contrary. I understand perfectly the customers' interests in these matters. However, for the reasons I, and SSU's other witnesses, have explained, used and useful cannot be as the intervenors say it should

be.

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

**Q. WHAT DO YOU BELIEVE WOULD BE THE RAMIFICATIONS OF ELIMINATING SSU'S REQUESTED MARGIN RESERVE AS THE INTERVENOR'S PROPOSE?**

A. I believe the results would be the sort of perpetual capacity crises mentioned in the DEP letters and referred to by Mr. Hartman. With the capacity crises comes: 1) compliance problems, 2) service problems, 3) increased risk of environmentally harmful conditions, 4) increased risk to the public health and 5) higher costs to customers in the long run. The Commission would place utilities in the position of having to constantly catch up to capacity and reliability requirements because the utilities have no economic incentive to plan ahead. This will almost inevitably lead to service and compliance issues, such as insufficient water pressure, connection moratoria, lack of sufficient disposal facilities, improper discharge of wastewater, and insufficient wastewater treatment to name a few. Building plants in increments sized to meet short-term demand, and only as that demand becomes immediate, costs the utility and the customers more in the long run. The economies of scale referenced in the 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. Hansen on page 14, line 7, of his testimony expresses concern with SSU's building water plants sized only to meet immediate needs, yet he opposes a margin reserve. Mr. Hansen apparently fails to understand the cause and effect correlation: the lack of a sufficient margin reserve is one very clear way a Commission regulated utility is encouraged to operate at or near capacity. This is so whether the margin reserve period is eliminated or insufficient or if the Commission imputes contributions against the margin reserve and thereby diminishes the margin's incentive, as Mr. Hartman states.

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

A. Yes. While the term "margin reserve" is not specifically used in the DEP rules, the concept is most conspicuously embodied in Rule 62-600.405, which is entitled "Planning for Wastewater Facilities Expansion." A copy of this rule is attached as Exhibit 198 (RMH-7). This rule states,

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

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

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

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

DEP's existing rules address drinking water facility sizing and planning in that those rules establish design standards and level of service requirements. The existing drinking water rules do not have a provision which parallels Rule 62-600.405. However, as mentioned in my June 29, 1995, letter, Exhibit 198 (RMH-4), DEP has recognized the need for a drinking water facilities rule similar to Rule 62-600.405 and has for the last year or so been working on one. I note that Exhibit 198 (RMH-4) states that DEP recommends at least a five year margin reserve for water facilities. Many of the reasons justifying a five-year margin reserve for wastewater facilities apply to water facilities as well. The search for a suitable well site and obtaining a consumptive use permit, for example, can very often take a considerable period of time, contrary to what Mr. Biddy seems to imply.

**Q. DO YOU DISAGREE WITH MR. BIDDY'S TESTIMONY REGARDING THE MEANING OF RULE 62-600.405 AS IT 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 translate that five year time frame as the actual time required for new plant expansions. Mr. Biddy's interpretation is flatly incorrect. The rule prescribes actions that are to be taken to insure that facility expansions are completed in a timely manner. The rule mandates actions the permittee must take depending on how much time the CAR indicates is remaining before the facility capacity is exceeded. If the CAR indicates less than five years of capacity are left, the permittee must take appropriate actions to expand the facility. Specifically, if less than five years of capacity remain, the CAR has to include a statement, signed and sealed by a professional engineer that planning and preliminary design of the necessary expansion have been initiated. If less than four years of capacity remain, the CAR must include a signed and sealed statement that plans and specifications for the necessary expansion have been prepared. If less than three years remain, a complete construction permit application must be submitted. And if less than six months remain, an application for an operating 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).

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

**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.

Exhibit 198 (RMH-4) provided comment on staff's proposed three year margin reserve for wastewater plant on the premise that the margin reserve should only reflect a period for

construction time. As Mr. Hill acknowledged in his letter included in Exhibit 198 (RMH-3), this premise was motivated by the Commission staff's concern with rate levels. On page 6 of Exhibit 198 (RMH-4) DEP refuses the Commission staff's proposal of a three year margin reserve for wastewater treatment plants, as well as water treatment plants, as follows (bold type in original):

> BY SPECIFYING THAT "USED AND USEFUL" INCLUDE NO MORE THAN A THREE-YEAR RESERVE CAPACITY FOR WATER AND WASTEWATER TREATMENT FACILITIES, THE PSC WILL 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 IGNORE 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 REQUIRES 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 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.

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

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

**Q. IS IT YOUR TESTIMONY THEN THAT THE MARGIN RESERVE ALLOWANCES SSU HAS REQUESTED IN THIS CASE ARE 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.

**Q. SHOULD FACILITIES NECESSARY TO PROVIDE REUSE BE 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

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

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

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

MR. ARMSTRONG: Thank you very much.

Q (By Mr. Armstrong) Mr. Harvey, do you have a summary of your testimony?

A Yes, I do.

Q Could you please provide that now?

A I can.

WITNESS HARVEY: Madam Chairman, I'm going to provide the summary of my testimony, and my testimony is based primarily on my former position with DEP as a Water Facilities Division Director. And my summary offers opinions based upon that position.

A As I stated, I was director of DEP's Water Facilities Division and among other things in that capacity, I was responsible for both the domestic wastewater program and the drinking water program.

I think, as you know, in Florida there are a lot of those facilities. In fact, there's over 11,000 domestic wastewater and drinking water facilities, the vast majority of which are privately owned and operated.

I have over 24 years of experience with state and federal regulatory agencies. At the federal lever I worked for EPA. And at those levels I dealt with water and wastewater facilities and issues. During that 24 years I learned that there are several

key factors that keep facilities in compliance which is what provides public health and environmental protection. Those factors are, first of all, facilities must be designed and constructed using good sound engineering principles. In fact, the DEP permit applications in Rule 62-620 require PEs to certify that facilities conform to sound engineering principles.

Secondly, they need to have adequate capacity to handle both existing and future flows so that they aren't living on the edge and pushing design criteria which can result in overloading the facilities.

Third, they need to have adequate funds, adequate dollars, to properly operate and maintain those facilities. When those criteria are satisfied, in my experience, facilities generally have very few serious compliance problems.

In my 24 years of experience, I've also developed a real appreciation for how reuse can help solve Florida's water resource problems. And solving those problems is a primary reason why the legislature formally recognized reuse as a state objective.

In my testimony, I first of all advocate using good sound engineering and economic sense to

make sure facilities have that adequate capacity. In my opinion, having adequate capacity means having capacity in compliance with the DEP rules, specifically 62-600.405, which means allowing a margin reserve of at least five years for wastewater plants and at least three years for water plants. Since state and federal permits are issued for five years, that will help facilities avoid being in that perpetual planning, design and permitting cycle referred to in the DEP correspondence to the PSC.

I'm also an extremely strong advocate for promoting reuse around the state. And personally, I'm very proud of the DEP accomplishments in getting reuse implemented. Let me tell you that there are major water resource problems around the state, as you will hear from the Water Management Districts representatives later on today, and that reuse has made a significant contribution toward helping solve those problems. And as I previously stated, that's why the legislature identified the encouragement and promotion of reuse as state objectives. To make those things happen is essential for the agencies to provide consistent and coordinated regulation of those utilities.

A central theme which is carried throughout

my prefiled testimony is that the PSC, the Water Management Districts and the DEP need to all be on the same page with respect to those regulatory issues as stated in Secretary Wetherell's letter to the Chairman.

I believe that all of the regulatory agencies want to provide public health, environmental and resource protection at a reasonable cost, which is certainly necessary to sustain Florida's economy and environment. The approaches taken by the various agencies are different which means that the utilities have been left in an untenable position. In my opinion, that's bad public policy. The utilities are left holding the bag; and in the long run that results in increased cost to everyone concerned, the utilities, the agencies and the public.

Most of the time, in my experience, the Water Management Districts and DEP are on the same page with respect to these issues, or at least in the same chapter. The Water Management Districts actively participate in DEP's rulemaking efforts and testify before the ERC, the Environmental Regulation Commission. The secretary of DEP, the executive directors and key staff also regularly meet to resolve any differences that may exist. And in my time with

the DEP, I don't recall unfortunately the PSC Staff ever testifying before the ERC, in spite of the fact that they received copies of draft rules and were encouraged to participate and provide comments.

I know for a fact, however, that DEP has provided extensive input into the PSC drafts on numerous occasions. Those comments don't seem to be incorporated into subsequent drafts of those rules. And I think part of the reason for that may be that there is bad advice out there. Certainly, I believe that we need to see change. We need more communication between the agency, this agency, and the environmental regulators at the decision making level, and I think that means at your level. And more specifically, we need the rules and requirements of the ERC and the regulatory agencies to be recognized in rate setting procedures such as the one we are here talking about today.

As an example of the communication problems that exist, in reading the order denying application for approval of reuse project plan for Aloha Utilities, the Commission determined that the reuse plan was not reuse at all, but merely an effluent disposal plan, in spite of the fact that the plan called for upgrading the plant to meet reuse quality

and piping the reclaimed water to a ranch located in a water resource caution area. Apparently no one was paying for the water. Because no one was paying for the water, the plan was determined to be an effluent disposal plan instead of a reuse plan.

I know that Dr. York, who is DEP's reuse coordinator, provided comments to the effect that the plan met DEP's criteria for reuse, but apparently that didn't seem to matter. It seems to me that in order to hold down rates, the PSC unilaterally redefined what is reuse, and that should no longer happen. I think that you need a consistent definition amongst the agency of what constitutes reuse.

Another problem which I have identified, however, is perhaps more serious. In reading some comments that were made during the December 5 Aloha Agenda Conference, there was some troubling discussion about DEP and PSC cooperation. To refresh your memory, the comment was made that maybe a separate surcharge --

MR. REILLY: I'm sorry. Excuse me. Is this a subject that is in his testimony?

CHAIRMAN CLARK: Mr. Armstrong?

MR. ARMSTRONG: Yes, it is, Madam Chair.

MR. REILLY: Excuse me, go ahead.

CHAIRMAN CLARK: Go ahead.

A In reading some comments during the December 5th Aloha Agenda Conference, there was some troubling discussion about the DEP and PSC cooperation. And to refresh your memory, the comment was made that maybe a separate surcharge needed to be added to customers' bill saying that the additional charges were due to DEP mandated improvements and then maybe they, meaning DEP, will start caring about some of the things that they mandate.

A comment was also made that DEP staff are environmental fanatics who only want things done to protect the environment, and they don't care about the cost. Let me state emphatically that that's not true. DEP is very sensitive to the cost of the regulations. I take personnel offense at those statements because I was the person in charge of those programs, and I can assure you that we never stated that we don't care about the costs. State and federal laws require DEP to consider the cost of all its regulations. And economic impact statements are prepared as part of the rulemaking process for all rules. And comments are requested from PSC Staff on rate impacts, but are rarely, if ever, received. It is important that the Commission not only be well informed, it is important

that the Commission be accurately informed, and the statements about DEP not caring about costs are certainly not accurate.

What I have learned through this process is that in order to avoid costly confusion and inconsistent regulations, the agencies clearly need to better coordinate and at the highest levels. And I'm encouraged by the fact that I learned recently that the Commission is going to participate in meetings with the secretary and the Water Management Districts executive directors to help foster that coordination and communication. That is a very good positive step in the right direction. And I think the Commissioners need to personally hear from the DEP more often and participate, as I mentioned, with the secretary and the executive directors to help resolve those conflicts for the good of everyone concerned.

In conclusion, I wish to be clear that I recognize the province of the Commission to set fair and reasonable rates. My point is that the Commission's rate setting responsibility can be coordinated with the environmental responsibilities of the DEP, the Water Management Districts, by permitting utilities to build appropriately sized or design facilities which comply with the proper engineering

requirements.

I'm convinced that the three-year margin reserve and five-year margin reserve for water and wastewater plants is a mechanism by which to achieve this coordination. These margins will, first of all, reflect appropriate economies of scale which result in lower rates for customers in the long term and short term; secondly, permit the design and construction of treatment plants in a manner far better suited to protect the public health and safety than the Commission's existing 18-month margin reserve; third, permit the design and construction of treatment plants in a manner far better suited to protect the environment of the Commission's 18-month margin reserve; and fourth, result in cost savings to customers, the utility, this Commission and the environmental agencies. The Commission can also better coordinate itself with the movement of the Florida Legislature, the DEP and the Water Management Districts toward encouraging water conservation by proving the 100% used and useful level for Southern States' investments in reuse facilities, and that concludes my summary.

Q Thank you, Mr. Harvey.

MR. ARMSTRONG: The witness is available for

cross.

CHAIRMAN CLARK: Mr. Reilly.

**CROSS EXAMINATION**

BY MR. REILLY:

Q Good morning, Mr. Harvey.

A Good morning.

Q I'd like to first direct your attention to Page 2 of your rebuttal testimony. At the very bottom, the last sentence, you're speaking of 201 facility planning documents?

A Right.

Q My question is: Does SSU submit any documents similar to the 201 facility plans to DEP for review in its permit applications?

A What do you mean by "similar documents"?

Q That, as I understand it, from the 201 documents, you talked about them going into the issue of the most cost-effective option. And my question really goes to does DEP really review documents that really determines whether SSU is utilizing the most cost-effective option when it's seeking a permit to construct a particular facility?

A Well, one example I can think of would be a reuse feasibility study where in a reuse feasibility study you look at options and cost to provide reuse

and trying to determine whether or not it's economical to provide that reuse. That would be an analogous type of document.

Q Now for the standard permit to construct a water or wastewater plant or facilities, that would not enter into your analysis at DEP?

A They would submit a permit application to the department, and the department would review it primarily based on whether or not it would comply with DEP's rules.

Q So the answer is no, with explanation? I didn't get a yes or no.

A I personally, you know, have not reviewed those permit applications. I think you can probably ask those questions of the DEP witnesses to follow.

Q Could I get you to look at Page 7 of your rebuttal testimony. Lines 11 through 13, you state that "used and useful dictates on what level of investment a utility under the Commission regulation may earn"; is that correct?

A That's correct.

Q When you say "earn," do you mean earn from whom? The current ratepayers? Future ratepayers? Or a combination of both current and future ratepayers?

A I would say it's a combination. It's the

current customers primarily. I mean, the current customers are the ones who are going to need to pay for the existing facilities to comply with the rules.

Q But the "earn" that you are referring to there on this page is to both current and future ratepayers; is that correct?

A I would primarily say it would be current customers.

Q Primarily and secondarily?

A Well, in the future, certainly, revenue will be generated from future customers.

Q Are you familiar with the term "AFPI"?

A No, not really. I mean, I've heard the term, but I can't say that I understand it.

Q Do you understand that AFPI -- well, I'll tell you. AFPI stands for allowance for funds prudently invested. And you're not aware of anything about AFPI or who it's designed to collect the money from and for what purpose the money is collected?

A I'm familiar with the term, but my rebuttal testimony didn't really focus on that issue.

Q Can't a utility recover cost for excess plants, or what you have oftentimes referred to as reserve capacity it believes should be prudently constructed in ways other than to increase current

rates to customers, through the use of a margin reserve?

A I'm not really here to testify on the rates part of this issue. I mean, I didn't provide testimony. My rebuttal testimony really didn't go into that much detail on how the revenue is generated.

Q So you have no knowledge about a utility's collection of CIAC from future customers or the collection of guaranteed revenues from developers?

MR. ARMSTRONG: Objection. I don't think there's been anything mentioned, even in a question, about guaranteed revenues from developers.

MR. REILLY: The issue is he's saying we need excess capacity and the utility needs to collect money to pay for that reserve capacity. And I believe it's appropriate to ask questions about whether he has any understanding of the mechanisms that's available to this Commission outside of what he is testifying about, which is he's recommending a five-year margin reserve to this Commission. And so I believe it's important to understand, if this man is going to be recommending to this Commission how it should collect the funds to support this plant, that we understand the breadth and understanding that this man has of the various other mechanisms that are an alternative to

his recommendation.

MR. ARMSTRONG: And my objection is based on the fact that the witness is testifying that he's looked at the used and useful rules. And the used and useful application of those rules suggest that if the plant is appropriately sized, there should be a five-year margin reserve for wastewater treatment plant and a three-year margin reserve for the water treatment plant. And that's the extent of his testimony.

CHAIRMAN CLARK: Mr. Armstrong, I think that it's a fair question to explore the other mechanisms that may be available to get his understanding and to evaluate his opinion on the used and useful.

MR. ARMSTRONG: Okay.

Q (By Mr. Reilly) I won't belabor this, but I'll just go down to the various mechanisms, and you can just confirm that you have no understanding of these mechanisms. And that would plant capacity charges?

A I don't have any personal knowledge of that.

Q Service availability charges that are collected by customer -- from customers?

A I don't have any personal knowledge.

Q Advances for construction, monies collected

from developers to help pay for utility investment?

A I'm aware that that exists, but I don't have personal experience in dealing with that.

Q Are you also aware that utilities actually collect contributed lines and contributed property to help support excess capacity; is that correct? Or do you have any understanding of that?

A I don't have a personal experience in dealing with that, but I would object to your characterization of excess capacity. I don't consider capacity that's built to comply with state and federal rules to be excessive.

Q Your term, and I'll use it, is "reserve capacity." Is that a term you feel more comfortable with?

A I prefer to use the term that's contained in the DEP rules which is a capacity analysis report which basically addresses the issue of responsible planning, design and construction for meeting a reasonable amount of growth.

Q And what term do you feel comfortable with?

A If you want, we can clarify it or classify it as margin reserve.

Q So you make no distinction -- in your mind margin reserve is synonymous with reserve capacity?

A I don't draw a clear distinction between the two. And the two, once again, I do take exception as classifying it as excessive capacity or excess capacity.

Q Well, the term "excess capacity" is used because it is a capacity which is available to meet growth demands, and it's not necessary to meet the current flow demands of the current customers. Is your understanding something other than that?

A Well -- (simultaneous conversation.)

MR. ARMSTRONG: Objection. Objection, Madam Chair. We have to be giving testimony based on the facts in evidence, and there's no predicate for that statement. As a matter of fact, the predicate is that the margin reserve is there for future growth as well as existing customers. So I think if any question is made, it should be based on the facts in evidence.

CHAIRMAN CLARK: Mr. Reilly, would you rephrase your question, please?

MR. REILLY: I believe the fact's in evidence that this witness is recommending a certain margin reserve. And I think it's critical that if the Commission is going to consider this man's opinion, that we understand the extent that he understands these terms.

CHAIRMAN CLARK: I think he's disagreed with your characterization of it, so if you would rephrase the question, it might be okay.

Q (By Mr. Reilly) Define "margin reserve" for me, please. Your understanding of what "margin reserve" means.

A Once again, I defer back to the DEP rules, specifically 62-600.405 where there's a recognition by the regulatory agency that you can't always live on the edge capacitywise. If you do, you are going to be in trouble in terms of complying with the regulations and providing adequate public health and environmental protection. There's a recognition that it also takes a certain length of time and a certain amount of resources to build these facilities. And in recognition of those facts, the DEP passed a rule that says, you know, once you have less than five years of capacity at your wastewater treatment plant, the process begins.

Now the intent was to make sure that once the wastewater reached the facility, there was a facility adequately designed, properly sized to deal with that flow. And in that context you can take that for what it's worth. I consider that context to be the margin reserve context.

Q Now, you said you use the term "margin reserve" as it is used in the DEP rules. Is that what I understood your --

A No. The DEP rules don't specifically use the term "margin reserve." But they do recognize that you need to provide additional capacity to accommodate the normal daily and seasonal fluctuations of flows through treatment plants, as well as accommodate a reasonable amount of growth and recognize that the regulatory process, the permitting process, takes a long time to implement and build as facilities.

Q But all the concepts that are embodied in the DEP rules are speaking of additional capacity needed to accommodate growth. Is that the essential element?

MR. ARMSTRONG: Objection. I just didn't hear the beginning of that question, Mr. Reilly.

MR. REILLY: The question is I'm trying to understand what terms are used by the DEP rules. He has admitted that "margin reserve" is not a term that can be found in DEP rules.

Q (By Mr. Reilly) My question is: What is the term that is found in the DEP rules that describes this additional capacity?

Now, I know in your letters -- is it not

true in your letters that you wrote even when you were with DEP, you used the term "reserve capacity"?

A Just to be on the safe side, let me check the letter that you are referring to.

Q I guess we'll just go to the June -- let's see if we can find the June 29, '95 letter. And there's a memo, I guess, attached to that letter.

By the way, can you tell me who authored the memo that was attached to this June 29th letter?

MR. REILLY: Commission, this is Exhibit RMH-4. It is attached to this witness's testimony, the June 29, 1995, letter to John Williams from the witness, Mr. Harvey. And in particular, there's an attached memo to his letter which seems to continue to repeat the term "reserved capacity," "reserved capacity."

Q (By Mr. Reilly) Is that a term that you are comfortable with?

A I'm sorry, which memo are you referring to?

Q This is your Exhibit RMH-4 attached to your testimony.

A Right.

Q It is dated June 29, 1995.

A Right. There's a letter to John Williams.

Q Now, attached to that letter you make

reference to and some summary comments of this memo that's attached to the letter. And you particularly are concerned about Items 18 and 19 in your memo?

A You're calling the comments a memo. I guess that's what was confusing me. I was looking for a memo, but this is just a list of comments that were attached to that letter.

Q Right.

A Is that what you are looking at?

Q That's correct, comments.

A Okay.

Q And so, I'm just trying to understand how the people at DEP -- what terms they use, and what do they mean by those terms. And I was offering you an opportunity to look at Page 4 of the comment section which starts talking about the very subject that we are talking about, which is the five-year reserve capacity. And that seems to be the term they are using there. Is that a term you feel comfortable with?

A It's a term used interchangeably when you're talking about capacity to accommodate the normal fluctuations that a facility will see, plus the capacity necessary to accommodate a reasonable amount of growth within the permitting time frame.

Q And my question to you is: Is that term, "reserve capacity," is that in the same sense that you're using your recommendation today on a five-year margin reserve?

A Yes, it is. And, once again, in terms of being able to comply with the DEP rules to provide the reasonable amount of capacity.

Q So those terms, at least in your mind, are synonymous?

A Yes.

Q Now, however, would you believe me if I told you that here at the Commission, we oftentimes talk about various additional capacities, reserve capacities to meet various needs of the utility, but that when we use the term "margin reserve," we're embodying not only the concept of additional capacity, but who pays for that capacity. Do you understand that in this context the margin reserve is paid for by current ratepayers, as opposed to future ratepayers?

A Yes.

Q You do understand that?

A Uh-huh.

Q And that the concept "reserve capacity" is neutral on the issue of who pays.

A I really don't understand that distinction

as it's used with the PSC, I'm sorry. I think that's a good opportunity for having the Commission and DEP, not only the at the staff level, but at the Commissioner level, better communicate. Because if they are mixing the use and the definitions of those terms, that's an opportunity to have inconsistent regulation.

Q Let's move on to Page 13 of your rebuttal testimony. And particularly on Lines 8 through 12, you state that the Commission has more than once rejected the assertion that DEP rule -- actually, I added the word "DEP," but the rule 62-600.405 mandates at least a five-year margin reserve for wastewater treatment plants contrary to the DEP's recommendations; is that correct?

A That's correct.

Q And do you believe that DEP's regulations mandate a five-year margin reserve for wastewater plants?

A You have to really refer back to the rule and how the rule works. I mean, if you look at it and read it literally, what it says is that you have to start the process of permitting, planning and designing when you've got less than five years of capacity at your facility. It doesn't specifically

say you always have to have five years of capacity. If you have less than five years of capacity, you have to initiate that process, which costs money.

Q We'll get on to look at the details of this rule in just a minute. But before we do that, can I have you go back to Page 11 in your testimony. And, particularly, on Lines 2, 3, and 4, where it seems that you are conceding that this Rule 62-600.405 is a rule that addresses planning for wastewater facility expansions; is that correct? That that's the thrust of this rule?

A Absolutely not. If you look at the rule, it addresses planning and construction for those facilities. You start the process when you have five years or less of capacity. But in the middle of that process, you have to have permitted that facility and built that facility so that it is up and operating before the end of that cycle. So that's more than planning, that's building.

Q And I'm sure that's your opinion, but I'm just looking at this sentence here. This sentence just reflected part of your understanding of what the rule provides, correct?

A I'm sorry, refer me to exactly --

Q This is the specific quote that says, "This

rule addresses planning for wastewater facilities expansions."

MR. ARMSTRONG: Objection. I think we need to look at a little bit more than that to see which rule we're referring to, whether it's to proposed used and useful rule of the Staff for the Commission or if's the rule 62-da dah, da dah, da dah.

Q (By Mr. Reilly) Take a minute and just look at the context in it of the sentence. It seems like -- I read it, and perhaps you can clear up my mind, that the rule you are referring to is 62-600.405.

A That's exactly the rule we are looking at. And the title of that section of the rule is planning for wastewater facilities expansion. And clearly the intent is to plan and construct the expansion.

Q In fact, let's take a look at the rule.

MR. REILLY: And the rule, Commissioners, is RMH-7. It's attached to the testimony.

Isn't this the rule that you corrected and submitted later? Isn't that right, Matt?

MR. FEIL: Yes, that's correct, the RMH-7, Mr. Reilly is referring to would have been the one that was refiled and corrected on April 29th, I believe was what Mr. Armstrong said.

MR. REILLY: We are going to get into this rule.

Q (By Mr. Reilly) But, Mr. Harvey, isn't it a fact that this rule makes no express requirement for any utility to maintain at all times a five-year excess capacity, or reserve capacity, or additional capacity, whatever term you feel comfortable with, in its wastewater plants? There is no such expressed language that utilities be required to do this.

A I would disagree with that. What the rule says -- and maybe we need to walk through the rule.

Q We are going to do that today, yes.

A That is if you have less than five years of capacity, you have to initiate the process planning, design and construction, so that at the end of that five years, you have plant available to treat the water.

Q Now, you just characterized. Let's go right down. And for the Commissioners, I guess it might be helpful to go all the way to Page 2 of 3, at the bottom where it says, "(8) Documentation of timely planning, design, and construction of needed expansions shall be submitted according to the following schedule." And you'll find basically the essence of the different time frames. And we might

just go through them --

COMMISSIONER KIESLING: Hold on just a second.

MR. REILLY: Yes.

COMMISSIONER KIESLING: I don't have that on the rule that is attached to my prefiled testimony.

CHAIRMAN CLARK: Yes, Mr Feil. I don't appear to have the April.

MR. REILLY: This will be very important to get them a correct copy of this rule so we can try to understand what it --

CHAIRMAN CLARK: Do you have any extra copies by any chance?

MR. FEIL: I have a few extra copies. An original and 15 was filed on April 29. I have at least three extra copies here.

CHAIRMAN CLARK: I would like to ask Staff if they can take those copies and get maybe about 10 copies made.

MR. PELLEGRINI: I have a number of copies, Chairman Clark.

CHAIRMAN CLARK: You do, good. Maybe we have it taken care of already. Let's pass that out then.

Mr Feil, do you need a copy?

MR. FEIL: No, ma'am.

CHAIRMAN CLARK: Okay. Go ahead,

Q (By Mr. Reilly) Okay. Again, we are on Page 2 of 3, at the very bottom of that page where we are really beginning to get into the meat of what this DEP rule requires as far as planning and filing of various capacity analysis reports; is that correct?

A That's correct.

Q Now, it's your characterization of this rule -- and it's pretty strong words -- that it mandates a five-year margin reserve; is that correct?

A I made the distinction earlier. What I said is that the rule is intended to make sure that there's a facility available to treat the flow when the flow gets there. What you do is you evaluate. If you look at (a) it says, "If the initial capacity analysis report or an update... documents that the permitted capacity will be equaled or exceeded within the next five years, the report shall include a statement, signed and sealed by a professional engineer... that planning and preliminary design of the necessary expansion has been initiated."

Once again, the intent of the rule -- and I was behind this rule. I was the one who told the staff to develop this rule, to make sure that the

facilities were there to treat that wastewater -- was to make sure that the planning started early enough to accommodate how long it takes to permit, plan, design and construct these facilities.

Q It is your testimony that this rule mandates a five-year margin reserve, does it not?

A I just explained what my testimony is intended to convey to you.

Q No, I have a question. I really would like a yes or no and an explanation. Could I refer you to Lines 8 through 12 on Page 13. And it's my understanding that you believe that it's DEP's recommendation and I understood -- and you correct me if I'm wrong that it's your recommendation -- that this DEP rule mandates a five-year margin reserve. A yes, no and with explanation.

A In terms of complying with the rule, that DEP 62-600.405, the interpretation of the concept of margin reserve by the DEP staff -- and they're the ones who put this together -- is that in order to comply with the rule, you basically need a five-year margin reserve.

Q And that is a yes answer?

A That is a yes answer.

Q Thank you. Let's go down the rule. This

first provision says that if the capacity analysis report indicates that the plant's capacity will be equalled or exceeded within the next five years, what must happen?

A I'm sorry, let me get back to the rule.

Q (a), the last paragraph of Page 2 of 3.

A Okay, I'm there.

Q Let's just go down the various provisions. Does this paragraph, in fact, require that if the plant's capacity will be equalled or exceeded within a five-year period, that the utility is required to immediately begin construction of a plant? Is that what it says? Or does it say begin planning?

A It says the planning and preliminary design of the expansion, is what that says.

Q Okay. So it doesn't mandate a five year actual capacity at this point, is that correct, it just says begin planning?

A It recognizes that there is less than five years of capacity left.

Q That's right. It recognizes, but what does it require?

A It requires what it says it requires, that you initiate planning and preliminary design to acquire that additional capacity.

Q But it doesn't require immediate construction of plant, does it?

A Later on -- it gives you a schedule to follow.

Q I'm just on 8A right now. We'll get to the others.

A This particular section or subsection does not require that you immediately initiate construction.

Q Let's move on then to the next page, (b). And now we are going down in time to four years. And it's my reading of this, and I want to get your opinion, that these utilities have required to -- that if the capacity analysis report indicates that the plant's capacity will be equalled or exceeded within the next four years, that the plans and specifications for necessary expansion are being prepared. Not finished, but being prepared. They are in the process of being prepared. Is that what that (b) requires?

A That's correct.

Q So my question is: Does (b) require that if a four-year capacity is not present, that the utility must immediately begin construction of plant?

A Well, if you are -- for example, experienced a tremendous growth, you could have less than four

years, you could have less than one year. If you are in that scenario, you'd better be building your facility. I mean, there are different scenarios, but if you have four years or less, it just depends on the particular situation. If you have four years, you need to prepare your plans and specs. If you have six months, you better be building the facility.

Q Mr. Harvey, I really wasn't asking so much what you thought utilities better be doing. I was really focusing on what this DEP rule requires.

Is it true that this DEP rule requires that even with a four-year capacity remaining, that there is not a requirement of this rule that construction immediately begin? Is that a yes or a no to that question?

A It depends on your definition of "construction." I would consider the definition of construction. You have to plan, design and permit as part of the overall facility expansion/construction process.

Q Well, in the sense that planning is part of construction, I understand your answer. But as far as commencing the physical construction of facilities, this (B) does not require that even when there is four-year capacity left; is that correct?

A If you're talking about, you know, getting a bulldozer out on site and moving dirt, that's correct.

Q I see, yes. Let's move on to (c). Now we are down to three years. If the capacity is equalled or exceeded, will be equalled or exceeded within a three year, what then does this rule require? Could you tell me?

A It says the permittee shall submit a complete construction permit application to the department.

Q So with three years capacity left, this rule says you will just file an application?

A That's right.

Q Let me ask you something. How long does it take on the average for -- from the point of filing the application to the point where the permit has been issued to begin construction?

A That varies.

Q I mean, just on the average. From a low side to a high side depending on the size of the plant and other complexities.

A Well, if there are no other outstanding issues that need to be resolved and most of those issues would have been resolved in the initial permitting, 30 to 90 days. However, if there are

complex issues, it could take a lot longer.

Q Does it often take a year or longer?

A It certainly could take a year or longer.

Q So one might expect to be under construction within a year, a year and-a-half, of filing this application for construction permit?

A I would say so.

Q But you can agree that even with three years capacity left, there is no DEP rule requiring that construction would have started; is that correct?

A Once again, based on your definition of what constitutes starting construction.

Q Now (d), we are down to six months capacity. And it's my reading of this that the capacity analysis report indicates that the six months, the capacity will be equalled or exceeded, that the utility should file an application for an operation permit; is that correct?

A That's correct. That means that facility has to be up and operational.

Q And as we stated before, this concept of margin reserve as used in this proceeding, addresses not only the issue of additional capacity, but who should pay. And so for the moment, can we set aside the issue of who should pay, and just talk about

additional capacity.

You cannot infer that this rule requires a utility to maintain at all times a five-year capacity.

MR. ARMSTRONG: Objection. I think we've had that question answered probably five times by now, and the answer keeps on saying that Mr. Harvey's belief is that the DEP rule requires a five-year margin reserve. It's been responded to five times.

MR. REILLY: And I guess we won't ask it any further except to point out in the four corners of this rule where that requirement can be found.

MR. ARMSTRONG: I think that's been asked and answered as well.

Q (By Mr. Reilly) Final question on this. Where is it in this rule that even -- not even in regard to the issue who should pay, but that a capacity should always be five years. Is it found in -- you said it wasn't in a,b or c. Where is it?

MR. ARMSTRONG: Objection, Madam Chair. I think we are having a harassing of the witness. I believe the concentration of Public Counsel has been on construction, construction, construction. The witness's testimony reflects that there has to be far more consideration in construction in the analysis of margin reserve. It's harassing the witness.

CHAIRMAN CLARK: Mr. Reilly, it seems to me you have asked that question and he has indicated -- referred to it as the meaning of an intent. And I think you did go through and isolate each provision of the rule as a way of testing his answer.

I think it has been asked and answered.

Q (By Mr. Reilly) Okay. Let's move to 21, Page 21. And on Page 21, Lines 19 through 21. I guess it's still hitting around the same issue because obviously this is the thrust of your entire testimony, is this issue of margin reserve. You say, "While the term 'margin reserve' is not specifically used in DEP rules, that concept is most conspicuously embodied in Rule 62-600.405"; is that correct? Is that your statement?

A That's correct.

Q And we've beaten the dead horse as far as the issue of capacity, and I won't pursue that any further. But let's go into the second dimension of margin reserve. And perhaps it's just as a result of your lack of understanding of what that term means, but where in this rule that you say is conspicuously embodied, that the term "margin reserve" is required, does this rule address the issue of who should pay for any additional capacity?

MR. ARMSTRONG: Objection, Madam Chair. I object to the characterization of this witness having a lack of understanding of what margin reserve requires. I think he's giving this Commission his definition of what should be required in the margin reserve, so I object to that characterization and ask that that be stricken from his question and be reasked without that mischaracterization.

MR. REILLY: I will withdraw the characterization, and let's just go through two or three questions to discern his understanding of the concept "margin reserve."

Q (By Mr. Reilly) It is true that your quote here, found on Lines 19 through 21 of Page 21, is that, "While the term "margin reserve" is not specifically used in the DEP rules, the concept is most conspicuously embodied in Rule 62-600.405." Is that your statement?

A This's the statement.

Q So what we want to explore, since you're making this statement, that this concept of margin reserve is conspicuously embodied, we need to understand your understanding of "margin reserve." Where in this rule that you say the margin reserve is conspicuously -- where is the concept "margin reserve"

conspicuously embodied in this rule?

A Once again, the concept of margin reserve as interpreted by the DEP folks, and you can ask them their own particular interpretation, is to have the proper designing, planning and construction of facilities to handle normal fluctuations at facilities, plus a reasonable amount of additional growth. And that's how we made the connection between margin reserve and capacity analysis. There's no one-to-one fit between the DEP rule and the term "margin reserve." So we tried to make the best fit that we could in the correspondence. And that's where the recommendations came from, from DEP.

Q Does this Rule 600.405 directly/indirectly make any mention of who should pay for these reserve capacities? Does it address that issue at all?

A When it was passed by the ERC, as I mentioned, an economic impact statement was prepared. And that economic impact statement prepared for that rule addressed the issue of the impact on the utilities including how it would be paid for.

So not in the rule specifically. It doesn't say that to pay for this additional capacity XYZ will pay for it today, and ABC will pay for it tomorrow. No, it doesn't specifically say that.

Q Now, the Commission doesn't have the impact statement that accompanied this rule before us, nor is it in evidence. But you do concede that the rule itself does not in any way address who should pay?

MR. ARMSTRONG: Objection. I think the witness has just testified they do an economic impact statement, and it's regardless of the fact that it's not before us. He's testified under oath that it is done.

CHAIRMAN CLARK: Mr. Armstrong -- one of things that would help is if you, Mr. Harvey, would answer yes or no at the beginning and then explain your answer.

And, Mr. Reilly, as I understood your question, when you're asking about who should pay, are you distinguishing between present customers and future customers?

MR. REILLY: That's exactly what I'm --

CHAIRMAN CLARK: It might be helpful if you made that distinction.

MR. ARMSTRONG: With that distinction, I withdraw the objection.

CHAIRMAN CLARK: All right.

Q (By Mr. Reilly) Clearly, is there anything within the wording of this rule that prescribes that

this reserve capacity should be paid by current customers?

A Not that I'm aware of.

Q And are you aware of the concept that current customers would pay is essential of the term "margin reserve."

MR. ARMSTRONG: Objection. I'm sorry. Once again, I missed the first part of the question. I'm sorry.

MR. REILLY: The question was -- he's recommending what the Commission should do with margin reserve, so I need to understand whether he understands that the concept margin reserve by its definition implies that current customers would bear the cost of that capacity.

MR. ARMSTRONG: Okay.

Q (By Mr. Reilly) Does he understand that?

A Yes, and let me explain. The concept of margin reserve, like I mentioned earlier, there's not a one-to-one correspondence between the term "margin reserve," and DEP's capacity analysis or DEP's rule. In my opinion, the facilities that are prudently constructed, which means facilities that are built to comply with the rules which take advantage of economies of scale, are built using sound engineering

practices, should be 100% used and useful and should be paid for by the existing customers because those are the customers that benefit from complying with the rules.

Q What I'm really trying to focus on is your sentence that the concept of margin reserve which you have emitted has an essential element of it that current ratepayers will pay for this margin reserve, that it is conspicuously embodied in this rule.

MR. ARMSTRONG: Objection. Madam Chair, that's been asked answered eight times now. The witness has testified he's aware that margin reserve means that current customers should pay for that margin reserve.

MR. REILLY: Okay, that is a given.

Q (By Mr. Reilly) Then follow-up question to that is where in this rule is that requirement?

MR. ARMSTRONG: If I would have been permitted to finish, I would have said that he's answered that question.

MR. REILLY: I really would like the witness to answer that question.

CHAIRMAN CLARK: He has answered that question, Mr. Reilly.

MR. REILLY: That the current customers

would not pay?

CHAIRMAN CLARK: No. The last question that I heard you ask was whether it was embodied in the rule.

MR. REILLY: And he said no.

CHAIRMAN CLARK: And he had previously said no, I thought.

MR. REILLY: Okay.

Q (By Mr. Reilly) In your testimony you indicate that you left DEP at the end of 1995?

A That's correct.

Q Let's see if I can get to that.

COMMISSIONER JOHNSON: While you're getting to that, let me follow back up on something you asked, Mr. Reilly.

Mr. Harvey, you testified that although the rule itself doesn't address the issue of who must pay, that there was something in the economic impact statement. And are you testifying that that economic impact statement provided that the current customers must pay, that it was expressed in that particular document?

MR. McLEAN: What the economic impact statement does is look at the cost of implementing the rule. And a factor involved in that cost is how the

utility will pay for complying with that rule which included the impact on the customers.

I'm not testifying that that specifically was addressed in that economic impact statement, since I don't have it in front of me. But the intent is to look at the economic impact of the rules that the DEP develops which includes who pays for compliance.

Q (By Mr. Reilly) The last follow-up question on this issue. You did earlier testify, however, when I went through all these various mechanisms that the PSC uses to collect from future customers that you were not familiar with the terms, nor the mechanisms, that the PSC uses to collect funds from future ratepayers; is that correct?

MR. REILLY: I don't have to go through it again, Mr. Armstrong, but I will.

A Basically, what I testified to is that I'm familiar with the terms, but I'm not intimately familiar. I have no personnel experience in using those terms.

Q (By Mr. Reilly) And you were division director, right?

A That's correct.

Q And I may assume that other people working under your control would be similarly handicapped as

far as understanding these terms and how they are used in this form; is that correct?

A I'm not sure I would characterize it as handicapped. I would say that these terms are not terms that are typically used in the day-to-day business of DEP in the Water Facilities Division.

Q Now, the question is, it says in your testimony that you left DEP at the end of 1995. What was the exact date that you left DEP?

A I believe it was December 22nd.

Q When did you first begin to consider leaving the employ of DEP?

A Probably the second day that I was working for them. (Laughter)

Q When did those thoughts become more serious in your mind? Let's get more specific, when did you first have discussions concerning joining the firm of Kimley-Horn and Associates?

A Probably in September of '95.

Q The first discussions?

A Yeah. I don't remember the specific date. I'd have to go back and look at my calendar. Two principals in the firm came to Tallahassee to have lunch with me. One of them I knew from sitting next to him at the University of Florida football games,

and they just called up my secretary and asked if they could come to town and have lunch. And I believe that was early fall, you know, like maybe even late summer, early September timeframe.

Q Do you know when Kimley-Horn and Associates first had discussions with SSU to assist them in this rate proceeding?

A Well, when I first had discussions about that was in January with SSU representatives.

Q And you are not aware of any discussions that took place between SSU in that same company prior to the time you were involved in discussions?

A No, I'm not.

Q Let's take a look at your 6/29/1995 letter again. This is RMH-4, I believe. Let's see. RMH-4 attached to your testimony.

Do you know who authored the comments section that's attached to your letter? Did you author them?

A No, I did not author them. There were multiple authors. The one individual who was primarily responsible for pulling those comments together was Mr. John Sowerby. But he did not -- it's my understanding that he did not author all of those comments. It was a joint effort between the drinking

water and the wastewater program at DEP. That's my understanding, but he's here to testify today. You can ask him that question.

Q And is it not true that on Item 18, particularly which deals with the used and useful in the reserve, that once again the terms that seem to be used is "reserve capacity," is that correct, in Item 18?

MR. ARMSTRONG: Madam Chairman, I'm going to object again. We had this line of questioning before, specifically to these words in a specific paragraph.

MR. REILLY: I'll tell you, I think we covered it well enough. I'll move on.

Q (By Mr. Reilly) I would like to draw your attention to two letters though. There's a letter that you wrote in June 29, 1995, a month or so before you began considering leaving DEP; is that correct? Let's take a look at your particular terms that you used.

A The letter was written for me if that makes any difference.

Q Let's see.

MR. REILLY: Can I just take a minute?

CHAIRMAN CLARK: Go ahead.

Mr. Harvey, while he's doing that, let me

ask you a question.

I understand from letters that have been sent, that DEP thinks that with respect to their comments on the rule, their concern has always been that we allow five years in the used and useful. And as I understand from that, their concern is the disincentive it sends to comply with environmental requirements. Is that a fair statement of your concern?

WITNESS HARVEY: That is one of their concerns, correct.

CHAIRMAN CLARK: Does that necessarily mean you're wedded to the five years used and useful? In other words, if there were another means to address that disincentive, would you continue to adhere to a five year used and useful?

WITNESS HARVEY: I think the used and useful concept does two things. First of all it addresses the whole concept of compliance, and the disincentive to achieve compliance if you're not allowed to be paid for achieving that compliance, that's Issue No. 1.

The second issue embodied in the three and the five year comments, although as I've testified there's not a direct one-to-one correlation between margin reserve and the rule. As a recognition, it

takes a long time to build these facilities. Let me tell you how that rule came about.

We had our district offices. They would keep track of collection systems. If a developer had a 10,000 acre piece of land and he or she wanted to develop that they would go in and negotiate with the utility to reserve some capacity in that facility so that when they built their subdivision, they could get occupancy permits. And through that process the district offices were keeping track of how much capacity was committed. If you had a 1 MGD plant, you had 900,000 gallons of capacity committed and somebody came in and wanted 200,000 gallons, they would make the facilities go out and build those facilities. And in many cases the development may or may not have occurred, or it may have occurred at a slower schedule and you would end up with facilities sitting out there dry. That wasn't the responsible thing to do. It cost everybody a lot of money.

So instead of having these dry facilities and having these facilities out there that cost everybody a lot of money, we said there's a better way to do it, and that's phase in; take a look and when that capacity is needed. Once again, the basic concept is to make sure the facility is there when the

wastewater gets there so that that facility can treat the wastewater so that the facility is not operating on the edge in terms of capacity and, therefore, remain in compliance. And that's the whole concept behind the Capacity Analysis Report. Unfortunately, as I mentioned, there's not that one-to-one correspondence between the Commission's definitions and DEP's rules.

CHAIRMAN CLARK: And the reason for that may be the issue of who pays. What we're trying to strive for is an equity between current ratepayers and future ratepayers. If we strike that equity, that doesn't -- create a disincentive. Would DEP, in your judgment, be concerned about that?

WITNESS HARVEY: I think the argument can be made that all of the customers benefit from staying in compliance. So where do you draw the line, that this part of the facility is necessary for their flow to remain in compliance and this other part of the facility isn't?

It's just using good engineering practices and economy of scale, you prudently construct these facilities and somebody has to pay for them.

CHAIRMAN CLARK: But as I understand your testimony, even you acknowledge that this is sort of a

rule of thumb; that there are some facilities that ought to be planning ahead of five years and you gave some examples, and there are some -- or you alluded to some situations that may require more than five years and some may require less. It depends on the situation.

WITNESS HARVEY: It does. It depends on how fast an area is growing and what kind of problems, how sensitive the environment is, how easy it is to get additional permits to dispose of or reuse that water.

I'm not sure I know how to respond to your original question. Certainly DEP and the other regulatory agencies are concerned about environmental compliance, but they are also concerned about the cost. And once again, in my opening statement, I think there's a real opportunity for the Commission to participate at the highest level. I think that one of the problems that I saw is that we would deal with PSC folks at a certain level, and get a lot of sympathy from those folks, but it seemed like once it got above that certain level it got filtered out, or we got characterized as environmental fanatics, or you got self characterized as economic fanatics.

I think the way to overcome that is for you and some of the other Commissioners to more actively

participate with Secretary Wetherell and the executive directors. I know that early on we had similar problems, DEP had similar problems with the water management districts. And the only way we reached common understandings of the terms that the agencies would use and how it would be implemented were through those meetings. And I heard very recently you all were going to participate in those meetings and that's a good --

CHAIRMAN CLARK: I can tell you, Mr. Harvey, it's not been for lack of trying. We have, I think -- I can think of two letters when I was trying to set up a mutually convenient time. And I can assure you that it wasn't for lack of trying that we were going to try to meet on a higher level. We did have one, I think it was before -- no, Secretary Wetherell might have been there but she couldn't make the meeting, so we have tried.

WITNESS HARVEY: I know it's tough.

CHAIRMAN CLARK: Mr. Reilly.

MR. REILLY: Just a few more questions.

Q (By Mr. Reilly) I want to try to compare the tone of your July '92 letter with the tone of your June '95 letter. If you could look on to the issue on margin reserve, this first letter, I think is found in

RMH-2, and it's a short letter, but it seems that the sentence that is most on point concerning the margin reserve is the last sentence of the second to last paragraph. I'll give you a chance to look at that letter, it's fairly short, to see if you could find sentences in that same letter that might be more on point. But the one that seems to address the issue we're talking about is your statement that we believe that this PSC rule, Chapter 25-30, should allow utilities to recover investment for timely expansion of needed wastewater treatment facilities consistent with our rule requirements.

MR. ARMSTRONG: You're referring to Page 4 of RMH-2.

MR. REILLY: 4 of 6 of RMH-2.

Q (By Mr. Reilly) I read what I thought was the sentence that most dealt with the subject that we have been dealing with here. And this is as far as at least you were willing to go at this point in time. This is a July 1992 letter.

A Yes.

Q Is there any other sentences that might better capsulize your recommendation, at least at that point in time from this letter?

A If you look at the second sentence in the

last paragraph, it says "Rule 17-600.405 which is now 62-600.405 is a pollution prevention measure designed to ensure that the permitees conduct the planning necessary for the timely expansion of wastewater facilities. And then there was a recommendation that the rule, the PSC Rule 25-30, allow utilities to recover that investment.

Q All right. Now, compare that, if you would, now we're going into move into time, June 29, 1995, the letter we have been looking at, and this has been strengthened considerably, it seems to me. That now you're saying, and I quote, "We strongly recommend that the Commission recognize at least a five year reserve capacity." I'm sorry, this is RMH-4, Page 1 of 8.

A Right.

Q And you quote "Now we've gotten to the point where we" -- and I guess you mean DEP?

A Correct.

Q "-- strongly recommend that the Commission recognize at least a five year reserve capacity when calculating the used and useful percentage." Is that correct?

A That's correct. And that reflects a frustration on the part of DEP. It seems like they

repeatedly make the same basic comments, but those comments are not incorporated into the subsequent drafts of the rule. And that's my interpretation of why the term "strongly" was incorporated into this letter.

Q Do you agree with the comments attached to your letter? Do you agree with all of the comments that were made? And I'm particularly now referring to Item 18 that's dealing with this subject of margin reserve. And now we're looking on Page 6 of 8. Item 18 actually begins at the bottom of Page 5, but it quickly moves to Page 6. Do you agree with all of this language here that is being represented as DEP's recommendation?

A Let me take a minute just to read it one more time.

Q Okay. (Pause)

A Yes, I do.

Q And if it will help you, I was going to direct your attention to the portion that I was really going to concentrate on, and that is the last paragraph of Item 18, about two-thirds of the way down, where it speaks of "The PSC should consider allowing at least a ten year reserve capacity for water and wastewater treatment facilities." Is that

correct?

A That is correct.

Q And that's also your personal opinion?

A Says "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."

Q When you say at least a ten year, that implies that perhaps -- let's just say if you were king for a day and you could require what capacity you thought was appropriate, since you used the word "at least," what would be the ideal capacity that you would recommend?

A It's a very case-specific situation, as you know. The intent is to make sure that you take advantage of economies of scale because in the long term that holds down cost, that reduces costs for everyone.

Q Would it be 12, 15, 20?

A It would vary, depending upon the situation. It may be five years, it may be 10 or 20.

Q But at least ten?

A The term "ten", it goes on to modify that. It says "Guidelines developed under the USEPA's old construction grants program for wastewater treatment

facilities recommended constructing wastewater treatment facilities in no less than ten-year stages." So that comment is somewhat modified by the following sentence. And that reflects experience of the folks who actually put this comment together in the construction grants program; that in their experiences taking advantage of the economy of scale was the right thing to do because it resulted in lower unit costs and saved people money in the long run.

Q So that's a yes answer, at least ten?

A Why don't you restate your question so I know what you're asking me to say yes to.

Q That it is your personal recommendation that the Commission allow at least a ten year reserve capacity?

A The intent behind this comment, once again, was to try to recommend that the Commission take maximum advantage of the concept of economy of scale. That's the intent.

Q I understand that's the intent of this comment. Is it your testimony that you recommend at least a ten year reserve capacity?

A No, not in all cases.

Q In most cases?

A Where it's appropriate. Where you go

through the analysis. Where you show it's going to be cost effective and it's going to save in the long term. I think it would be appropriate for you to look the a ten year economy of scale or five year or 20 year.

Q And when you use the term "reserve capacity," you mean a capacity which will be paid for by current ratepayers. Is that correct?

A I mean a capacity that will be used in the future and by current customers when you have normal daily and seasonal fluctuations of flows through that facility.

Q This up to ten year capacity that you're speaking of, is it your recommendation that current ratepayers pay this capacity? Yes or no with an explanation.

A Current ratepayers are going to have to pay for part of that capacity, certainly. They're going to utilize part of that capacity. They're going to benefit from the economy of scale and the cost savings in the long term from that capacity.

Q Changing subjects, when DEP issues a consent order, or otherwise specifically requires a utility to make an investment in new plant, is it your understanding that the PSC will not allow that

investment in the utility's plant in service?

A I have no personal knowledge about that.

Q Okay. Just a quick question on Page 32, on another subject, to clarify something that you said there. We're looking at Lines 6 through 8 where you're talking about -- that we're now talking about whether reuse facilities should be considered 100% used and useful. You go on to talk about various types of utility plant in service, and you make specific reference to SSU's percolation ponds for Marco Island; is that correct?

A That's correct.

Q And also the wetlands at Buena Ventura Lakes; is that correct?

A That's correct.

Q Now, is it your understanding that this Commission should view the percolation ponds at Marco Island as reuse facilities?

A Those percolation ponds, it's my understanding, have been used for dealing with wet weather discharges. When the reuse system, when the reclaimed water from that facility cannot otherwise be reused, that the percolation ponds have been used for dealing with that excess wet weather flow. If that's the case, it's part of the reuse system in my opinion,

and therefore it should be 100% used and useful. Same thing for the wetland at Buena Ventura Lakes.

Q Okay. That was my question. Excuse me.

(Pause)

MR. REILLY: That concludes our questions.

CHAIRMAN CLARK: Commissioners, I think we'll go ahead and take a ten-minute break and then we'll begin with Mr. Twomey's cross examination. I do this with some trepidation. Are you going to cut down the number of questions or increase it?

MR. TWOMEY: I'm going to the bathroom.

CHAIRMAN CLARK: I do hope people will take the time to look at their questions and be able to cross off what has already been covered. We'll be back at 25 minutes till. Thank you.

(Brief recess.)

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CHAIRMAN CLARK: Mr. Twomey.

**CROSS EXAMINATION**

BY MR. TWOMEY:

Q Good morning, Mr. Harvey.

A Good morning.

Q I understand from questions Mr. Reilly asked you, as well as your prefiled testimony, that you are no longer an employee of the Department of

Environmental Protection but rather an engineering consulting firm; is that correct?

A That's correct.

Q You are here as an expert witness on behalf of Southern States Utilities pursuant to a contract; is that correct?

A That's correct.

Q How much are you being paid, sir, totally for your role in this case?

A I don't know how much the total is going to be.

Q How much is it so far?

A I honestly don't know. The billing is handled out of West Palm Beach.

Q Is it your testimony that you have no idea what you're being paid for your assignment in this case?

A On a hourly basis I know.

Q Okay. What are you being paid hourly?

A $150 a hour.

Q Okay, sir. In your summary to the Commission I thought I heard you criticize the Public Service Commission Staff for either not participating adequately in Department of Environmental Protection rule proceedings, or not adequately communicating DEP

related concerns to the Public Service Commission Commissioners. Did I hear you correctly?

A You did. You heard me express a concern about that. That's correct.

Q Let me ask you more specifically, what has the Staff of the Public Service Commission failed to do that you otherwise would have them do?

A I think they have a golden opportunity to participate before the ERC in the rulemaking process. As I mentioned earlier, that the Department of Environmental Protection puts together economic impact statements for all the rules. And there's a golden opportunity for the PSC Staff who are the, quote, "rate experts", unquote, to participate in that process so everybody has a more clear understanding of the overall rule impacts to everybody concerned. And historically I just haven't seen that degree of participation.

As I mentioned, at a certain level, the people would come over to DEP and participate in the meetings but there was very little formal feedback on the DEP rules and I think that's an opportunity the Commission needs to take advantage of.

Q You said they were the quote/unquote "regulatory experts." Did you say it in that manner

to suggest they are not the regulatory experts?

A I said rate experts, not regulatory experts.

Q In the manner you said "quote/unquote" are you suggesting that they are not the rate experts?

A I would have used the same mannerism to describe DEP as the "regulatory experts" unquote.

Q Okay. I believe I also heard you say in your summary, and then later during cross examination by Mr. Reilly, that you thought that Public Service Commissioners should take a more personal involvement themselves in DEP environmental related issues; is that correct?

A That's correct.

Q You said at the highest levels, right?

A That's absolutely correct.

Q Okay. So by that you are saying, are you not, they have not done an adequate job previously.

A That was not my characterization.

I think the problem that you have, and we saw it between DEP staff level and Water Management District, is you have people with specific agendas, specific issues they are trying to advocate, and you reach a level at the staff where you reach an impasse. And the way to break that impasse is to elevate it to the highest level, which is at DEP the Secretary, and

at the Water Management District it's the executive directors. And that mechanism facilitated coordination, communication -- they had reuse conventions committees -- helped DEP and the water management districts get on the same page. And my recommendation is that the Commission should take advantage of that. And I'm encouraged by Commissioner Kiesling's -- it's my understanding that Commissioner Kiesling and some other Commissioners may be participating in that process. I think that's healthy for everybody. That was the intent of that comment.

Q I thought I heard you say that the Public Service Commission apparently ignored the evidence regarding reuse facilities in the Aloha case in order to keep rates down. Is that what you said?

A What I said was that in the Aloha case, when you read the order, a facility that otherwise complies with DEP's reuse definition, was determined to be effluent disposal. I can't figure out any other reason for not designating it as a reuse facility other than to hold the rates down.

Q I see. Do you by chance recall what commissioners were on that case?

A No, I do not.

Q That is your implicit criticism, isn't it

Mr. Harvey, that based on what you read in that decision, that you think they made the wrong decision and you conclude that the only reason that they did that was to keep rates low?

A The reason I brought out that example was to point out the fact that there appears to be multiple definitions of reuse. And these utilities have to try to figure out which definition they are going to comply with to get some long term and short term economic certainty, which is good for everybody.

My point in that example was to use it to encourage the Commissioners to more actively participate with the Secretary and the Water Management District so they could be on the same page. Like I said, there's always little subtle differences with respect to how the agencies treat these issues, but I think they need to have a common understanding of the definitions. And that example indicated although it's defined in DEP rules as reuse, the Commission determined that that particular facility was going to just dispose of its effluent.

Q Would you accept that it's possible that the Commissioners sitting on that case in the Aloha decision knew sufficiently for their purposes what reuse meant, or didn't mean, in a economic regulatory

environment?

MR. ARMSTRONG: Objection. The question is asking this witness to suppose what the Commissioners knew or did not know when they issued their order.

CHAIRMAN CLARK: Mr. Twomey.

MR. TWOMEY: I'll let the question go.

Q (By Mr. Twomey) You said that you took personal offense at comments suggesting that DEP was not concerned with cost of environmental compliance, that you apparently were viewed as environmental fanatics; is that correct?

A That's correct.

Q And I took it from your summary that presumably those comments were coming from somebody over here; is that correct?

A That's correct.

Q Okay. And whose comments specifically were you taking personal offense to, Mr. Harvey?

A The comments contained in the agenda conference were from Mr. Chuck Hill.

Q I see. The director of the Florida Public Service Commission's Water and Wastewater Division?

A That's my understanding. And can I explain that?

Q Please.

A Mr. Hill and I met on a couple of occasions. And we never -- I mean, we obviously didn't see eye to eye on all of the issues, but I never made the statement that the DEP doesn't care about the costs. And I don't know where he got that impression. And my point was that's the message being conveyed to the Commissioners. And that message, if it was intended to reflect the attitude of DEP, was wrong. And I think that's another reason why the Commissioners and the Secretary and the Water Management Districts need to communicate; to get away from those types of hand-grenade throwing incidents.

Q Let me ask you this on that point: Isn't it true that the Utility communicates with the -- this Utility communicates with the Secretary, do they not?

A I've never personally been in a meeting where this Utility met with the Secretary.

Q Okay. Are you not aware that the record evidence in this case earlier last week disclosed a memorandum from SSU lobbyist, Jeff Sharkey, that he had discussed SSU-PSC related matters with Secretary Wetherell and she was quote/unquote "amazed." Are you aware of that?

A I was here when that testimony was offered, yes.

Q Okay. Do you know Jeff Sharkey, Mr. Harvey?

A The first time I ever saw him was when he was sitting in this chair.

Q Your answer is you do not know him?

A I do not know him personally. I know who he is now.

Q Okay. Let me ask you this, Mr. Harvey, you've apparently criticized Mr. Hill for comments he's made regarding you. You've criticized the rest of the Staff for not being properly attuned to DEP-related concerns. You've criticized apparently some or all of the sitting Commissioners, or whoever was on the Aloha case for their failure to see the reuse evidence in the proper light. Is there anyone that you've forgotten to criticize today?

MR. ARMSTRONG: Objection, Madam Chair. Obviously we have on characterization of criticism. And I think what the witness has testified as to his perception of events and statements made. I don't think he's ever offered it in the terms of criticism. And as a matter of fact, I think he offered it in terms of requesting further coordination and communication.

So I object to the mischaracterization of the witness's testimony for whatever purpose it was

offered.

CHAIRMAN CLARK: Mr. Twomey.

MR. TWOMEY: Well, the -- I'm no English major --

MR. ARMSTRONG: That's obvious.

CHAIRMAN CLARK: No, that's it. We're not getting into gratuitous comments about --

MR. ARMSTRONG: It was a joke.

CHAIRMAN CLARK: -- the testimony or other individual's motives or anything like that.

Mr. Twomey, are you going to withdraw that question?

MR. TWOMEY: Let me make this statement first.

If there's anybody, you know, in this room that doesn't think what he was saying is criticism --

CHAIRMAN CLARK: Mr. Twomey, that's an editorial comment. I asked you are you going to withdraw --

MR. TWOMEY: No, I'm not.

CHAIRMAN CLARK: -- the question? Are you going to rephrase the question?

MR. TWOMEY: No, I'm not.

CHAIRMAN CLARK: All right. What's your reponse to his objection of the question?

MR. TWOMEY: That there's nothing objectionable about it. It is my characterization that it's criticism. If he's saying -- if he's not criticizing by the comments he made, he can say so.

CHAIRMAN CLARK: And your question was who else he missed in the criticism? Was that the question you asked?

MR. TWOMEY: Yes. Is there anybody that he's failed to criticize here today that he wants to go on with?

CHAIRMAN CLARK: Mr. Twomey, I think that's an irrelevant question.

MR. TWOMEY: Sure. And that's your prerogative as a Chair, and you can rule it out of order.

Q (By Mr. Twomey) You are, sir, a registered professional engineer in the state of Florida, correct?

A Yes, I am.

Q Okay. Do you have or have you had, Mr. Harvey, any training in the economic regulation of utilities?

A Any formal training?

Q Any formal training in the economic regulation of utilities.

A I have experience in dealing with economic issues as they relate to utilities but no formal training.

Q Okay. To be more specific in my question, do you have any formal training or other training in not just economic issues concerning utilities, but in the economic establishment of rates; that is economic rate setting for regulated utilities?

A No, I do not.

Q Aside from the lack of any training in that area, do you have any experience firsthand?

A Primarily through the construction grants program and reviewing facilities plans, designs and construction plans for building municipal facilities. I was a chief of the Alabama-Georgia facilities planning section for EPA. And as part of that responsibility, I was responsible for the development of facilities plans to evaluate cost-effective alternatives to address the needs of those municipalities.

Q Can I take it from that, though, that the facilities planning, was that based on an economic rate setting basis or engineering economies?

A It's based primarily on engineering economies, where you look at the cost-effective

solution to satisfy the environmental requirements.

Q Okay, sir. I heard you say, I believe, during the cross examination by Mr. Reilly that your used and useful addresses the issue of compliance. Did I hear you say that?

A Yes.

Q And I ask you, sir, first, what's your definition of used and useful?

A My definition would be that if a facility -- my understanding would be if a facility is prudently constructed, which means it's built to meet the environmental regulations, it's built taking advantage of engineering references, standard engineering practices, and if it takes advantage of economies of scale, in my opinion that means the facility was prudently constructed and should be 100% used and useful.

Q What role, if any, if you know, does the phrase "used and useful" have in rate setting to do with the number of customers that are currently served by a facility versus the total number that could be served by the facility?

A It's my understanding that the used and useful concept, if you have for example, a 1 MGD plant and only half a MGD of flow is going through that

plant, that under a concept of used and useful, that the current customers would only have to pay for that half an MGD of facility.

Q I take it that you're in opposition to that concept; is that correct?

A Once again, I believe if the facility was prudently built to meet the environmental regulations and built taking advantage of economies of scale and built using standard engineering practices that facility should be 100% used and useful.

Q So is your answer yes, you're in opposition to the concept you just described; that if there is a 1 million gallon a day plant that has only half a million gallon a day flows, that that plant -- should only be considered half used and useful?

A If it was built prudently, based upon my description of a prudently built facility, I think it should be 100% used and useful.

Q So the answer is yes; is that correct?

A If I disagree with the 50%, yes.

Q Yes, sir.

A Yes.

Q Now, the Chairman -- I don't want to quibble with you, Mr. Harvey, but the Chairman suggested to you earlier that if you'd listen to the questions and

try and give a yes or no answer and then explain, it will perhaps speed things along.

You said, I think you acknowledged you didn't know what the term "AFPI," what the acronym AFPI -- do you know what the acronym AFPI stands for?

A The answer is I've heard the term used but I'm not personally familiar with how the concept is employed.

Q Do you even know what the acronym stands for?

A I have to go look it up. I heard it used earlier today but --

Q Okay. We'll drop that.

I believe I heard you say that utilities shouldn't be operating on the edge of capacity. Did I hear you say that.

A Absolutely.

Q And my question to you is, if you can tell me, at what point percentagewise does a utility start to operate on the edge of capacity?

A I would defer back to the DEP rule. That was clearly one of the intents behind the rule to make sure that the facility -- if you get up to 85 or 90% of capacity --

Q Yes, sir.

A -- the problem is if you haven't initiated the planning design and construction process, you're going to exceed capacity. So the intent of that rule was to make sure that you did not push the capacity of the facility and exceed that capacity.

Q Okay. Now, help me again. I don't want to belabor this, but at what point in terms of capacity -- let's say -- let me ask you first, does the -- should the percentage differ for a water plant versus a wastewater treatment plant?

A If you are -- if the facility has been properly designed, theoretically it can handle the flows it was designed to handle.

Q Yes, sir.

A But you have to take into consideration you have daily and seasonal fluctuations. And you have to take into consideration the fact that demands will increase, either from the water plant or additional capacity will be needed from the wastewater plant. If you haven't taken that into consideration, it won't be long before that capacity is exceeded and you will likely experience compliance problems.

Q Should you wait until -- should a utility, a prudently operated utility wait until it has flows equaling 100% of the permitted capacity of a plant

before it begins construction?

A Absolutely not.

Q Okay. So 100% is waiting too late. At what percentage, by your interpretation of the rule, should a utility have a bulldozer pushing dirt?

MR. ARMSTRONG: Objection, Madam Chairman. He just answered 85 to 90% in the question before the last one.

MR. TWOMEY: I didn't hear him.

MR. ARMSTRONG: He answered 80 to 90%.

MR. TWOMEY: I didn't hear him say the 80 to 90% was in answer to that question.

WITNESS HARVEY: I would defer back to the way the rule addresses it. You start the planning process at 50% and then it walks you through different percentages. Once again, the intent is to take into account how long it takes to design, permit and construct these facilities to make sure you will have a facility whose capacity will not be exceeded. So I would refer to the rule definitions.

Q Would you agree with me that if it can be shown that SSU has plants that are involved in this case that are at 100% of their permitted capacity, and that they have no construction permits or ongoing construction, that they are imprudent?

A I wouldn't use the term "imprudent." I'd say they need to get in and talk to DEP quickly and figure out how they are going to solve that problem.

Q Okay. It would be your view that SSU has an obligation to meet its responsibilities for planning adequate capacity pursuant to DEP's rules irrespective of what action the Public Service Commission takes with respect to used and useful?

A Yes.

Q Okay. I mean isn't it true, Mr. Harvey, that Southern States Utilities, and all utilities in the state of Florida, are obliged to comply with the environmental and safety laws that DEP is in charge of overseeing, right?

A All of the utilities that are covered by those rules. Correct.

Q All right. You mentioned Capacity Analysis Report?

A Yes.

Q Okay. Are you here to support the concept of hydraulic engineering, modeling?

A I provided no testimony on that.

Q Okay.

MR. TWOMEY: That's all I have. Thank you, Madam Chairman. Thank you, Mr. Harvey.

CHAIRMAN CLARK: Staff.

**CROSS EXAMINATION**

BY MR. PELLEGRINI:

Q Good morning, Mr. Harvey.

A Good morning.

Q If I understood you correctly, you offered as your definition of used and useful a plant constructed using some engineering principles, considering economies of scale and having adequate capacity?

A Correct. In compliance with DEP rules.

Q Yes. Let me offer you -- let me offer you another definition of used and useful, and that is this one: The level of investment a utility subject to Commission regulation may earn from existing ratepayers through rates, of course, who currently benefit from that investment. How do you react to that definition?

A I believe that's the definition included in the draft PSC rule, is it not?

Q Would you accept that definition?

A Let me look at the draft PSC rule. I believe that's the definition contained in that rule.

Q Go ahead. (Pause)

I'm having a hard time finding it but I'm

looking for it.

Q I'm not sure I'm that concerned with whether or not this language is in that rule. I'm more concerned with your reaction to this as a definition for whether you would find that definition acceptable.

A That's certainly a definition that I've heard used for that term.

Q But would you find it acceptable?

A State it one more time, please.

Q Sure. The level of investment a utility subject to Commission regulation may earn from existing ratepayers through rates who currently benefit from that investment.

A I would accept that definition.

Q In your earlier remarks you described DEP's sensitivity to regulatory costs, and I think you described those concerns and going so far as to -- so far as to allocations and the recovery of those costs by the Utility, including the manner by which the utility should recover those costs --

A Not the --

Q -- and the period over which it should recover those costs?

A I don't think I made those statements. I said that DEP is very sensitive to the costs. You

have to realize that most of the rules that DEP passes, especially the Water Facilities Division, all of the major programs in the Water Facility Division are federally delegated programs. There is a requirement under that federal delegation that the rules basically are consistent with the federal regulations. And through the federal regulatory development process, and the DEP rule development process, there are economic evaluations that are conducted. What I took offense at was that the representation that DEP didn't care anything about the cost of those rules. And that was a mischaracterization. The rest of your comment, I don't recall making a statement to that effect.

Q I wasn't addressing that part of your statement. But I thought I understood you to say that in the Economic Impact Statement that DEP's considerations went so far as to address the utility's ultimate recovery of regulatory costs and the manner by which it should recover those costs, did you not?

A What I said was that it addresses the cost to the regulated entities and a component of that certainly includes the users. But I can't specifically recall, and I said I couldn't specifically recall in case of that Rule 62-600.405

whether or not the economic statement addressed user costs.

Typically it's very difficult for DEP to do that because the wide range of facilities that are covered by a general rule. So it would be very difficult for them to do that.

My recommendation to the Commission, and it was not criticism -- it was constructive criticism if it's any criticism at all, is that there's an ample opportunity for the PSC at the Staff level and the Commissioners' level to help DEP with that process and participate in that rulemaking.

Q At several points in your comments I believe you made the statement that current customers should pay for facilities required to meet regulatory requirements. But at least at one point I believe I heard you to say that current customers should pay part of those costs.

A Facilities that are built to meet current regulations are prudently constructed, and the customers, the current customers benefit from those facilities remaining in compliance. They also benefit from utilizing economy of scale. Current as well as long-term customers benefit from taking advantage of economies of scale.

And looking at the margin reserves of three years for water and five years for wastewater, that makes a lot more sense in trying to take advantage of economies of scale which lowers the cost to everybody. That's the point I was trying to make.

Q Mr. Harvey, did the Economic Impact Statement make any reference to the impact of three years or five years reserve capacity upon existing customer rates?

A The economic impact -- I don't know. I would doubt that it did because the rule wasn't structured that way.

Q At Page 31 of your testimony, prefiled testimony, Mr. Harvey, there you make references to two situations, Miami Dade and Apalachicola. Are you with me?

A Yes.

Q Apparently as examples of where overdue capital investment can become extraordinarily costly?

A Correct.

Q Are you aware that these are exempt municipal systems?

A Yes, I am. I'm aware they are not regulated by the PSC. But they were offered purely as examples of what can happen when rates are held low and

adequate revenues are not made available to properly operate and maintain facilities. When that happens, the whole system collapses, like it did in Miami. Now they are having to spend $1.1 billion to repair the system, and rates are more than double for the customers. And I don't think that's a responsible way to manage the utilities. That was the point. It wasn't that these particular facilities are regulated by the PSC, it was just an example of the economic and environmental disasters that can result when you don't provide the adequate revenues to operate and maintain these facilities.

Q In both of these cases, what was at issue where investments for repairs to existing systems?

A It's that -- I mean, it's routine operation and maintenance. It's maintaining adequate capacity. It's just properly managing your facilities, which is very expensive.

Florida has an extremely sensitive environment. It costs a lot of money to provide the services that public and private utilities have to provide. And if you don't have the money to comply with the regulations and maintain your facilities, public health and the environment are going to be threatened.

Q Given the particular circumstances in these situations, can you clarify beyond your direct testimony how these are justifications for the reserve periods that you propose?

A Once again, Miami, basically in their lines, their capacity was exceeded. They had numerous overflows. I mean, the stuff was flowing in the streets and kids were playing in it. They were boardering on outstanding Florida waters. That's just an example why you need to properly plan and make sure that you have adequate capacities.

There was a potential disaster averted because the force main going under Biscayne Bay was not properly sized, nor properly maintained. And if it has been properly sized and maintained, then the crisis would not have existed.

Once again, I offer these examples as examples of what can happen when adequate revenues are not made available to utilities to properly operate their systems.

Q All right. On Page 18 of your testimony you refer to, quote, "clear legal authority for reuse facilities to be considered 100% used and useful." Would you tell me, please, what that clear legal authority is?

A It's the Florida Statutes.

Q And particularly?

COMMISSIONER GARCIA: Could you repeat the question? I missed it.

MR. PELLEGRINI: In his testimony Mr. Harvey referred to a clear legal authority for reuse facilities to be considered 100% used and useful.

A 403.064 Florida Statutes.

Q Do you have a copy of that statute before you?

A Yeah. I have the '94 version. I'm looking for the '95 version.

Q I'm sorry, did you say you did?

A Yes, I do.

Q And do you have a copy of the PSC statute, 367.0817 before you?

A I don't believe so. Thank you. (Hands document to witness.)

Q Let me turn your attention to 403.064, subpart 10.

A Okay.

Q Would you please identify the language in that section that supports the contention that you made at Page 18 of your testimony?

A Well, it says "Pursuant to Chapter 367" and

I'm reading from the '94 version, "the Florida Public Service Commission shall allow entities under its jurisdiction which conduct studies or implement reuse projects, including, but not limited to, any study required by Section 2, are facilities used for reliability purposes for reclaim water reuse system to recover the full prudently incurred costs of such studies and facilities through their rate structure."

Q That's correct.

A Well, restate your question, please.

Q You are relying on this statute in support of your statement that reuse facilities be considered 100% used and useful, and I'm asking you what language, what specific language in the statute --

A Certainly that language, plus my testimony before Senate and House committees. I mean clearly their intent as expressed to me, was that these facilities be -- that reuse be encouraged and one way to encourage reuse is to allow full recovery of the costs of those reuse facilities.

Q Would you not consider the phrase "prudently incurred' to modify that position that you've taken?

A Sure. In my definition of prudently incurred is if facilities are built to comply with DEP rules, once again to take advantage of economies of

scale and standard engineering practices, those facilities are prudently constructed.

Q You have reliance on Statute 367.0817 for that position as well?

A I would have to spend a few minutes and study the statute.

Q Let me direct you to --

A It does say in (3) "All prudent costs for reuse projects shall be recovered in rates" and legislature finds that reuse benefits water, wastewater and reuse customers."

Q That's the relevant passage.

A That is irrelevant or that --

Q That is the relevant passage as far as my question is concerned.

A The way I interpret that is that reuse facilities are 100% used and useful if they are prudently constructed, based upon my definition of what is prudent.

Q Mr. Harvey, if you were a resident in the early stages of a development, for which treatment facilities were built for a much larger number of potential users than those currently in the development, would you in those circumstances be agreeable to 100% used and useful determination

notwithstanding the fact that the plant's capacity would be several times more than the present customers demand?

A If I were such a resident and those facilities were built taking advantage of economies of scale, and to comply with the DEP regulations, and that that led to a determination that those facilities were 100% used and useful, I'd have no problem with that. Because if you take advantage of economies of scale, it's going to save you money in the short term and the long term.

Q You referred -- Exhibit RMH-5 to your rebuttal testimony. It's a letter written by Secretary Wetherell.

A Yes.

Q Have you personal knowledge of who drafted that letter?

A My understanding it was drafted by a member of the water facilities division for DEP.

Q I'm sorry I didn't hear?

A My understanding is that that letter was drafted by a member of the Water Facilities Division for DEP. It was might have understanding that Mary Williams, the Chief of the Bureau of Drinking Water and Groundwater Protection drafted it, but that's just

based on a side comment she made at a meeting I attended.

I don't have personal knowledge that she, in fact, drafted it other than what I referred to. Although, her initials, if you look on the second page, it's got VBW, which is Virginia Wetherell and "MW" which could stand to Mary Williams; that would tend to support what I just said.

MR. PELLEGRINI: I believe I have no further questions, Chairman Clark.

CHAIRMAN CLARK: Commissioners? Redirect.

MR. ARMSTRONG: Thank you, Madam Chair.

**REDIRECT EXAMINATION**

BY MR. ARMSTRONG:

Q Mr. Harvey, very recently you accepted a Staff counsel definition of margin reserve which considered plant which benefits current customers. Do you believe that the margin reserve of three years for water plant and five years for wastewater plant provides benefits to current customers?

A Absolutely.

Q Could you please describe those benefits?

A All the current customers are going to benefit from facilities that are in compliance. Those facilities that are built for three-year and five-year

margin reserves have taken advantage of good engineering practices, economies of scale, and they are going to benefit from the lower short-term and long-term costs of those facilities. So I think they absolutely benefit from facilities constructed with three and five year margin reserves.

Q Were you here during the economies of scale presentation by Mr. Hartman?

A Yes, I was.

Q Would you agree with his assessment that rates in the long and short term would be lower if the three year and five year margin reserves were used?

A Yes, I do.

Q How about -- it's your testimony that prudent design and DEP rules require the five-yearer margin reserve and three-year margin reserve; is that correct?

A As explained in my testimony, in line with -- once again, there's not a direct one-to-one correlation between the term "margin reserve" and "capacity analysis." Clearly the comments supplied by DEP over my signature reflect how long it takes to actually acquire that needed capacity to stay in compliance.

Q Mr. Twomey referred to a situation where a

water treatment plant may not -- may be at or on the edge of capacity. Could you describe the detrimental impacts which that kind of a situation could have on current customers?

A Oh, absolutely. If you're pushing the edge of capacity, you're pushing the envelope for which the facility was designed, and, therefore, you're running the risk of producing inadequate quality in your finished water, and, therefore, threatening public health.

Q How about on the wastewater side?

A In the wastewater side the same thing. The Miami example is classic. If you push the capacity you have overflows; I mean children playing in this stuff, floating on the street. You threaten public health and environment.

Q Do you believe in your experience that the margin reserve approved by the PSC has an impact on SSU's decision to build or expand the plant?

A Sure. Yes.

Q And is the signal sent to the utility by the margin reserve of 18 months that has previously been used by the Commission, do you believe that signal is consistent with the requirements of the DEP?

A No. The problem that you run into is that

when you try to build facilities in small increments, you're constantly in that permitting construction cycle. And you're constantly pushing the threshold for which the facilities -- the capacity for which the facilities were originally built. And it's just not prudent. It's not the way engineers, certainly in the public sector, building facilities for municipalities, publically-owned treatment works, function.

Q You were asked some questions regarding the prudence of a conversion to reuse facilities, and the prudence of incurring those cost. Could you describe the analysis that a proposed reuse facility project goes through by the environmental regulators before the utility is even permitted to perform that project?

A Sure. I mean it's a multistep process defined in the rules where you certainly have to look at the environmental impact of the current situation. You have to look at options for disposing of that effluent, and by disposing of that effluent, I mean you get rid of it by discharging it into an area where you cannot recover that effluent, so it has no additional beneficial use to it.

You look at the existing customers, the existing needs of the area, whether or not it's in a water resource caution area. There are just multiple

steps that you have to go through in order to evaluate the feasibility, both environmental and economically of a reuse project. And all of those steps are required to be followed by a utility requesting a permit from the regulatory agencies for implementing reuse.

Q Is it your opinion that if the Commission were to recognize the investment and reuse facilities of 100% used and useful, is it your opinion that we're going to see a rush of utilities going out to build reuse facilities?

A No, not at all. These facilities cost a lot of money to build, and, you know -- unless the numbers work, and unless it's determined to be feasible, I can't imagine somebody just going out there and building a reuse facility in the hopes that sometime in the future they will recover costs on that facility. That just doesn't happen.

Q Have you reviewed or visited yourself any of SSU's reuse facilities?

A Yes, I have.

Q Can you name the facilities that you visited?

A Buena Ventura Lakes and the Deltona facility. The Marco Island facility as well.

Q How about Lehigh?

A The Lehigh facilities.

Q How about Amelia Island?

A That's right, Amelia Island.

Q Do you have any assessment of whether or not you believe those facilities are properly constructed?

A Absolutely. I think they are properly constructed. Now, there are a few problems that need to be addressed. For example, in the Amelia Island facility, they don't have a limited wet weather discharge. And that limited wet weather discharge can act as a significant limiting factor toward future reuse. Some of the -- the facilities are properly constructed, but they need adequate revenues to be properly maintained so that the facilities can remain in compliance with DEP.

Q You were asked some questions by Public Counsel regarding the Marco Island percolation pond. Are you aware of whether or not those ponds are required under the permit for wet weather discharge?

A Yes, they are.

Q You also read a portion -- or I believe the Statute 403.064, I believe it was, said something about -- facilities which were necessary for reliability purposes for the reuse facility. Do you

recall that?

A Yes.

Q Would those percolation ponds also fall within that?

A Absolutely. If you don't have a wet weather discharge, you're severely limited in your reuse plans.

Q Could you give us your definition of reuse as it would be referred to in 403.064?

A Just in general, reuse would be -- and certainly reuse is defined in the DEP Rule 626.10 so I would defer to those definitions. And you will hear testimony tomorrow from David York, who is the reuse coordinator for DEP. But basically you have a reuse project when you have a beneficial use of that water, which could include recharging aquifers or public access irrigation, where it basically replaces another source of water.

Q And Mr. York is the expert from DEP on that matter?

A Dr. York is the expert on that matter and he'll be here tomorrow to testify on that.

Q Okay. Thank you. A series of questions from the Office of Public Counsel focused on a time to construct the facility.

Is it your opinion that the margin reserve should be limited solely to the time to construct the facility?

A Absolutely not. It takes a long time to properly plan, design, permit and construct these facilities. And the margin reserve should reflect that time, and that's the intent behind the comments provided to the Commission by the DEP.

Q In response to some questions you also mentioned that the DEP requirements apply equally to the government-owned utilities as well as privately-owned utilities; do you recall that?

A That's correct.

Q So it's your -- is it your opinion that the government-owned utilities also have to build for a five year margin reserve?

A They have to build to be in compliance with the DEP rule.

Q And that compliance would be consistent with what we have been referring to in this case as a five year margin reserve period?

A Correct. (Pause)

Q One final question. I want to make sure the record is absolutely clear.

Is it your belief and your expert opinion

and having heard Mr. Hartman and reviewed his testimony that the margin reserve periods that you support in this proceeding will result in lower rates for customers, both long and short term?

A Absolutely.

MR. ARMSTRONG: Thank you, Mr. Harvey.

CHAIRMAN CLARK: Exhibits.

MR. ARMSTRONG: The company moves -- I didn't write down the number.

CHAIRMAN CLARK: Exhibit 189.

COMMISSIONER KIESLING: 198.

CHAIRMAN CLARK: Exhibit 198 will be admitted in the record without objection. Thank you, very much, Mr. Harvey. You're excused.

(Exhibit No. 198 received in evidence.)

WITNESS HARVEY: Thank you.

(Witness Harvey excused.)

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MR. ARMSTRONG: The next witness will be Mr. Van Hoffnagle.

MR. ARMSTRONG: He needs to be sworn, Madam Chair. (Sworn)

- - - - -

**VAN HOOFNAGLE**

was called as a witness on behalf of Southern States Utilities, Inc. and, having been duly sworn, testified as follows:

**DIRECT EXAMINATION**

BY MR. ARMSTRONG:

Q Good morning, Mr. Hoffnagle.

A Good morning.

Q Could you please state your name and business address?

A My name is Van Hoffnagle. My business address is 2600 Blairstone Road, Tallahassee, Florida 32399-2400.

Q By Whom are you employed?

A I'm employed by the Florida Department of Environmental Protection.

Q Would you please provided your educational background and work experience.

A Give away my age. Yes.

I attended West Point, two years of engineering experience there or education. I got my Bachelors of Science in Civil Engineering from the University of Washington, Seattle. I have my Masters of Engineering from the University of Virginia. I have completed course work in public administration

here at FSU.

Q Are you a registered professional engineer in Florida?

A Yes, I am.

Q What's your current position with DEP?

A Presently I'm the administrator of the drinking water program for the DEP.

Q And what are your duties in this position?

A Well, the program itself regulates 7,100-plus systems. Within DEP there are approximately 80 to 85 employees that work in drinking water. 70 of those work in the field offices; 12 or 13 of those are in my office. I'm in charge of those individuals. And our primary responsibility is to ensure that the federal and state Safe Drinking Water Acts are implemented in a fashion prescribed by the federal and state governments within the state.

Directly our office is primarily involved with ensuring consistency between the districts, as well as policy, rule, development, guidelines education and training of district offices, audit of the program, program evaluations, of that nature.

Q Thank you. Do you have authority to represent DEP's position regarding drinking water issues?

A Yes, I do.

Q Have you ever testified before?

A Once in my life in a hearing I attended 15 years ago. It was a civil suit.

Q Okay. Could you please describe the purpose of your testimony today?

A Well, primarily I believe I was subpoenaed to offer the DEP position as it refers to drinking water to the Commission.

A secondary purpose I have is to continue to assist the relationship between the PSC and the DEP in resolving possible conflicts or impacts of our rules. And that's pretty much my general purpose here today.

Q Okay. Have you been involved with the development of the FPSC used and useful rules to date?

A Yes. Approximately a year, ago Chuck Hill, the division director, I believe sent us a proposed draft of used and useful rules that they were considering and asked our agency for comment. I assigned one of the engineers on our Staff that was primarily involved with our permitting rules to review, offer comments and coordinate with the other groups within the Water Facilities Division to make comments on the whole gamut of the used and useful rules.

So we also receive comments from domestic waste and the reuse coordinator in preparing those comments.

Q Okay. And you're aware, are you not, that the principle reason why Southern States has subpoenaed you is to testify regarding the DEP's belief as to an appropriate margin reserve?

A Yes, that's correct.

Q Okay. And is it your understanding that the DEP has submitted comments to the Commission through their Staff regarding what the DEP belief is as to an appropriate margin reserve?

A Yes. It's primarily contained in -- I forget the date but I believe it was a June '95 letter, eight pages of comments, as I remember, on those particular rules.

Q What is the DEP's position concerning an appropriate margin reserve?

A Well, our position is one of concern and not sending mixed signals to the regulated community of customers regarding the appropriate sizing and construction of facilities.

Our primary concern in drinking water is public health rather than, say, purely environmental issues. And our concern is that utilities may be

discouraged from sizing their facilities appropriately and be in a continual process of planning design for one stage, and then even before initiating construction, find themselves again having to do with the planning and design for the following phase.

What this does is if facilities end up operating above the permitted capacity of a facility, our primary concern is that water pressures, pressures in lines of distribution systems, that the demand will exceed their ability to give supply. A loss of pressure in lines then would result in possible contamination of those lines.

Q And if those lines were so contaminanted, could that have a impact on the public health?

A Well, certainly. Part of our problem is our own rules in that -- and our own procedures. When a water facility is built at a certain size, water distribution lines will come in requesting be hooked up to a treatment plant. We do not begin to look at expanding that plant, or requesting to do so, except by looking at actual flows versuss committed flows. So, by the time your actual flows begin to reach your permitted capacity, even if you were put on moritorium, or refused permits for additional water distribution, population and growth can still occur in

what is already in the ground, and you'd quickly find that you'd be operating over the capacity of the facility.

Q Okay. To be specific, are you aware that the current policy of the Commission is to use a 18-month margin reserve?

A I'm aware of that, yes.

Q That is for treatment plant?

A Yep.

Q Okay. So is it your testimony today that you believe, or the DEP believes that that 18-month margin reserve conflicts with the DEP's own requirements?

A We do not have requirements that specify in the water rules for a certain size of reserve capacity.

We are concerned that policies or rules established by the PSC and our own rules would lead to a confusion or be a disincentive for the proper planning, design and construction of facilities.

Q You mentioned earlier that you believe if the margin reserve is not long enough, there would be a perpetual process where the utility is involved with the DEP permitting and planning, et cetera, correct?

A Yes, correct.

Q Do you believe that's an efficient way of operating?

A Obviously no.

In our particular program in drinking water, when I entered into the drinking water program six years ago, we had a tremendous concern -- and it was also expressed by the PSC -- for small utilities and their ability to stay viable, either with the operator requirements or the monitoring requirements or the treatment requirements. So our emphasis has been on small facilities and their ability to remain financially viable.

So we have a more generic outlook on the issue of margin reserve, or reserve capacity, in that we're concerned that these small facilities will have a disincentive if they are only allowed to pass rates on to existing customers to only construct facilities for the very near future. And then prior before they can initiate the next phase of construction, they would have already exceeded their permitted capacity.

Q So you would agree, would you not, that the utilities, when making their decisions to construct facilities --

MR. TWOMEY: I object, Madam Chairman. Mr. Armstrong is leading the witness.

MR. ARMSTRONG: I can rephrase the question.

Q (By Mr. Armstrong) Do you believe that there would be any impact on a private utility considering the 18-month margin reserve, that that margin reserve period would impact that private utility's decision about how large to construct a plant?

A I wouldn't differentiate between a private facility or other facilities. I'm just not that familiar with mechanisms used by say municipalities or a private facility or a large corporation in the rate structure and in the raising of capital and so forth.

Again, our interest is on the smaller facilities, whether or not they are owned by SSU or Jacksonville Suburban or Mom and Pop Kettle, so forth, having a disincentive only to construct facilities that would only provide reserve capacity for the near future.

Q Mr. Hoffnagle, if I could ask you to assume that you were a utility owner and you were confronted with this situation where you had to expand your plant. If you were that utility owner and you knew that if you expanded your plant beyond the 18-month margin reserve, do you believe that would have some impact on your decision about how big you're going to

expand that plant?

A I'm primarily here to represent the DEP position. I do have a little trouble with assuming that I'm running an operation or a private utility owner. I have a little difficulty with that because I am not familiar with all of the avenues available to such a person to raise capital rates and so forth. I just don't know.

Q Sure. Okay. Are there any drinking water rules that are similar to DEP's capacity analysis rules for wastewater?

A No. There are not. Our only good rule reference is in Chapter 6255 I believe .350 which if I may paraphrase -- I don't have it in front of me -- which basically sayd that the supplier of water will provide or construct or make sure he has adequate capacity to ensure that he can maintain at least 20 psi in his distribution system at all times. Again this relates back to the problem with the contaminent intrusion into the lines. And also, of course, not operating over the permitted capacity of the plant might affect the water quality treatment of that plant.

Q Okay. Thank you.

Could you describe the rationale for

achieving consistency between the Commission's margin reserve factor and DEP's rules?

A Well, yes. Certainly the utilities face a dilemma when one agency has policies or rules that would dictate that they should design or construct for one size, or one type of facility, and another agency is forcing them into a different size, even if it's just implicit.

Our effort, especially my efforts with Staff of the PSC over the last three years is to bring to the table each of our rules to try to get coordination and consistency of an approach to work together so we can better represent the whole state and the citizens of the state and give clear signals to them.

This was the heart of our concern with used and useful and margin reserve in that -- and we've heard a lot of debate about what does margin reserve mean. Is it the same thing as reserve capacity. Certainly if we had these problems you can imagine the systems do. As I said we have 7,100 stem. 6,000 serve less than 500 people. We need to better assist the public in essence meeting and complying with both the environmental and public health and economic regulations that we practice; ask them to adhere to.

Q Have you had a chance to review the prefiled

testimony of Richard Harvey in this case?

A I read it over, yes, I did.

Q Do you agree with that testimony?

A There are parts I would and wouldn't agree with.

Q Okay. The DEP letters that are attached to that testimony indicate the preference for a three year margin reserve for water treatment plant and a five year margin reserve for wastewater treatment plant. What is your recommendation about PSC's margin reserve for these plants?

MR. TWOMEY: Pardon me, Mr. Armstrong. Madam Chairman, I object, and I've resisted doing so earlier, but it appears to me that this witness has been subpoenaed by Southern States Utilities as a rebuttal witness, and it's not at all clear to me what testimony in this case this gentlemen has been brought here to rebut through Mr. Armstrong's questions thus far. Rather it appears he's attempting to reinforce the testimony of his earlier company witnesses regarding these issues of used and useful calculations.

MR. ARMSTRONG: Madam Chair, I think it's obvious and clear the witnesses are here to rebut the testimony presented by Mr. Twomey's witnesses and the

witnesses for the Office of Public Counsel that a zero margin reserve be used in this case.

The witness is here to express the DEP's opinions regarding what they believe that margin reserve should be.

CHAIRMAN CLARK: I'll allow the question.

WITNESS HOOFNAGLE: I'm sorry, you will have to restate the question.

Q (By Mr. Armstrong) Could you briefly state the DEP position regarding the appropriate margin reserve?

A Our primary concern is over reserve capacity being adequate. My understanding of margin reserve is that it's used in an economic model and who should pay for what portion of that reserve capacity.

Again, I'll have to state that the way those particular rules that we reviewed were written, we believed it would provide a disincentive for utilities to construct adequately sized facilities above and beyond the 18-months. Clearly, when you look at doing cost effective analysis and economies of scale or engineering studies which we have been involved in, you do not pick a certain year.

The size of the facilities are dictated by the amount and the rate of that growth, the certainty

of that growth, large user agreements, the configuration of existing facilities, and, of course, the funding mechanisms available to the people who are going to have to pay for it. Even internally, when you build a facility it has multiple components. If you're going to build an elevated storage tank, you wouldn't build it with a reserve capacity of 18 months but more of 20 to 40 years. Lines in the ground are similar because that is their useful life. However, pumps, motors, a lot of the equipment, it's useful life is much less and so an appropriate sizing might be three or five years, depending upon the component. All of these considerations go into a facility. If you went in into facility I doubt seriously you would find that every wall, every structure, every motor, everything was based on a five-year sizing. It's just illogical. The permitted capacity that you see in our permits is not based upon the fact that every component is sized at that size. That number is a flow that the plant can handle based upon a max day in a year.

Additionally, that permitted capacity may be artificial, in that it would be based upon perhaps regulatory constraints, that the Water Management District did not give them a withdrawal permit over a

certain size. Even though the facility could handle a greater flow, the permit would give that lower number. The most restrictive component of a plant would also limit the permitted capacity of that size. And this is a very complex issue, not just from the economic aspects but, certainly, from the engineering aspects and the public health aspects.

So I have professionally a great deal of difficulty of just dealing with these finite numbers and so forth. I understand the real question is, or should be, who should pay for facilities and how they should do that. I'm not an expert in that area. I'm just worried about, and the department is concerned about, the message it sends or the disincentives that come with margin of reserve, either rule or policy. And it's really my intent to impress upon the Commission, and I'm sure they are aware of this, considerations for those disincentives or some way to ameliorate them.

MR. ARMSTRONG: Thank you, Mr. Hoofnagle. Appreciate it. The witness is available for cross.

CHAIRMAN CLARK: Mr. Reilly.

**CROSS EXAMINATION**

BY MR. REILLY:

Q Good afternoon, Mr. Hoofnagle. Just a few questions.

You referred to this comments section attached to Mr. Harvey's June 29, 1995, letter as reflecting DEP's position on this issue; is that correct?

A Yes, my office prepared the comments.

Q And you recall the considerable conversation we had with Mr. Harvey concerning the term "reserve capacity" as used in the comments section; is that correct, Section 18?

A I'm sorry. Is the question do I remember Richard Harvey's testimony or do I remember Comment 18?

Q Well, do you remember the considerable discussion we had with Mr. Harvey?

A Yes, I was here for most of it.

Q And I want to ask you some questions about your understanding of that term, "reserve capacity."

Is DEP stating that these are the capacities that they feel the Utility should properly have to meet growth and continue to meet DEP environmental standards?

A Yes. Our office and the DEP primarily is concerned with the reserve capacity aspects of this. We understand margin reserve to be basically a PSC term, economic modeling term, a decision term on who shall pay and how they shall pay for reserve capacity. I did not see those two terms as synonymous.

Q So you don't believe that it's really properly within the purview of DEP to be concerned which mechanism the PSC might utilize to help pay for that needed capacity; is that correct?

A Yes. It is a PSC call. Again, my concern is the message or the disincentive that may be involved with the way they do rate design and utilize margin of reserve.

Q But you don't really care which customer group pays for this capacity so long as it is paid for; is that correct?

A That is correct. But the mission of the agency is public health.

Q And were you not asked some questions concerning what you thought the PSC's 18-month margin reserve policy was as it relates to a utility's ability to meet DEP's standards? Did you have questions asked along that line?

A Yes.

Q And do you believe that you could possibly answer that question without knowing all of the other mechanisms that's available to the PSC for paying for reserve capacity?

A If you're asking me if I'm familiar enough with all of the mechanisms to be 100% of my statement, no. What I'm saying is that we're concerned that the use of margin reserve will have a disincentive.

Q So just as Mr. Harvey was unaware of the term AFPI and guaranteed revenues and advances for construction and contributed lines and all these other mechanisms that are available at the PSC, you were likewise not familiar with all of these mechanisms; is that correct?

A That's correct.

Q And if, in fact, you learned that these various mechanisms allowed the Utility to recover nonused and useful plant, that that would be, in fact, another way to pay for various reserve capacities the DEP might feel it's prudent for a utility to have.

MR. ARMSTRONG: Objection, Madam Chair. Again, I think we have to have a predicate in the record that these mechanisms are available and do have that result. And I think if you look at the evidence under sworn oath they do not have that result. The

CIAC, the AFPI collects less than 50% of what is being imputed against the Utility. The question shouldn't be asked without the predicate in the record.

MR. REILLY: I'm not asking Mr. Armstrong to answer the questions, I'm asking him is he aware that allowance for funds prudently invested is, in fact, a mechanism that's available to pay for plant which has been deemed nonused and useful?

A I'm sorry, I really can't answer the question in a negative or an affirmative without being familiar with those mechanisms and how readily available they are to small utilities or others.

Q (By (Mr. Reilly) And so you believe that who pays or what portion of this needed capacity, that it's beyond the purview of DEP to be concerned with which customer group will pay for these needed capacities; is that correct?

A It's beyond our purview to dictate that. Our concern only is that if a mechanism is such that there's a disincentive to use a methodology that results in very small reserve capacities being construct, we are concerned.

Q To get away from the issue a little bit now about who should pay, let's talk about capacities. In this recommendation DEP is strongly recommending that

the PSC allow at least a five year reserve capacity for war and wastewater treatment. Now, a couple of questions. Number one, is it not true that there is not a comparable rule to 62600.405 in the water, for water systems; is that correct?

A It is true there is not a comparable drinking water regulation equivalent to the wastewater.

Q And I believe I heard you in responding to an earlier question say that the rule that was somewhat on point was this rule that required the utilities to maintain at all times a 20 psi pressure to supply current customers; is that correct?

A That's correct.

Q How do you get from that DEP requirement of maintaining a 20 psi at all times for current customers to a recommendation that the utility should at all times, a water utility should at all times have excess capacity to meet five years' worth of growth?

A We did not recommend that a utility have in their plant at all times five years of growth.

You are given a permit. You cannot exceed the permit. As long as you operate at or below the permitted capacity you are in compliance.

Q So it is not DEP's recommendation that water

plants maintain --

A It is DEP's recommendation that when expansions are considered -- they come in for construction, that they should be looking at a five-year, as a minimum, five year reserve capacity in their permits.

Q Well, does that mean that the Utility should always maintain a five year reserve capacity?

A No, obviously not. As soon as the plant is built it's going to get less than five years until they can come in. And at the point of the second phase of the construction going on line you might be right at the previously permitted capacity. And now you have another five years. So actually you're never operating, if you do this every five years, with a five year reserve capacity at all times.

Q If a utility has today, an example, has 18 months capacity to meet projected future growth, obviously, it's able to meet the current requirement of 20 psi. Is that correct?

A All things being equal, yes.

Q And so having such a 18-month capacity would not be inconsistent with the DEP rule that relates to water systems; is that correct?

A Well, you're talking about its present

reserve capacity at a particular point versus coming in to expand a plant.

Q Yes, at this time I'm not talking about what plans and specifications -- let us assume this utility has that 18-month capacity, has already been in the process of planning for its plant additions. It has been in that process for over a year, let's say. But we're at a snapshot in time, and it has 18 months reserve capacity for future growth and it is meeting the 20 psi, how was that scenario inconsistent with DEP current requirements?

A It is not inconsistent with the requirements. As we've stated, we have a recommendation, and our concern with the public health aspects of when they hit capacity and go over capacity a loss of water quality treatment control and the pressure in the lines becomes a concern when that capacity is exceeded. If, for example, at this particular snapshot in time they have 18 months of reserved capacity and they then decide, "Well, it's time we do something about this." By the time they complete the planning, the design and the construction for the next 18 months they will have well exceeded or could well have exceeded the capacity of the plant and they would be continually in this process.

Q But under my example there's certainly no violation of any DEP rules nor are they close to being out of compliance. Is that correct?

A That is correct. The DEP requirements relate to water quality and not exceeding the permitted capacity of the plant at any time.

Q Moving to wastewater, now.

A I'm sorry. I'm only here for the water.

Q Oh, you're only here for the water?

A Yes, I'm the administrator of the water.

Q Okay. There's been some testimony by Mr. Harvey and, I guess, you subscribe to that, a little defensive, about the issue of their insensitivity to the cost of providing service; is that correct?

A I heard the testimony.

Q And do you believe that DEP is sensitive?

A I believe DEP is sensitive to the costs being borne by both the customers, small utilities and the public because the federal requirements state requirements are quite expensive. And when we go through rule development, we do look at the cost of the rules. EPA also provides us costs, although on a national basis, for the rules that we're asked to implement, and we have entered into contracts and

agreements for technical assistance and started a small systems initiatives in order to help small systems or all systems reduce some of the burdensome cost. We have waiver programs and other such mechanisms to assist to bring down these costs.

We are in a critical -- a critical component of compliance in the water industry is the fact that the regulations are expensive. When people are out of compliance it's usually because of money issues not because they are negligent. I'm sorry, I'm rambling.

Q I focus on this issue of the sensitivity to costs. I would direct your attention to the last paragraph of Section 18 which is found on Page 6 of 8 of RMH-4. And this is the sentence we looked at before where it says, "The PSC should consider allowing at least a 10-year reserve capacity for water and wastewater treatment facilities." Do you believe this sentence communicates a sensitivity to the cost of providing service to current ratepayers?

A To current ratepayers?

Q Yes.

A We look at the 10 years as being a cost effective approach as well as a public health approach.

I understand the PSC's role is to look at

current versus future customers. We just don't look at it current versus future. We look at the cost-effectiveness, the overall cost of construction, operation and maintenance, bringing that down to its lowest possible level.

Q So you're understanding of this term "reserve capacity" as used in this sentence implies -- does not imply margin reserve as we've used it today as a cost to be borne by current ratepayers, but it is a capacity you think is more appropriately -- should always be present with the utility?

A The five years is a minimum. We're saying here allowing 10 years in certain circumstances, certainly, depending upon the nature of what they are constructing and their rate of growth and other considerations when you prepare cost effectiveness analysis and you do your economic -- look at your user charges and so forth.

Q And then you would have the Commission collect however it deemed most fair and appropriate from whatever customer groups that it felt it could collect these funds from?

A Yes, we certainly defer to the PSC to -- in that role, of course, to make those decisions. Again, we just have concerns that certain policies may be

disincentives for the proper sizing of facilities.

Q Now, comparing this recommendation found in this comment section to this letter as compared to duly promulgated DEP rules that are implementing Florida Statutes, I have a little problem and I want you to try to compare the two, if you would. Well, of course, you're not going to talk about wastewater facilities, so -- but even the wastewater -- well, we'll talk about your rule. Let's go -- even more absurd is the water rule that talked about 20 psi for current customers. How do we get from 20 psi to current customers to a recommendation that this have a ten-year continuing -- rolling over, continuous ten-year reserve capacity? Compare the rule requirement to your current recommendation in this memo?

A The 20 psi, of course, is a pressure within the water distribution system. It doesn't really relate to each individual customer. It's a water pressure term.

Maintaining adequate pressures to avoid contamination of lines generally occurs when supply does not keep up with demand. That would, of course, begin to occur when plants begin to operate above their design or permitted capacities.

If the margin reserve was so structured that we found facilities or utilities only constructing for 18 months of future growth, they would be every two years or every 18 months operating right at their permitted capacity and often exceeding it.

So when they begin to exceed their permitted capacity, there is a concern regarding whether or not they can maintain adequate pressure in their lines. The ten years that we're looking at, in other words, is more of an economies of scale or proper engineering approach to things. If you're going to build a building or major structures, you can't just size them for the next 18 months. I know this probably doesn't refer to lines, but if you put in an 8-inch line and then a year and a half later put in a 10-inch line and then a year and a half later put in a 12-inch line, you would be busting your ratepayers, whether they are existing or future or all over the place.

What we're saying is that the Commission should recognize that there are components of a treatment plant that are more appropriately should be sized for 10, even 20 years.

The reserve capacity again, as it's dictated here, pretty much refers to the rated capacity of the plant. And in our experience, especially those of us

who worked in the construction grants programs, we were mandated by the federal government before we could give financial assist to a community that they provide for ten years of reserve capacity and there was an engineering and economic reason for that.

Q Did I understand you to say that really this ten-year requirement dealt more with realizing the benefits of economies of scale as opposed to a fear that the utility will fall out of environmental regulatory compliance? That's the thrust of your testimony?

A That is correct.

Q Gosh, when you start talking about economies of scale, then you quickly go beyond ten years, can't you?

A Certain components of your plant, yes, you might look at 40 years. That is correct. If you build a water line you often look at a 40-year flow rate.

Q And would that be your recommendation to this Commission, that they allow the -- through whenever mechanism that they would employ, allow these kinds of margins in a rate setting forum?

A We would ask that whatever margin reserve they employ that it's not a disincentive to properly

construct a facility based upon the types of components and the useful lives of those components.

Q Can you understand, though, applying that in a regulatory scheme? I could give you some hypotheticals that would create $500, $600, $700 per month water and wastewater service charges to small handfuls of customers who are being served by these systems that you're talking about that will at some point in future realize all these economies of scale. Can you imagine I could give you such a hypothetical?

A I imagine you could, yes, certainly.

Q Would you think that would be a result that this Commission would want to reach?

A Well, in the 14 years that I've worked in approving facilities plans for structural facilities I never observed a facility ever constructed for 18 months or three years. The only thing I ever saw with a 5-year reserve capacity were things like pumps and motors and even those were designed with the flexibility to change out the pump or the impellers and so forth.

We may be mixing two different concepts here.

Q It could be.

A The economic model is different than the

properly sizing engineering model.

Q And different than the regulatory scheme to structure for current ratepayers.

A If your model looks at or if you were scenario looks at a population that quadruples over time, you are absolutely right, you would stage the construction for less than 20 years or less than even maybe 10 years. Rate of growth has a great determination on what staging you look at for the construction of facilities. EPA basically presented people who were doing facilities construction with three different horizons, a 20-year, a 15-year and a 10-year horizon. All of that based simply upon a rate of growth, and I cannot recall what rates of growth went with each of those stages. But they certainly, the federal government in its financial systems programs, did look at minimums of ten years.

Q You were asked whether you -- earlier you were asked whether you agreed with Mr. Harvey's prefiled rebuttal testimony and you said you agreed with parts of it and you disagreed with parts -- or you didn't say you disagreed, but you said you agreed with parts of it which implied that you perhaps didn't agree with parts. Would you identify those parts of his testimony you do not agree with or couldn't

endorse?

A Well, as I was listening and as I was reading through the stuff there was -- I can't recall -- there were some things I was in agreement with what he was saying and other things I was disagreeing.

I guess my primary difference of agreement as it relates to the specific reason I'm here is that I do not consider margin reserve equivalent to reserve capacity. Margin reserve is simply that portion of reserve capacity that existing ratepayers should pay for. That's my weak understanding of that.

Q And further that you are not here as a DEP witness to recommend to this Commission what they should allocate to current ratepayers versus future ratepayers. Is that correct?

A I'm sorry, I missed the first part of your sentence.

Q I'm saying can I imply from that statement that you are not here as a DEP witness to give recommendations to this Commission as to how it will allocate these costs between current and future ratepayers?

A No, I'm here to express our department's position and concern of the impact of margin reserves and those impacts and what they will have on what

ultimately gets constructed at a facility.

Q Now, I'm not sure I got the answer to my question. Was that a yes or a no? Again, if I could implore you to give a yes or no.

A I guess the answer to your question is no, I'm here to present the DEP position on reserve capacity.

Q No, you're not here to give recommendations as to how those costs should be allocated between current --

A No, I'm not here to give recommendations on how the Commission should split costs out between existing and future users.

Q Okay. Thank you.

MR. REILLY: That concludes our questions.

CHAIRMAN CLARK: Mr. Twomey. Mr. Jacobs. Mr. Twomey.

**CROSS EXAMINATION**

BY MR. TWOMEY:

Q Would you pronounce your name again for me, please?

A Van Hoofnagle.

Q Hoofnagle. Thank you, sir.

Okay, sir. I may have missed this, but am I correct in understanding that you don't have any

formal training in the economic rate setting for utilities?

A No, I do not have formal educational training on the rate setting for utilities, except for one brief training session that was held here in these offices several months ago.

Q Okay. Now, I think you were pretty straightforward about the fact, if I heard you correctly, that you don't find the terms "reserve capacity" and "reserve margin" to be synonymous; is that correct?

A That's correct.

Q Okay. And let me go back for a minute. You are -- you are here because Mr. Armstrong subpoenaed you, right?

A That's correct.

Q But aside from the fact that you were subpoenaed, it appears to me that you are agreeable to come here in any event on behalf of your agency and express your concern that the Public Service Commission not engage in any regulatory practices that provide a disincentive for utilities to meet their reserve capacity requirements; is that correct?

A That is correct. We have a memorandum of understanding in which we have agreed to offer

testimony at hearings and so forth on behalf of our agencies whenever appropriate. And obviously when you are subpoenaed I assume I had to come.

Q Sure. If reserve capacity is not synonymous with reserve margin, help me again concisely understand what you mean by reserve capacity vis-a-vis the health and safety requirements that your agency is responsible for meeting.

A On the date that an expanded or upgraded plant is put into operation, it will have an actual flow at that particular plant. That flow hopefully is under the permitted capacity. The difference between those actual flows and the permitted capacity is its reserve capacity. Based upon, of course, population growth or large user agreements or what may occur in the future, there is an estimate made on at what point in the future there will no longer be reserve capacity. You'll be operating at your permitted capacity. Those number of years I would refer to as the reserve capacity number of years.

Margin reserve is a portion of that, as I said earlier, that existing customers, as of a certain date, are to pay for reserve capacity.

Q Okay. Let me be sure on this, now. It strikes me that -- okay, you said that reserve

capacity which you are primarily concerned with involves a comparison of the flows of a plant on a given day versus its permitted capacity, right, expressed in terms of --

A Max day flow. It's expressed in terms of max day flow. It's not -- it doesn't change day-to-day based upon the actual flow of that day, but in the water industry, which is different than wastewater, what they utilize is the max day flow.

Q Max day flow versus the total permitted capacity of the plant expressed in terms of years or portions of years, right?

A Well, they make a calculation. You're never really sure when a plant is going to reach its capacity. A lot can happen, downturns and so forth.

Q Right. Because as I understand what you're saying is that in order to make even a reasonable estimation of reserve capacity that you're concerned with, one has to look at the -- a number of assumptions, including expected rate of growth, expected rates of consumption per customer, and things of that sort, right?

A Yes.

Q Okay. Would you agree with me that that type of analysis is best accomplished on a

system-by-system basis?

A Service area, yes.

Q Are you into making a distinction between service areas and systems as well?

A I'm sorry. Making a distinction between service areas versus a system?

Q Yes, sir. Yes, I mean if --

A Well, a service area that a utility may have may not have all of its customers built in yet. And, of course, it can change. It can grow or even shrink I suspect.

Q Okay. Let me ask you this. Mr. Hansen here, who is one of my clients, right next door to me here, he lives in Sugarmill Woods, and Sugarmill Woods is served by a wastewater treatment plant. Does that constitute a system to you, wastewater system?

A Well, I can't answer about wastewater, but I assume it's similar in water. A system includes it's -- basically it's source, the well or the pipe that withdraws from river, it's transmission to the plant, the treatment plant and the water distribution lines. That constitutes in the DEP what we call a public water system.

Q Okay. Thank you.

A It has to meet other criteria.

Q Sure. Sure. Now let's go back to that. So the four -- would you agree with me that in order to ascertain reserve capacity, it's most efficiently or effectively done on a system-by-system basis because rates of growth and assumptions on per capita usage may vary dramatically from location to location within the state depending upon local economics, real estate prices, per capita income and things of that sort? Do you follow my question?

A Yes. Of course, when you --

MR. ARMSTRONG: Object. I'm just going to -- is this getting into the economics of the situation which this witness doesn't have any -- unless you have some questions that bring his expertise in the area into play, because I don't think all of the factors that Mr. Twomey suggested had anything to do with the environmental aspect that this witness is here and competent to testify about. I'm just afraid we're going to be venturing into some areas that Mr. Twomey would like to explore with every witness that gets on the stand, but they don't necessarily have the competence to testify about that.

MR. TWOMEY: Well, my questions, Madam Chair, are directed to calculation of reserve capacity.

MR. ARMSTRONG: As long as that's the question, is reserve capacity that you're talking about from an engineering perspective.

MR. TWOMEY: That's the question. Do you recall my question, sir?

A I think you were asking me about the difference -- will there be differences between one service area and another service area when it comes to consumptive use by the customers and so forth.

Q Yes, sir.

A Yes. We've seen this in our -- at the different utilities. Mostly affected by whether or not they have agricultural or commercial customers as well as watering needs. In other words, single-family homes use more water, and those sorts of things are fairly obviously. And people that live in apartment buildings have a less per capita use of water, if that's what you're asking, and I answered that as an engineer rather than as some kind of DEP position on that.

Q I want you to answer to me as an engineer in terms of calculating reserve capacity. And just to be more specific, if you have two different service areas that have a -- start out brand-new with a -- Day One,

with a million gallon a day water treatment plant, isn't it true that those two plants or those two systems could have markedly different reserve capacities, depending upon the assumptions that obtain in each location in terms of growth, per capita usage and the like?

A I do not do the permitting review that comes into our office. That's done by the district offices. But generally they use across-the-board a single number, like they may use or consider 3.5 people per home and a hundred gallons per capita per day usage when they look at establishing, you know, what size facilities are needed and so forth.

A full-fledged detailed engineering study, which I have not done in water facilities, I can only presume and that's really not why I'm here.

Q Yes, sir. And I don't mean to be unfair on this. Let me try one more time. Wouldn't it be fair and a reasonable thing to do in determining a reserve margin at a given location to ascertain what the reasonable expected level of growth is in that service area in terms of new development, new customers?

A I just don't really think I'm equipped to answer that. I'm sorry.

Q Okay. Is it your testimony today, sir, that

the current practice of the Florida Public Service Commission provides a disincentive for utilities to maintain the proper levels of reserve capacity?

A Again, we're strongly concerned that it does. And our recommendations are that longer margin reserves be employed because of that concern. It is still, of course, their call.

Q Sure.

A I'm not sure if I answered your question on point, but I'm just again expressing our DEP position on this.

Q Well, let me ask you this: Is it your testimony that you're concerned that the Public Service Commission not adopt policies that provide disincentives for utilities to meet the reserve capacity that you are concerned with, or is it your testimony that it is your belief that the Commission's current policies do, in fact, provide a disincentive now for a utility to meet its reserve capacity?

A Yes on both.

Q Okay. Do you know what the term AFPI stands for?

A No, I do not.

Q Okay. Would you agree with me that -- I thought I heard you say in answer to Mr. Reilly's

questions that the size of a pipe -- that the useful life of a water pipe has something to do with the economies of scale. Did you say that?

A No, the useful life of the pipe. And useful life is based upon the materials of the pipe and the chemical nature of the water that flows through it and how close to the surface, if it's in groundwater and so forth. But generally pipes only have plastic and iron and, of course, concrete. But generally a pipe life can range from 30 to 50 years, depending upon the materials and what it is subjected to.

Q Have you had any meetings with -- let ask you first, what role, if any, to your knowledge has SSU had in passing the -- urging the passage of the DEP's rules dealing with reserve margin or reserve capacity?

MR. ARMSTRONG: Objection. I don't see the relevance of Southern States's activities in rulemaking proceedings.

CHAIRMAN CLARK: Mr. Twomey.

MR. TWOMEY: Well, this gentlemen is here suggesting that the PSC isn't treating utilities and SSU properly with respect to -- in relation to SSU's, I mean the DEP's rules. And it seems relevant for me to know what role, if any, SSU had in having those

rules in place.

MR. ARMSTRONG: I withdraw the objection. I withdraw the objection.

A I don't know of any -- I have been in the program for only six years, and during that period of time I'm not aware of any role that SSU has been involved in actually establishing our rules.

We do form TACs (ph) when we have rule development. We had technical advisory committee when we looked at cross-connection control regulations and also the passage of the federal standards and so forth, and we invite to sit on those TACs environmental interest and so forth. I believe that SSU may have had a representative on our cross-connection control TAC committee.

Q Okay, sir.

A But as far as -- the permitting rules have not been revised in an extremely long period of time, and that's what we're dealing with here is our Chapter 62-555, and certainly have undergone no major revisions since I have been employed in the drinking water section.

Q Okay. Lastly, it's not your testimony, is it, that the Public Service Commission cannot deal with -- is it your testimony that the Public Service

Commission cannot allow a utility to -- the recovery of its assets, capital assets between current and future customers and still comply adequately with your reserve capacity?

A I'm sorry. That's sort of a convoluted question to me. I think the answer is basically no, we are not saying that the Commission cannot allow that. That's the way you started that question.

Q Yes. I'm sorry. It ended up sounding convoluted to me, too.

Q You're not -- are you suggesting that it is not possible for the Public Service Commission to -- strike that.

To your knowledge, isn't it possible for a utility to meet its reserve capacity requirements that it must for DEP concerns as well as take advantage of reasonable economies of scale and still get the proper regulatory return by the PSC allowing it the proper mix of revenues from current customers as well as regulatory policies that allow it to recover expenses from capital returns from future customers?

COMMISSIONER GARCIA: I'm sorry, forgive me, Mr. Twomey. Would you repeat the question again?

MR. TWOMEY: No, I can't. I will stop there.

CHAIRMAN CLARK: Thank you, Mr. Twomey. Staff?

**CROSS EXAMINATION**

BY MS. O'SULLIVAN:

Q We have just a few very brief questions, Mr. Hoofnagle. Would you agree that there are differences between the environmental planning and permitting requirements of DEP and the economic regulation of the PSC?

A Yes.

Q Even if the DEP does require a utility to begin planning for expansion, does that mean that the economic recovery should initiate at the same time?

A Well, in drinking water, we do not have that same requirement we do in wastewater, although we are presently revising 555 to incorporate similar language that the wastewater rule has into our drinking water rule, looking at the same kinds of planning requirements. It's basically stages at which you would kick off your planning and your design and construction, lead times for that.

Q So you're referring to Rule 62-600.405, that your rules would parallel that in terms of the five-year planning?

A Yes. We are planning on paralleling --

although we are still in tack. Now the PSC will also sit on our tack; and that's what we hope to do is cooperate during that rulemaking process so that we don't come along behind your particular policies and send a confused message to the regulated public about the issue of margin reserve and reserve capacity and planning requirements and so forth.

Q All right. So even if the DEP does require the utility to begin planning at a certain time period, does that mean that the economic recovery initiates at that same time period?

A We have no opinion on that.

Q Is the Commission's margin reserve in rate-setting intended to allow the utility to recover the cost of expansion?

A You're asking me if the PSC does allow the utility to recover the cost of expansion now?

Q I guess my question is, is the Commission's use of margin reserve in this context and in rate-setting intended to allow the utility's recovery of the expansion?

A Well, depending upon what the margin reserve, it would be a certain portion of the recovery of the reserve capacity from the existing consumers or users. That's my understanding of the margin reserve.

Q Is margin reserve also intended to allow the utility to accommodate short-term growth?

A I'm not that well versed at how the PSC establishes rates or approves rates and utilizes internally the calculations of margin reserve to look at short term versus long term, or how those terms are defined. I'm sorry, I can't answer that.

MS. O'SULLIVAN: All right, thank you. Staff has no further questions.

CHAIRMAN CLARK: Redirect?

MR. ARMSTRONG: No questions.

CHAIRMAN CLARK: Thank you very much, Mr. Hoofnagle. Thank you.

(Witness Hoofnagle excused.)

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CHAIRMAN CLARK: We are going to take our lunch break now, and we'll break until 1:00. I would like to ask the parties: I am becoming concerned about our ability to finish this hearing this week, we seem to have slowed down somewhat. Therefore, I would like to ask all the parties to review the witnesses from Mr. York on down, and I would like and estimate from each one of you as to how long your cross examination is going to take for each of those witnesses. And I would like to have that by about 4:00 today. Okay?

Thank you, we will see you at 1:00.

(Thereupon, lunch recess was taken at 12:30 p.m.)

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(Transcript continues in sequence in Volume 32.)

DOCKET 950495-WS
EXHIBIT 198
CASE 96-04227

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 950495 EXHIBIT NO. 198
COMPANY/ WITNESS: SSU / Harvey
DATE: 4/29/96

EXHIBIT (RMH-1)

PAGE 1 OF 9

# MEMORANDUM OF UNDERSTANDING

## FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

## AND

## FLORIDA PUBLIC SERVICE COMMISSION

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

## BACKGROUND

### Water Supply

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

### Wastewater Management

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

Reuse of Reclaimed Water

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

The 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.

## OBJECTIVES

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

1. To monitor water supply systems to ensure that safe and reliable water is produced and delivered in accordance with applicable rules and drinking water standards;

2. To monitor domestic wastewater systems to ensure the safe and efficient collection, treatment, and reuse or disposal of wastewater and residuals;

3. To encourage and promote water conservation and reuse of reclaimed water;

4. To foster conservation and to reduce the withdrawal of ground and surface water through employment of conservation-promoting rate structures, reuse of reclaimed water, and consumer education programs.

## PSC RESPONSIBILITIES

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

Water Supply

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

2. Inform the DER of the PSC public meetings with customers and hearings in which water supply projects will be discussed.

3. Review proposed rate structures for private utilities within PSC jurisdiction.

4. Provide assistance in review of water conservation rate structures within PSC jurisdiction.

5. Monitor abandonment and bankruptcy proceedings for private water utilities within PSC jurisdiction. Inform the DER of pending abandonment and bankruptcy cases.

6. If an applicant for a DER permit challenges the interpretation of Section 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

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

2. Inform the DER of the PSC public meetings with customers and hearings in which wastewater management projects will be discussed.

3. Review proposed rate structures for private wastewater management utilities within PSC jurisdiction.

4. Monitor abandonment and bankruptcy proceedings for private wastewater utilities within PSC jurisdiction. Inform the DER of pending abandonment and bankruptcy cases.

5. If an applicant for a DER permit challenges the interpretation of Section 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.

2. Inform the DER of the PSC public meetings with customers and hearings in which reuse of reclaimed water will be discussed.

3. Provide feasibility analyses of the financial impacts, if any, of reuse system projects on both the customers and the wastewater utilities within PSC jurisdiction.

4. Within 10 days of receipt of a reuse feasibility study, the PSC staff shall review the document for completeness of the financial aspects and shall notify the DER whether or not the document is complete and whether or not the PSC will be able to conduct a complete review. If the PSC staff determines that it will be able to review the document, the PSC staff shall provide comments and recommendations to the DER within 30 days of receipt of the complete document.

5. Participate in appropriate DER hearings in which the feasibility of reuse will be discussed.

6. Review proposed rate structures for reuse projects for private utilities within PSC jurisdiction. As noted in Section 403.064(6), F.S., and pursuant to Chapter 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

1. Review applications for construction of potable water supply systems.

2. Monitor compliance of potable water supply systems with applicable rules and drinking water standards.

3. Notify the PSC of impending abandonment or bankruptcy cases involving water utilities and assist the PSC in such cases, as needed.

4. For utilities subject to Chapter 367, F.S., the DER shall verify the existence of a certificate of authorization or order indicating exempt status from the PSC before issuance of a construction permit for a new water system.

Wastewater Management

1. Review applications for construction and operation of domestic wastewater facilities.

2. Monitor compliance of domestic wastewater management facilities with applicable rules and effluent discharge limitations.

3. Monitor water quality in the State's ground waters and surface waters.

4. Notify the PSC of impending abandonment or bankruptcy cases involving wastewater utilities and assist the PSC in such cases, as needed.

5. For utilities subject to Chapter 367, F.S., the DER shall verify the existence of a certificate of authorization or order indicating exempt status from the PSC before issuance of a construction permit for a new wastewater facility.

Reuse

1. Administer the State's reuse program.

2. Review reuse feasibility studies required by Section 403.064, F.S., the Antidegradation Policy, or the Indian River Lagoon System and Basin Act.

3. Within five working days after receipt of a reuse feasibility study required by Section 403.064, F.S., the Antidegradation Policy, or the Indian River Lagoon System and Basin Act, the DER shall provide a copy of the reuse feasibility study to the PSC. This applies only to feasibility studies produced by private utilities located within counties regulated by the PSC.

4. Final determinations on the adequacy of reuse feasibility studies will be made by the DER. Comments and recommendations made by the PSC on the financial aspects of these reuse feasibility studies will be considered by the DER.

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

### Wastewater Management

1. The PSC will designate a Wastewater Management Project Manager.

2. The DER's Domestic Wastewater Section Administrator will serve as the DER's Wastewater Management Project Manager.

3. Exchange of information between the DER and the PSC shall be through the designated Wastewater Management Project Managers. Copies of pertinent correspondence related to wastewater management issues shall be sent to the appropriate agency's Wastewater Management Project Manager.

### Reuse

1. The PSC will designate a Reuse Project Manager. All reuse feasibility studies provided to the PSC by the DER will be directed to this Project Manager.

2. The DER's Reuse Coordinator will serve as the DER's Reuse Project Manager for purposes of this agreement.

3. Reuse feasibility studies to be submitted to the PSC will be submitted over the signature of the DER Reuse Coordinator or over the signature of one of the six Water Facilities Administrators located in the DER district offices.

4. The DER Reuse Coordinator shall be copied on any correspondence between the PSC's Project Manager and the DER's Water Facilities Administrators regarding reuse feasibility studies.

5. Whenever a potential conflict regarding a specific project is identified, each agency will examine the alternative solutions available and then meet to discuss the issues involved and attempt to reach an agreement before announcing a position. If an agreement cannot be reached after due deliberations, several positions may be advocated. Such disagreements, if any, will not obviate this MOU.

6. Exchange of information between the DER and the PSC shall be through the designated Reuse Project Managers. Copies of pertinent correspondence between an agency and other parties concerning a reuse project shall be sent to the Reuse Project Manager of each agency until project completion.

Overall Coordination

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

## AMENDMENTS

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

## EFFECTIVE DATE AND SIGNATURES

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

Thomas M. Beard, Chairman
Florida Public Service
Commission

Date

Carol M. Browner, Secretary
Department of Environmental
Regulation

Nov 20, 92
Date

EXHIBIT (RMH-2)

PAGE 1 OF 6

# Florida Department of Environmental Protection


Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary


July 14, 1993



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

Dear Mr. Williams:

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

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

Sincerely,

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

RDD/ra/btm

Enclosure

cc: Patti Daniel

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

General Comments

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

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

Specific Comments

1. Rule 25-30.432(3)(a), F.A.C. - Design and construction requirements for collection systems and transmission facilities are contained in Chapter 17-604, F.A.C. We suggest including this chapter as a reference.

2. Rule 25-30.432(4), F.A.C. - The statement "To encourage long-term planning and least cost system design, the Commission, at 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?

4. Rules 25-30.432(5)(a)4 b and c, F.A.C. - It is suggested that definitions for "off-site" and "on-site" be included in the rule.

5. Rule 25-30.432(5)(a)4 e, F.A.C. - The relationship between "available capacity" and the used and useful default formulas is unclear. How were the 500 percent and five-year customer base derived?

6. Rules 25-30.432(5)(d)1 and 2, F.A.C. - The Environmental Protection Agency (EPA) used the following standard in the Construction Grants program to determine if a system would be subject to further I/I analysis: No further I/I analysis will be necessary if domestic wastewater plus non-excessive infiltration does not exceed 120 gallons per capita per day (gpcd) during periods of high ground water. The total daily flow during a storm should not exceed 275 gpcd, and there should be no operational problems, such as surcharges, bypasses, or poor treatment performance resulting from hydraulic overloading of the treatment works during storm events. The PSC could consider this criteria as an alternative to the 500 gpd/inch/diameter/mile allowance for infiltration and 7 percent of treated flows allowance for inflow.

7. Rule 25-30.432(5)(d)1, F.A.C. - The rule states that a utility "has little control over inflow" and allows inflow of "7 percent of treated flows." There are numerous methods for correction of inflow sources, including manhole raising, manhole cover replacement, cross connection plugging, and drain disconnection. A utility should discover the locations of inflow, determine legitimacy and assign responsibility for cost-effective correction. How was the 7 percent of treated flows allowance for inflow derived?

8. Rule 25-30.432(5)(e), F.A.C. - It is suggested that analysis for "inflow" be added to this section. Cost effective correction of inflow should be encouraged.

9. Rule 25-30.432(6)(d) 3 and 4, F.A.C. - The basis of design of a WWTP can be stated in various ways including, annual average daily flow, maximum monthly average daily flow, or three-month average daily flow. It appears that only "Maximum Month Flow" is considered.

10. Rule 25-30.432(7)(h), F.A.C. - Firm reliable capacity is defined as the capacity of a treatment plant component in which "at least the largest unit is assumed to be out of service." Would a treatment plant with one aeration basin, without regard to design or permit capacity, be considered 100 percent used and useful because of no firm reliable capacity in the used and useful default formula? You could consider the use of the EPA technical bulletin entitled "Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability" referenced in Rule 17-600.300(4)(1), F.A.C., for reliability criteria.

EXHIBIT (RMH-2)

PAGE 4 OF 6

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400
Lawton Chiles, Governor
Carol M. Browner, Secretary

July 30, 1992

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

Dear Mr. Hill:

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

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

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

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

Sincerely,

Richard H. Harvey
Director
Division of Water Facilities

RMH/ra/btm

Enclosures

Rule 25-30.432, F.A.C.

Used and Useful in Rate Case Proceedings

Specific Comments

1. Rule 25-30.432(3)(a), F.A.C. - Design and construction requirements for collection systems and transmission facilities are contained in Chapter 17-604, F.A.C. We suggest including this chapter as a reference.

2. Rule 25-30.432(4), F.A.C. - The statement that to "encourage long-term planning and least cost system design, the Commission, at a minimum, shall consider as used and useful the level of investment that would have been required had the utility designed and constructed the system to serve only its existing customer base" is unclear. This statement doesn't seem to promote long-term planning.

3. Rule 25-30.432(5), F.A.C. - The definition of ERC demand, as that used for design/permitting *and* actual historical demand, is unclear. When would each apply?

4. Rule 25-30.432(5)(a)4, F.A.C. - Here margin reserve for treatment facilities is 20 percent of the permitted or actual ERC capacity, whichever is greater. We agree that there is a need to balance a utilities' incentive for making plant investments and planning for future needs with some type of mechanism to control imprudent investments in order to protect existing ratepayers. How was the 20 percent derived? Have other mechanisms to achieve this balance been explored?

5. Rule 25-30.432(5)(a)4 ii and iii, F.A.C. - It is suggested that definitions for "off-site" and "on-site" be included in the rule.

6. Rule 25-30.432(5)(d)1, F.A.C. - The rule states that a utility "has little control over inflow." There are numerous methods for correction of inflow sources including, manhole raising, manhole cover replacement, cross connection plugging, and drain disconnection. A utility should discover the locations of inflow, determine legitimacy and assign responsibility for cost-effective correction.

7. Rule 25-30.432(5)(d)2, F.A.C. - The EPA used the following standard in the Construction Grants program to determine if a system would be subject to further I/I analysis: No further I/I analysis will be necessary if domestic wastewater plus non-excessive infiltration does not exceed 120 gallons per capita per day (gpcd) during periods of high groundwater. The total daily flow during a storm should not exceed 275 gpcd, and there should be no operational problems, such as

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

8. Rule 25-30.432(5)(e), F.A.C. - It is suggested to add "inflow" in the first sentence of this section. Cost effective correction of inflow should be encouraged.

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

State of Florida



DIVISION OF WATER & WASTEWATER
CHARLES HILL
DIRECTOR
(904) 488-8482

# 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. Potts and Mr. Hoofnagle:

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,

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 has 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.

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,

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.

(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, sprayfields, 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

equipment. The Equalization Volume is assumed to be approximately one-quarter of the maximum daily demand.

(e) Equivalent Residential Connection (ERC) - 350 gpd per ERC for water and 280 gpd per ERC for wastewater.

(f) Fire Flow Requirement - as defined in 25-30.432(5)(b), F.A.C.

(g) Firm Reliable Capacity - the capacity of a particular component of a water facility in which at least the largest unit is assumed to be out of service. If the used and useful category contains several components, the Firm Reliable Capacity is assumed to be the limiting component in that category with the largest unit out of service. If there is only one component, then that component's capacity becomes the Firm Reliable Capacity. For finished water storage, the Firm Reliable Capacity excludes any unusable or dead storage (10% of ground storage capacity).

(h) Infiltration - refers to those extraneous flows (usually from groundwater sources) that enter the wastewater system through openings in pipes that may be caused by normal deterioration, corrosion, or damage from ground movement or structural overload.

(i) Inflow - refers to extraneous flows from sources other than infiltration, such as surface water run-off into manholes or from unauthorized connections to surface water sources.

(j) Instantaneous Demand - the greatest demand that a water system attains. It is typically used only as a design criteria for small water

systems with no storage and a small distribution system that does not have the ability to absorb these instantaneous demands through depressurization of the distributions system. The charts in Rule 25-30.432(7), F.A.C., shall be used to determine the instantaneous demand unless specific quantitative information indicates greater demands.

(k) Large Water System - a system that has a firm reliable capacity of 1 million gallons per day or greater. Staffing shall be as mandated in Rule 62-699, F.A.C.

(l) Margin Reserve - as defined in 25-30.432(5)(a), F.A.C.

(m) Maximum Day Demand - the maximum daily demand that a water system attained during the past 5 years of time, exclusive of emergency or fire flow events.

(n) Other Wastewater Facilities - this includes, but is not limited to, disinfection units, emergency generators, auxiliary engines, customer service laterals, laboratory equipment, utility office and other general plant and equipment used in the operation of a wastewater system. Specifically excluded from this definition are a wastewater system's pumping stations and collection mains (both gravity and force).

(o) Other Water Facilities - this includes, but is not limited to, hydropneumatic tanks, disinfection facilities, emergency generators, auxiliary engines, customer service lines and meters, laboratory equipment, utility office and other general plant used in the operation of a water system. Specifically excluded from this definition are a water

system's transmission and distribution lines.

(p) Peak Hour Demand - the greatest demand attained by a water system over a sustained period of 60 minutes. Typical design criteria for a Peak Hour Demand of 2 times the maximum day demand or 1.1 gpm per ERC can be used if historical flow data is not available.

(q) Small Water System - a system that has a firm reliable capacity of less than 1 million gallons per day. Staffing shall be as mandated in Rule 62-699, F.A.C.

(r) Unaccounted for water - all water produced or purchased by a water utility that is neither sold, metered nor accounted for in the records of the utility. Water, other than that sold, that shall be accounted for includes, but is not limited to, water for plant operations, line flushing, hydrant testing, hydrant use, sewer cleaning, and street cleaning.

(s) Wastewater Customer Demand - the wastewater flows which match the utility's specified time frame in its Department of Environmental Protection (DEP) permit -- annual average daily flow, the three month average daily flow, or the maximum month average daily flow.

(t) Wastewater Permitted Capacity - the established design capacity of a wastewater facility in its DEP permit and the specified time frame (annual average daily flow, maximum monthly average daily flow, three-month average daily flow).

(u) Wastewater Treatment Equipment - this includes, but is not

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.

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

(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

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;

the annual treated or pumped flows for the system; and system peak day flows for each year. The utility's most recent wastewater capacity analysis report, if any, filed with DEP shall also be submitted as part of the rate filing.

4. Unless otherwise justified, margin reserve shall be calculated by applying linear regression to the utility's five years historical growth data (in ERCs) so that a projected growth can be determined and then multiplying that growth by the appropriate construction factor.

a. Water source and treatment facilities and wastewater treatment and disposal facilities: the calculated growth (in ERCs) multiplied by the following construction factors:

(i) water source, treatment facilities, and each water system component have a construction factor of 3 years;

(ii) wastewater treatment and disposal facilities have a construction factor of 3 years;

b. Margin reserve for transmission and distribution lines and pumping stations and collection mains shall be the calculated growth multiplied by a construction factor of 1 year.

(b) Fire Flow

1. Fire flow shall be considered in used and useful default formulas for storage and high service pumping for any utility that requests that fire flow be a consideration in its system requirements. If the Commission determines that a utility can provide fire flow in a more

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

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

met within the specified timetable.

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

1. To recognize conservation of water as a fundamental and proper concern of water system operation, water utilities are encouraged to

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.

(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

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

(f) Used and Useful Analysis

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

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:

a. Water source of supply:

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

b. Water treatment equipment:

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

c. Finished water storage:

(Equalization Volume + Fire Flow Requirement + Emergency Storage + Margin Reserve)/Firm Reliable Capacity (gallons)

d. Water high service pumping:

(Instantaneous Demand + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

or, if the utility chooses:

(Maximum Day Demand + Fire Flow Requirement + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

e. Other water facilities: 100 percent used and useful

2. Small water systems with no storage facilities other than hydropneumatic tanks or with insufficient storage capacity to meet the local fire flow ordinances and to meet the instantaneous demand of its customers shall use the following formulas:

a. Water source of supply:

(Instantaneous Demand + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

or, if the utility can show it is the most economical way to provide fire flow:

(Maximum Day Demand + Fire Flow Requirement + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

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b. Water treatment equipment:

(Instantaneous Demand + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

or, if the utility can show it is the most economical way to provide fire flow:

(Maximum Day Demand + Fire Flow Requirement + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

c. Finished water storage: 100 percent used and useful (gallons)

d. Water high service pumping:

(Instantaneous Demand + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

or, if the utility chooses:

(Maximum Day Demand + Fire Flow Requirement + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

e. Other water facilities: 100 percent used and useful

(b) Large water systems (1 MGD or greater firm reliable capacity):

1. Large 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:

a. Water source of supply:

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

b. Water Treatment Equipment:

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

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

c. Finished water storage:

(Equalization Volume + Fire Flow Requirement + Emergency Storage + Margin Reserve)/Firm Reliable Capacity (gallons)

d. Water high service pumping:

(Peak Hour Demand + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

or, if the utility chooses:

Maximum Day Demand + Fire Flow Requirement + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

e. Other water facilities: 100 percent used and useful

2. Large water systems with no storage facilities other than hydropneumatic tanks or with insufficient storage capacity to meet the local fire flow ordinances and to meet the peak hour demand of its customers shall use the following formulas:

a. Water source of supply:

(Peak Hour Demand + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

or, if the utility can show it is the most economical way to provide fire flow:

(Maximum Day Demand + Fire Flow Requirement + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

b. Water treatment equipment:

(Peak Hour Demand + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

or, if the utility can show it is the most economical way to provide fire flow:

(Maximum Day Demand + Fire Flow Requirement + Margin Reserve- Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

c. Finished water storage: 100 percent used and useful (gallons)

d. Water high service pumping:

(Peak Hour Demand + Margin Reserve - Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

or, if the utility chooses:

(Maximum Day Demand + Fire Flow Requirement + Margin Reserve- Excessive Unaccounted For Water)/Firm Reliable Capacity (gpm)

e. Other water facilities: 100 percent used and useful

(d) Wastewater systems:

1. Wastewater treatment equipment:

(Wastewater Customer Demand + Margin Reserve - Excessive Infiltration and Inflow)/Permitted Capacity (gpd)

2. Effluent disposal facilities:

(Wastewater Customer Demand + Margin Reserve - Excessive Infiltration and Inflow)/Permitted Capacity (gpd)

3. Other wastewater facilities: 100 percent used and useful

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

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(7) Unless specific quantitative information indicates greater demands, a water system's Instantaneous Demand, for purposes of determining used and useful, will be calculated from the following charts which are from the U.S. Environmental Protection Agency Manual "Small Water Systems Serving The Public".

[chart]

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Interim Publication of Manuscript:
JULY 1978



# 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

An example showing the method of using the tables and curves follows:

Example: Assume a 40 unit motel with a small coffee shop and small swimming pool. Water pressure assumed at 40 psi. Air conditioners are air cooled and require no water.

DATA TABULATION

| Fixture | Fixture Value at 35 psi (Table 3-2) | No. of Fixtures in Use | Total Fixture Value |
|---|---|---|---|
| Water closets, tank | 3 | 47 | 141 |
| Urinals, wall | 12 | 2 | 24 |
| Lavatory: 3/8-in. connection | 2 | 40 | 80 |
| Lavatory: 1/2-in. connection | 4 | 4 | 16 |
| Bathtubs | 8 | 40 | 320 |
| Drinking Fountains | 2 | 1 | 2 |
| Kitchen sink, 3/4-in. | 7 | 1 | 7 |
| Dishwasher, 3/4-in. | 10 | 1 | 10 |
| Wash sink | 4 | 1 | 4 |
| Hose, 50 ft., 5/8-in. | 9 | 3 | 27 |
| Swimming pool | 15 (estimated) | 1 | 15 |
| Service sink: 1/2-in. | 3 | 1 | 3 |
| | | | 649 |

Combined Fixture Value - 649

From Figure 3-1, probably peak demand based on 35 psi = 55 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.

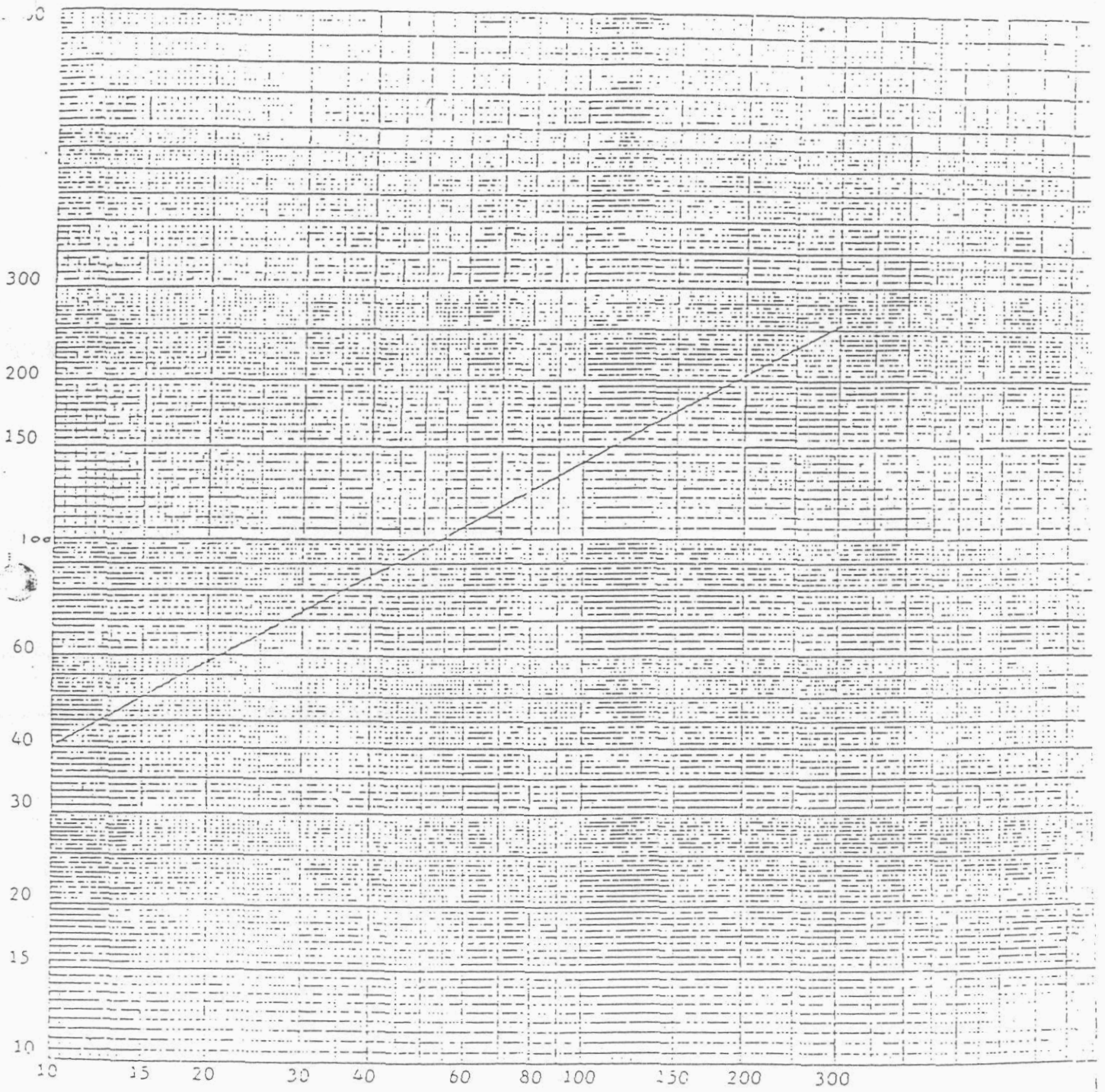
## Peak Demand for Residential Communities and Mobile Home Parks

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.

FIGURE 3-3

INSTANTANEOUS DEMAND FOR RESIDENTIAL COMMUNITY WATER SYSTEMS

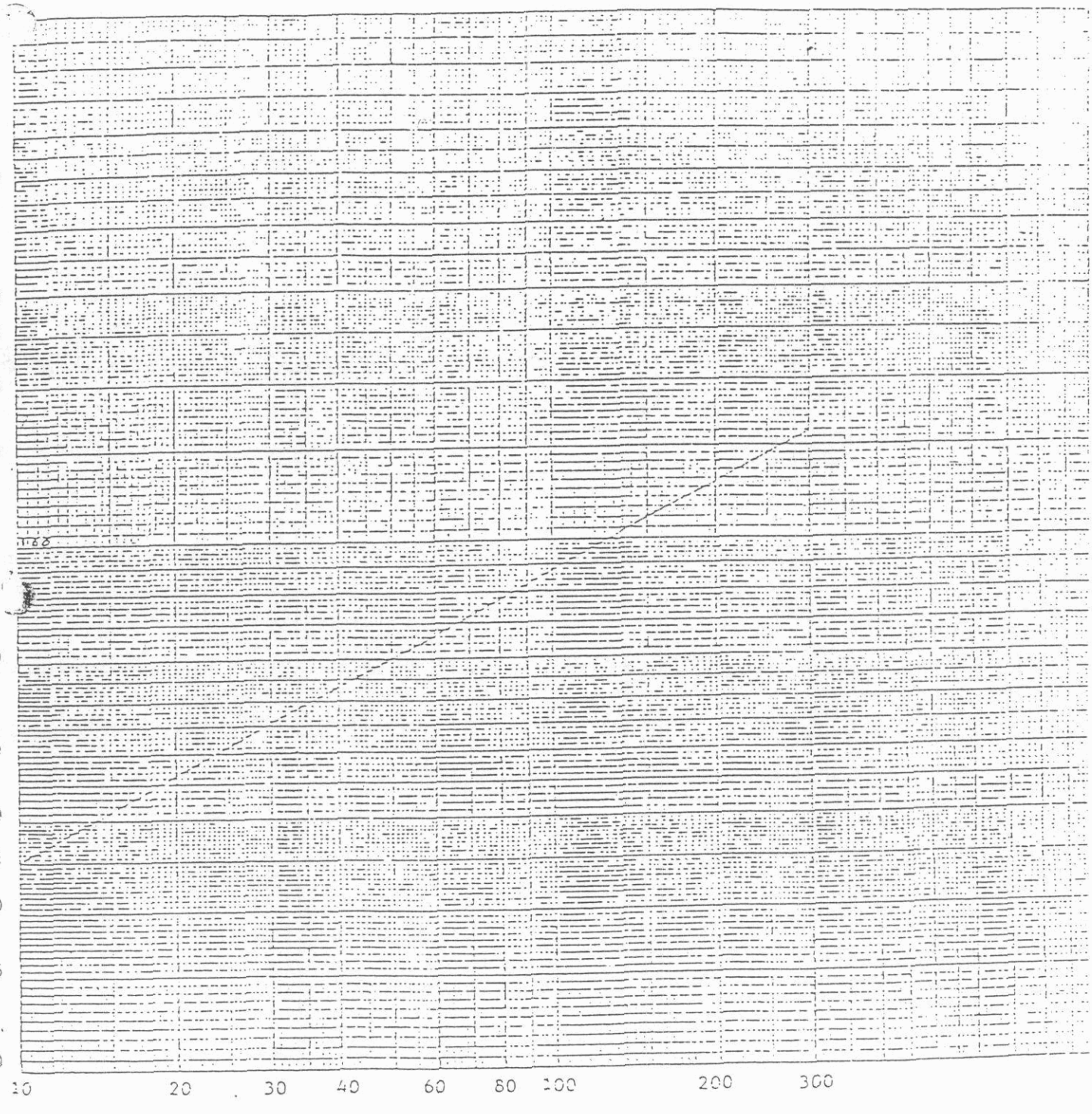
(Number of Connections vs Gallons Per Minute)




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

PEAK DEMAND FOR MOBILE HOME PARK WATER SYSTEMS

(Number of Connections vs Gallons Per Minute)




Number of Connections

Source: Standards and Criteria for Design and Construction of Public Water Supply Systems to Serve Residential Communities, Division of Health Services-Sanitary Engineering Section, State of North Carolina, 1974

EXHIBIT (RMH-4)

PAGE 1 OF 8

# Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

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

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

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
Van R. Hoofnagle, P.E.
Elsa A. Potts, P.E.

**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**

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 ~~approximately~~ 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, "Unless otherwise justified, t~~T~~he 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 annual average 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.

7. 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 (which, unless justified otherwise, is assumed to be 10% of ground storage capacity)."

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 less 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.

9. PAGE 3, LINES 6 THROUGH 8; PAGE 4, LINES 6 THROUGH 8; PAGE 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 can not absorb instantaneous demands through depressurization of their distribution systems, and large water systems are systems that can 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 1.0 ~~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

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 x 2 x 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 treatment (emphasis added) capacity for which a plant is approved (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 approved treatment ~~established design~~ capacity of a wastewater facility in its DEP permit and..."

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 not limited to, the influent structure, pretreatment facilities, pumps, aerators, clarification tanks, filters, digests, and chlorine 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 plan, design, and 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**

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 IGNORE 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 REQUIRES 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."

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

21. PAGE 7, LINES 16 THROUGH 18: It is unclear how "the 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 <u>not</u> 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,

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.

# Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

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.

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.

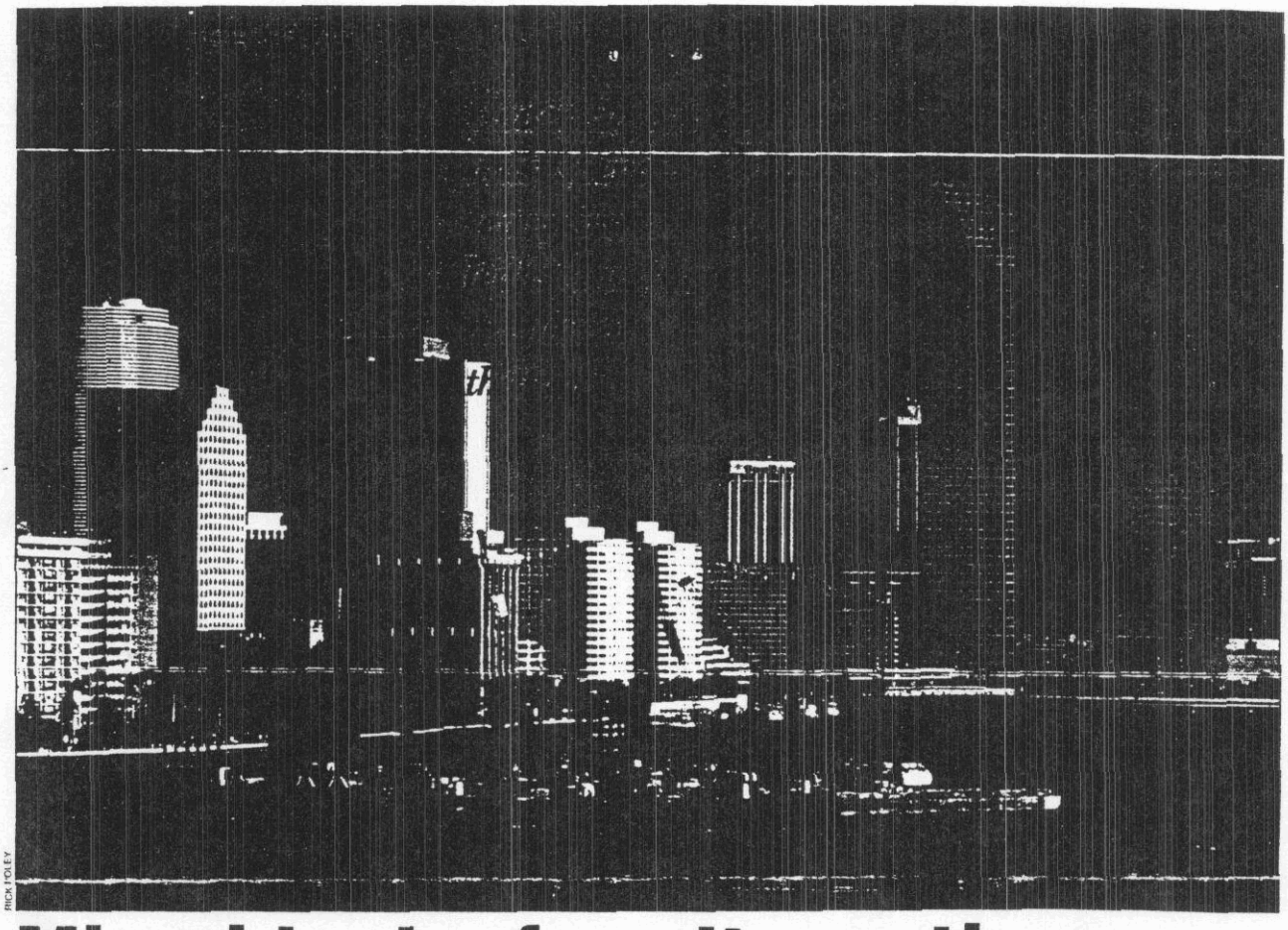
Sincerely,

Ginger

Virginia B. Wetherell
Secretary

VBW/mw/h

cc: Mimi Drew
Van Hoofnagle
Elsa Potts



RICK TOLEY

# Miami looks for alternatives to blue-chip sewer overhaul

Under detailed and stringent state and federal mandates, Miami is spending $1.1 billion to rehabilitate the largest wastewater collection and treatment system in the Southeast. The program, about one-third 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 Biscayne 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.

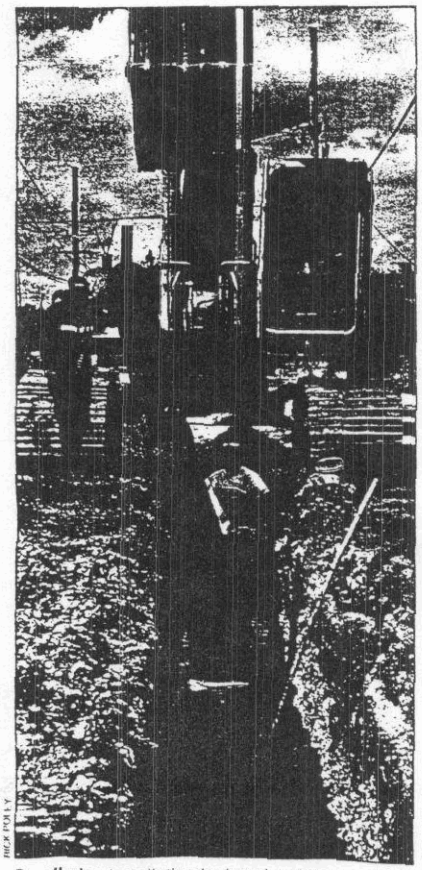
In a 1993 agreement, the Florida Dept. of Environmental Protection specified replacement of the line with a 102-in.-dia alternative. The job came in a year early and well under its $72-million estimated cost (ENR 9/12/94 p. 16).

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

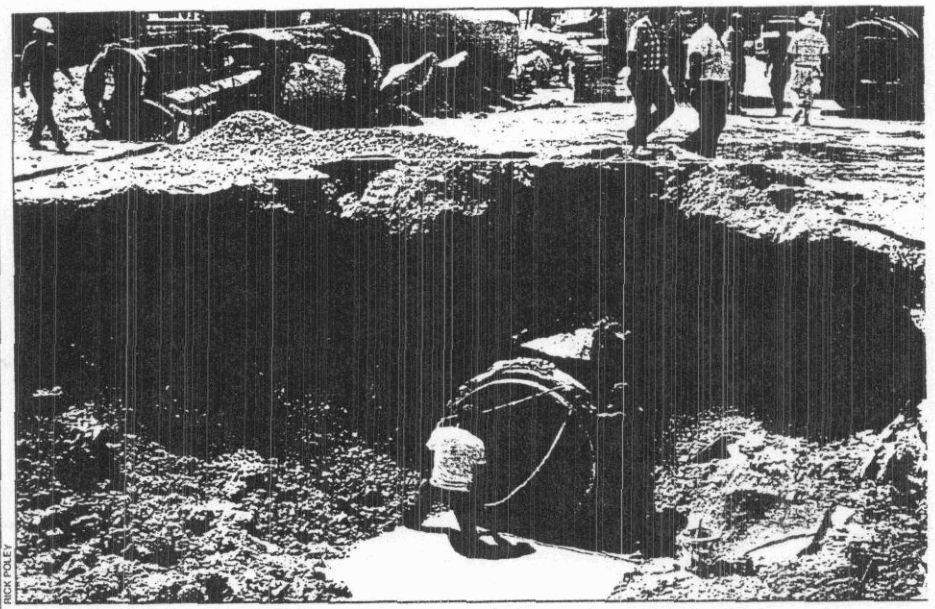
Agency also stepped in, filing a federal lawsuit that raised the same issues covered by the state's regulators. The U.S. Dept. of Justice, representing EPA, refused to acknowledge the settlement agreements. Miami settled the suit by signing detailed consent decrees, the first in August 1993, and the 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. Finally, 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.



RICK POLEY

**Small pipe** installation is done by city crews.



RICK POLEY

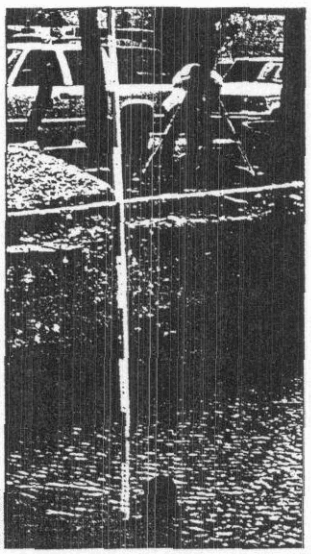
**Force main** expansion mandate requires construction of 60 miles of new transmission lines.

"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 wastewater management. "We want to reduce monitoring and reporting requirements by 25% within the next year," he told the Water Environment Federation convention last October.

EPA is "moving from a technology-based approach to...scientific risk-based analysis on a cost-benefit basis," adds Tudor Davies, EPA's director of the office of science and technology. But he insists, "I don't believe there are different quality criteria for water quality standards for wet weather."



RICK POLEY

**High water table** causes problems in Miami, especially after heavy rain.

Despite EPA's promises of policy changes, the goal in Miami remains "zero overflows from the collection system," says Roy Herwig, an enforcement officer in the agency's Atlanta office. "These overflows run through schoolyards and playgrounds. It's a public health issue." He adds that fragile ecosystems in two national parks within Dade County, Biscayne Bay and the Everglades, could be compromised by a large-scale failure of the county's wastewater treatment system.

Miami has put together "a tremendous program," says Herwig, who adds that it was 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,

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

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


MIAMI-DADE WATER & SEWER DEPT.

**Clemente** says EPA pushed reforms already under way.

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 protect 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 question that they were playing catch-up," says Rick Arbour, president of Rick Arbour & Associates, Inc., a Hopkins, Minn., consulting engineer that has advised EPA on Miami's problems.

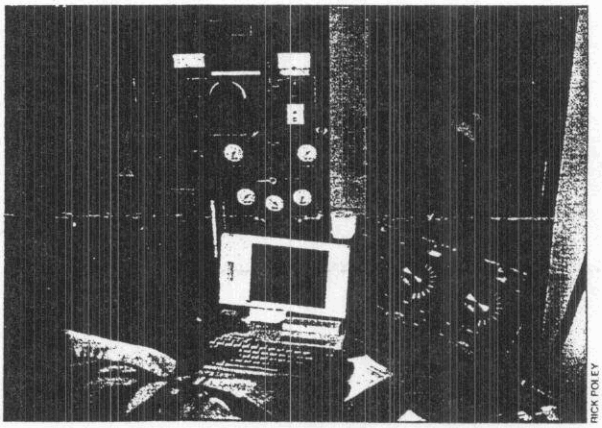
Some of those problems date back to 1973, when the city established a single metropolitan water and sewer agency that cobbled together a large system from 30 smaller ones. The clean water law provided federal funds so Miami and other cities could bring their systems into compliance. Regulators say officials 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 Herwig. 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.

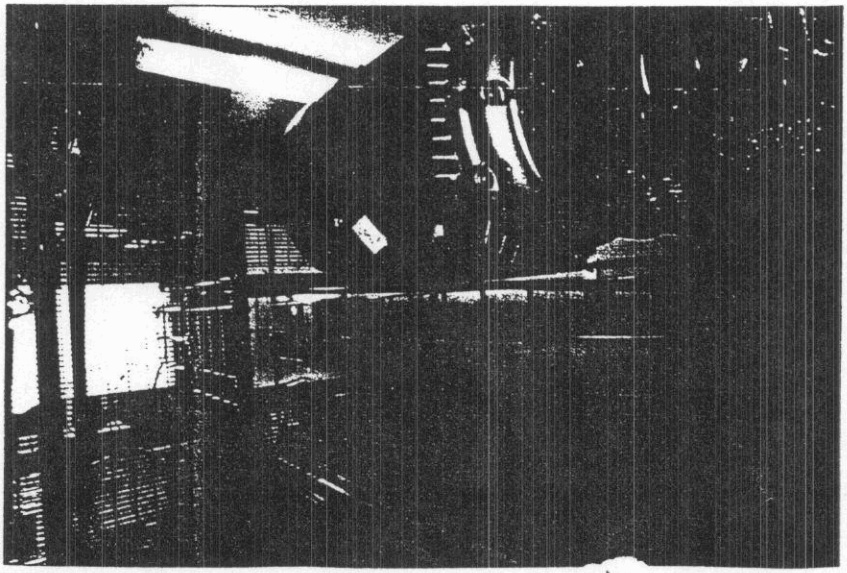
**Best practice?** Underfunding maintenance led to massive infiltration and inflow in the deteriorating collection system. Compounding this were design methods regarded as "best practice" 20 years ago, but since disproved, says Aguiar. Oversized force mains caused widespread cavitation and in several 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 low-tech. Smoke bombs showed extensive inflow from missing cleanout caps on private property. The owner is responsible, 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.


RICK POLEY

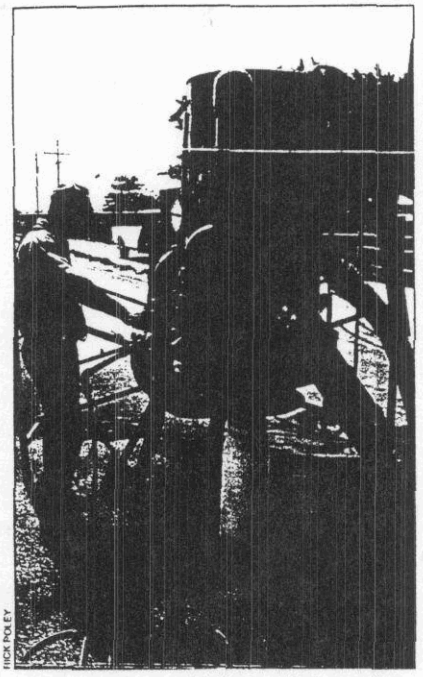
**Computer-operated system** tells sewer line repair crews where to go and what to fix.


RICK POLEY

**Pump station** improvements involve 874 units scattered throughout collection network.

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.


RICK POLEY

**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, resin-impregnated 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 stations 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 each station as 10 hours a day. "EPA set forth the 10-hour criteria as a short-term 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 PBSJ 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 twist, officials will use a so-called Virtual Rain Gauge. This computer link to weather data from satellite and ground station reports can generate accurate storm event data every 15 minutes.


MIAMI-DADE WATER & SEWER DEPT.

**Brant** fears aquifer contamination will trigger another decree.

A geographic information system combines weather information and collection system data to forecast wastewater flow through the 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.

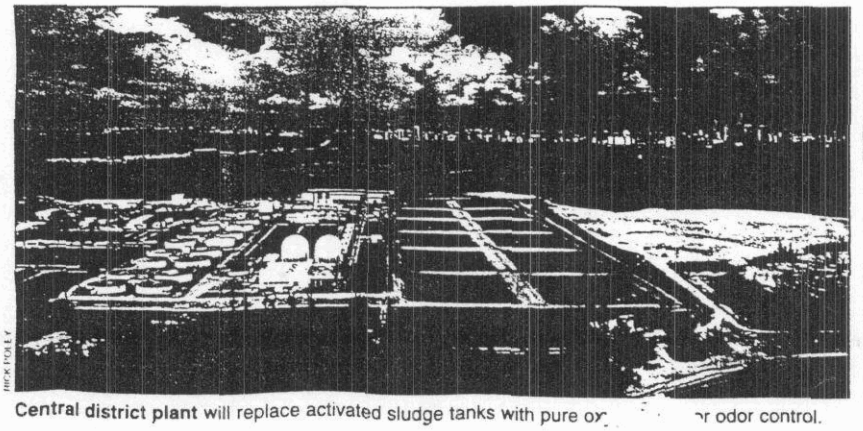
Miami's upgrade concentrates on the system's weakest link, the collection system, but treatment plants will also be rehabbed. The 40-year-old central district plant features two parallel process trains that dewater sludge before discharging treated wastewater 3 miles offshore through a 120-in-dia. outfall. 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*


RICK POLEY

**Central district plant** will replace activated sludge tanks with pure ox[illegible]r odor control.

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

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

(4) Sampling Points

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

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

Specific Authority: 403.061, 403.087, F.S.
Law Implemented: 403.021, 403.061, 403.062, 403.086, 403.087, 403.088, F.S.
History: New 11-27-89, Amended 1-30-91, 6-8-93, Formerly 17-600.400.

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**62-600.405 Planning for Wastewater Facilities Expansion.**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Specific Authority: 403.061, 403.087, F.S.
Law Implemented: 403.021, 403.061, 403.086, 403.087, 403.088, 403.0881, [1] 403.101, F.S.
History: New 1-30-91, Formerly 17-600.405.

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**62-600.410 Operation and Maintenance Requirements.**

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

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

(3) All underground injection effluent disposal systems shall be operated and maintained in accordance with the applicable provisions of this chapter and the provisions of Chapter [8] 62-28, F.A.C.

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