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TESTIMONY OF RICHARD M. HARVEY, P.E.
BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
ON BEHALF OF
SOUTHERN STATES UTILITIES, INC.
DOCKET NO. 960258-WS

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FPSC-RECORDS/REPORTING

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

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

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

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

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

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

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

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

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

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

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

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

5 A. The purpose of my testimony is to comment upon
6 Staff's proposed rules which would establish 18
7 month margin reserves for water and wastewater
8 treatment plants and 12 month margin reserves for
9 water and wastewater distribution and collection
10 lines, respectively.

11 **Q. WHAT COMMENTS DO YOU HAVE CONCERNING THE STAFF
12 PROPOSED RULE ON MARGIN RESERVE?**

13 A. In Docket No. 950495-WS, the recent Southern States
14 rate proceeding, Commission Staff witness Shafer
15 made a number of statements concerning the role of
16 the Commission in relation to the role of
17 environmental agencies, such as DEP and the water
18 management districts. For example, Mr. Shafer
19 stated that the Commission is obligated to provide
20 utilities the opportunity to generate funds
21 necessary to meet environmental standards and he
22 alleged that the Commission always has recognized
23 the importance of providing adequate financial
24 coverage for utilities to meet those standards even
25 though the Commission itself does not set those

1 standards. Mr. Shafer also discussed the
2 Commission's function in assisting environmental
3 agencies to facilitate compliance with the
4 requirements of those agencies. Mr. Shafer
5 mentioned that cooperation between the Commission
6 and the environmental agencies would reduce
7 regulatory inefficiency and allow utilities to
8 achieve environmental compliance. I agree with Mr.
9 Shafer, cooperation between the Commission and the
10 environmental agencies is highly desirable and the
11 Commission should be obligated to provide utilities
12 the funds necessary for environmental compliance --
13 the question is, has the Commission lived up to
14 that obligation? After participating in the recent
15 rate proceeding and witnessing the Commission's
16 rulings, I am convinced that the Commission is
17 neither encouraging investor-owned utility
18 compliance with environmental/public health
19 requirements nor promoting resource protection.

20 **Q. COULD YOU EXPLAIN WHY YOU FEEL THAT WAY?**

21 **A.** Yes. I agree that the Commission must formulate
22 economic regulation practices and policies which
23 encourage and advance environmental compliance, the
24 protection of public health, environmental
25 preservation, proper facility design and economies

1 of scale. These goals are consistent with the
2 goals of Florida's environmental regulators whose
3 primary responsibility it is to protect the public
4 health and the environment. The type of economic
5 regulation practiced by the Commission as typified
6 by the Southern States proceeding does little to
7 promote these ends and is deleterious to the
8 environment, the utility, the customers, and the
9 citizens of the state at large. The used and
10 useful conventions reflected in the proposed rule
11 do not parallel design and regulatory requirements,
12 and, therefore, operate as a direct financial
13 **disincentive** for regulatory compliance and
14 environmental protection. Such a disincentive
15 endangers the public health and the environment.
16 Furthermore, as a matter of principle, I think it
17 is fundamentally unfair for one or more agencies of
18 the state to require compliance with a certain
19 level of service, and public health and
20 environmental standards and for the Commission's
21 enabling statute and its rules to require the same,
22 but for the Commission to disallow the full costs
23 of such compliance.

24 Staff witness Shafer mentioned the goal of
25 resource protection and how the Commission could

1 help to achieve that goal. It seems to me that the
2 most conspicuous mechanism for the Commission to
3 achieve the goal of resource protection is the used
4 and useful mechanism. Used and useful dictates on
5 what level of investment a utility under Commission
6 regulation may earn. Therefore, it has a direct
7 influence on a utility's action or inaction
8 regarding compliance and a direct influence on what
9 type and size of water and wastewater facilities a
10 utility constructs. Neither the Commission nor the
11 environmental agencies can expect a utility to
12 achieve meaningful compliance with environmental
13 requirements and protect the public health and
14 preserve the environment if the utilities which the
15 Commission regulates do not have a meaningful
16 opportunity to recover the costs associated with
17 compliance, protection, and preservation. The
18 proposed rule would not provide such a meaningful
19 opportunity.

20 It is my testimony that the Commission must in
21 this case and in all cases, in Mr. Shafer's words,
22 "provide the utility with the opportunity to
23 generate the funds necessary to meet environmental,
24 health, and safety standards," and "reduce
25 confusion on the part of utilities and allow

1 utilities flexibility in the way that they achieve
2 compliance with each agency." However, in my
3 observation, the Commission's used and useful
4 actions have reflected a rates-driven resistance
5 which is inconsistent with environmental and public
6 health goals of the regulatory agencies and creates
7 uncertainty and confusion as to what level of
8 compliance investment the utilities will be able to
9 recover in rates.

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

11 A. In the Southern States proceeding, Staff
12 recommended that a 36-month margin reserve be used
13 for wastewater treatment plant based at least in
14 part on the DEP's capacity analysis rule 62-
15 600.405. When Staff's recommendation was brought
16 up at the Commission's agenda conference, the
17 following discussion resulted between PSC Staff
18 member Crouch and Commissioner Kiesling:

19 MR. CROUCH: In the case of 36
20 months, we would allow them enough
21 growth, enough expansion to handle
22 36 months, three years of customer
23 growth. ... We would convert that
24 to gallons or to ERCs and figure
25 that in the equation for used and

1 useful.

2 COMMISSIONER KIESLING: And I'm
3 trying to figure out how I can
4 conceptually understand what the
5 impact on revenue requirement is of
6 that extended margin reserve for
7 wastewater treatment plant and
8 effluent disposal.

9 MR. WILLIS: Commissioner, I
10 understand what you are asking, and
11 that is going to take us a while to
12 calculate. we don't have it
13 separately calculated back to the 18
14 months, and it's going to be a
15 difference between the 18 and the
16 36.

17 COMMISSIONER KIESLING: So it's
18 going to double as to wastewater?

19 MR. WILLIS: It's going to
20 double as far as wastewater goes, as
21 far as the margin would go.

22 COMMISSIONER KIESLING: Right.

23 MR. WILLIS: The problem we are
24 having is there is so many used and
25 usefuls dealing with wastewater

1 plants that this would apply to it
2 is going to take us a while to go
3 back and calculate that difference,
4 but we can do it; it's just going to
5 take a while to do.

6 COMMISSIONER KIESLING: Can you
7 give me a ball park? I mean is it
8 going to raise the revenue
9 requirement two percent, five
10 percent, the total wastewater
11 revenue requirement? I mean I just
12 need some ball park.

13 MR. WILLIS: If you give me a
14 second, I might be able to do that.

15 COMMISSIONER KIESLING: I mean
16 because I understand -- Okay. I
17 understand where DEP is on this. I
18 also have a great concern about how
19 much current customers ought to be
20 paying to take care of future
21 growth, and that's a big concern for
22 me. So unless I can understand at
23 least what the, conceptually what
24 the impact is of this change --

25 I believe this portion of the transcript

1 establishes that the rate impact is driving the
2 Commission's used and useful determinations. I
3 further believe that this reality creates a much
4 higher likelihood that utilities regulated by the
5 Commission in this fashion will operate at all
6 times as close to maximum capacity as possible.
7 This result is contrary to and inconsistent with
8 the efforts by Florida's environmental regulators
9 to ensure proper planning and reduce the risk of
10 wastewater treatment plant overflows,
11 insufficiently treated water and similar hazardous
12 conditions.

13 There is equal cause for concern from
14 Commissioner Deason's comments which would focus
15 the margin reserve period on the "construction"
16 period of time, as the Public Counsel advocated.
17 First, I point out that limiting the margin reserve
18 period to the time it takes to construct additional
19 facilities ignores the real issue, which is, what
20 should the capacity be of the plant to be
21 constructed or already constructed. The time
22 necessary to construct the facilities has nothing
23 to do with the capacity -- and bears no relation to
24 what should be the primary reasons for the
25 existence of the margin reserve -- to protect the

1 public health and the environment by ensuring
2 adequate capacity is available. The 18 month
3 margin reserve for wastewater treatment plant is
4 inadequate for the purpose, particularly when
5 considered together with the Commission's use of
6 the annual average daily flow to such plants to
7 calculate used and useful. No reputable engineer
8 would ever design a plant with capacity to meet
9 only the average annual daily flow. To be 100%
10 used and useful the plant would have to maintain
11 flows every day of the year at 100% of capacity.
12 This is not only impossible, it also flies in the
13 face of the attempts by environmental regulators to
14 ensure that this situation does not occur because
15 overflows would be inevitable. Third, Commissioner
16 Deason referred to "construction lead times."
17 Certainly, such lead times must include the time to
18 design, permit, bid out, contract as well as
19 construct the facilities.

20 **Q. DO YOU HAVE ANY EXPERIENCE CONCERNING THE USED AND**
21 **USEFUL CONCEPT IN ADDITION TO THAT YOU GAINED BY**
22 **PARTICIPATING IN THE SOUTHERN STATES PROCEEDING?**

23 **A.** Until a few years ago, I was personally not even
24 familiar with the concept of used and useful
25 despite my many years of experience in the water

1 and wastewater industry. It was only when the
2 Water Facilities Division began hearing complaints
3 from some utilities about their inability to
4 recover the costs associated with reuse projects
5 identified in their legislatively mandated reuse
6 feasibility studies that it was brought to my
7 attention. It had always been my belief, and the
8 belief of the other engineers at DER/DEP, that
9 privately owned utilities, having little to no
10 access to public funds, would and must prudently
11 spend the money they had available to maintain and
12 expand their facilities and, at the same time, take
13 advantage of economies of scale wherever possible.
14 After all, constructing and maintaining these water
15 and wastewater facilities is a capital intensive
16 proposition.

17 Upon hearing the utilities' complaints, I
18 asked my staff to meet with the Commission staff so
19 we could obtain a better understanding of the used
20 and useful concept. We had several meetings, some
21 of which I attended. Eventually, the Commission
22 and DER came to agree to a Memorandum of
23 Understanding, which I will refer to as the MOU,
24 which set forth various cooperative efforts and
25 responsibilities. I thought the MOU was a very

1 positive step, even though in the process of
2 negotiating the MOU there appeared to be a certain
3 measure of resistance to the rates impacts of DER's
4 goals of protecting the public health and the
5 environment. With regard to DER's reuse concern,
6 the MOU reinforced the law at the time. The MOU
7 states,

8 As noted in Section 403.064(6), F.S., and
9 pursuant to Chapter 367, the PSC shall
10 allow utilities which implement reuse
11 projects to recover the full cost of such
12 facilities through their rate structures.

13 For ease in reference and identification, a copy of
14 the MOU is attached to my testimony as Exhibit ____
15 (RMH-1).

16 At about the same time as the MOU was being
17 worked out, the Commission staff was working on
18 proposed rules which addressed used and useful on a
19 broad scale. These proposed rules were discussed
20 at various meetings between Commission staff and
21 DER employees under my supervision. When drafts of
22 the used and useful rules were completed, the
23 Commission staff sought DER's comments on the
24 rules. Attached to my testimony as Exhibit ____
25 (RMH-2) are two letters from DER to the Commission

1 staff commenting on the proposed rules as they
2 existed at the time. The first letter, dated July
3 30, 1992, is from me to Mr. Charles Hill, and the
4 second, dated July 14, 1993, is from one of my
5 former Bureau Chiefs at DEP, Richard Drew, to Mr.
6 John Williams. Both letters, emphasize, among
7 other things, that the proposed rules should be
8 written so all facilities necessary for reuse be
9 considered 100% used and useful and so the
10 Commission's used and useful policies parallel the
11 requirements of Rule 17-600.405, Florida
12 Administrative Code, which has since be renumbered
13 as Rule 62-600.405. This rule addresses planning
14 for wastewater facility expansions. Sometime after
15 these letters were sent, the Commission decided to
16 postpone consideration of the proposed used and
17 useful rules.

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

25 By a letter from Mr. Charles Hill dated May

1 15, 1995, to Ms. Elsa Potts and Mr. Van Hoofnagle,
2 Section Administrators under my supervision as
3 Division Director, the Commission staff transmitted
4 to DEP for comment staff's latest draft of the
5 proposed used and useful rules. A copy of the
6 letter and the draft rules is attached as Exhibit
7 _____ (RMH-3). I note from this Exhibit that the
8 Commission staff did not change any of its previous
9 drafts to adequately address the reuse question and
10 it refused DEP's repeated recommendations
11 concerning Rule 62-600.405. On June 29, 1995, I
12 wrote a letter to Mr. John Williams of the
13 Commission staff commenting on the draft rules. A
14 copy of this letter is attached as Exhibit _____
15 (RMH-4). In the letter, I emphasized that the used
16 and useful rules should and must separately
17 identify reuse facilities and declare those
18 facilities to be 100% used and useful. I also
19 stressed that the margin reserve component for used
20 and useful should be at least five years for both
21 water and wastewater facilities, the latter being
22 consistent with Rule 62-600.405. On July 12 and
23 13, 1995, the Commission staff held a public
24 workshop to discuss the staff's May 10, 1995, draft
25 used and useful rules. I directed persons under my

1 supervision to participate in the workshop on
2 behalf of DEP. Representatives from DEP, the water
3 and wastewater industry, Commission staff, and
4 Public Counsel were present. From the reports of
5 my people and the transcript of the workshop, the
6 Commission staff was, again, not receptive to the
7 above two recommendations in my letter. On
8 February 20, 1996, DEP Secretary Wetherall wrote
9 Commission Chairman Clark emphasizing the need for
10 cooperation between agencies on the used and useful
11 rules. A copy of this letter is attached as
12 Exhibit _____ (RMH-5).

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

23 In consideration of the above, and in
24 consideration of the comments I read in the
25 transcript from a Commission agenda conference at

1 which a reuse project plan for Aloha Utilities was
2 considered, I think a rates-driven resistance to
3 environmental and public health protection and
4 environmental preservation is present.

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

7 **A.** Mr. Shafer seemed to acknowledge the dangers in the
8 Southern States proceeding. If a utility does not
9 have sufficient earnings to comply with regulatory
10 requirements, the utility cannot comply. It is
11 that simple. Depending on the utility's situation,
12 the environmental and public health impacts of
13 noncompliance may be devastating and not easily, if
14 ever, reversed.

15 The Commission must understand that since
16 regulatory compliance is an expensive proposition
17 and is becoming even more expensive, facts disputed
18 by nobody with knowledge of the industry, the risk
19 to the public health and the environment can be
20 measured by the financial viability of the
21 utilities who bear the ultimate responsibility for
22 protecting the environment and public health. A
23 utility "on the edge" financially is a utility "on
24 the edge" as far as the environment and public
25 health are concerned. Focusing again on used and

1 useful, I will make my point this way. If the
2 Commission's used and useful practices do not
3 provide an incentive for utilities to promote
4 environmental compliance and preservation and
5 protect the public health, the utilities cannot
6 function in a way which achieves those goals.

7 Let me offer some examples of the dangers I
8 have referred to. First is the example of the
9 Miami-Dade wastewater collection, treatment, and
10 disposal system. Exhibit _____ (RMH-6) is an
11 article from the Engineering News Record describing
12 the circumstances of the case. Since the situation
13 arose while I was at DEP, I am personally familiar
14 with the pertinent facts. For many years, the
15 Miami-Dade sewer rates failed to generate adequate
16 revenues to properly operate and maintain the sewer
17 system. As a result, and not unexpectedly, major
18 problems developed in the wastewater system.
19 Eventually, thousands of sewer overflows and
20 numerous pipe and pump station failures occurred
21 which resulted in, among other things, street
22 intersections being periodically flooded with
23 thousands of gallons of raw sewage and raw sewage
24 spilling into the Miami River and other bodies of
25 water. In order to correct the problems, Miami-

1 Dade is spending over \$1.1 billion to rehabilitate
2 its facilities, the largest wastewater collection
3 and treatment system in the Southeast. To generate
4 the revenues needed to fund the rehabilitation,
5 monthly water and sewer bills have more than
6 doubled, with no end in sight. The point of this
7 example is that the financial disaster, the
8 environmental disaster, and the public health
9 hazard could have been avoided in the first place
10 had Miami-Dade not insisted on keeping rates as low
11 as the public wanted the rates and instead charged
12 rates sufficient to operate and maintain the system
13 in an environmentally sound manner.

14 The contamination of the Apalachicola Bay also
15 illustrates the impact of ignoring environmental
16 and public health concerns in rate setting. The
17 City of Apalachicola is located at the mouth of the
18 Apalachicola River, which flows into Apalachicola
19 Bay. The Apalachicola Bay is a Class II water body
20 and was one of Florida's last remaining water
21 bodies approved for shellfish harvesting. The
22 City's wastewater utility rates did not generate
23 revenues sufficient for the City to adequately
24 operate and maintain its existing wastewater
25 collection, treatment, and disposal system or to

1 design, construct, and install additional
2 facilities. The latter aspect was of particular
3 concern because had the City's rates generated
4 adequate revenue, the City may have provided
5 central wastewater service to areas served by
6 malfunctioning septic tanks. Over time the City's
7 facilities deteriorated and continued to
8 malfunction. Downstream water quality problems
9 became significant. Shellfish harvesting was
10 halted. To help correct the environmental and
11 public health problems in and around the Bay, the
12 State of Florida, through Legislatively approved
13 grants and, more recently, a loan exceeding \$4
14 million, will financially assist the City with its
15 wastewater problems so the water quality issues can
16 be avoided in the future. Again, all of this may
17 have been avoided if proper consideration been
18 given to the environment and the public health in
19 rate-setting.

20 **Q. WHY ARE THESE MATTERS IMPORTANT TO THIS RULEMAKING?**

21 A. DEP's recommendations on the used and useful
22 considerations of the Commission are stated in the
23 letters I referred to and the MOU. DEP's
24 recommendations were offered, not in support of the
25 utility industry, not in support of utility

1 customers, but in support of environmental
2 preservation, protecting the public health, and
3 consistency with the statutes, rules, regulations,
4 and permits which DEP enforces. The margin reserve
5 used and useful rule proposals offered by the Staff
6 are contrary to those DEP recommendations and,
7 therefore, will put investor owned utilities at
8 risk of regulatory noncompliance and potentially
9 put the environment and public health at risk.

10 **Q. SOME WOULD SAY THAT THE DEP AND ITS RULES ARE MADE**
11 **WITHOUT CONSIDERATION OF THEIR IMPACT ON RATES. DO**
12 **YOU AGREE?**

13 **A.** No. Contrary to the impression some people
14 unfortunately have, DEP is not an extremist, fringe
15 environmental advocacy group. DEP is an agency of
16 the State of Florida, charged by the Florida
17 Legislature with enforcing statutes of the
18 Legislature's creation and rules which the
19 Legislature has authorized DEP to implement.
20 Contrary to another impression some people
21 unfortunately have, DEP does in fact consider the
22 financial impacts of its regulations. Like every
23 state agency, DEP is required by law to study those
24 impacts before it passes a rule. There is little
25 point to the Legislature and DEP making public

1 interest determinations regarding issues of public
2 health and environmental impact if the Commission
3 takes counteractive measures such as those
4 advocated by the intervenors. I believe the most
5 significant disparity between the DEP and water
6 management districts environmental and public
7 health policies and the Commission's economic
8 policies is that the Commission is focused on short
9 term rate minimization. As I explained earlier,
10 this focus on keeping rates as low as possible
11 creates significant risks to the public health and
12 the environment as demonstrated in the Miami and
13 Apalachicola examples.

14 **Q. WHAT DO YOU BELIEVE WOULD BE THE RAMIFICATIONS OF**
15 **ADOPTION OF STAFF'S PROPOSED RULES FOR MARGIN**
16 **RESERVE AND CIAC IMPUTATION?**

17 **A.** I believe the results would be the sort of
18 perpetual capacity crises mentioned in the DEP
19 letters and referred to by Mr. Hartman, who also is
20 commenting in this proceeding. With the capacity
21 crises comes: 1) compliance problems, 2) service
22 problems, 3) increased risk of environmentally
23 harmful conditions, 4) increased risk to the public
24 health and 5) higher costs to customers in the long
25 run. The Commission would place utilities in the

1 position of having to constantly catch up to
2 capacity and reliability requirements because the
3 utilities have no economic incentive to plan ahead.
4 This will almost inevitably lead to service and
5 compliance issues, such as insufficient water
6 pressure, connection moratoria, lack of sufficient
7 disposal facilities, improper discharge of
8 wastewater, and insufficient wastewater treatment
9 to name a few. Building plants in increments sized
10 to meet short-term demand, and only as that demand
11 becomes immediate, costs the utility and the
12 customers more in the long run. The economies of
13 scale referenced in the DEP letters and supported
14 by the economies of scale evaluation Mr. Hartman
15 sponsors in this proceeding are not encouraged
16 under the proposed rules and, given the recent
17 ratemaking treatment of utilities by the Commission
18 concerning used and useful conventions, I do not
19 believe it would be fair to suggest that utilities
20 should be expected to run the risk of building for
21 economies only to have short term rate minimization
22 considerations cause such economies to be ignored
23 in future rate proceedings.

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

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

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

13 The rule then goes on to establish a schedule of
14 expansion activities when certain conditions exist,
15 as I will discuss later. The purpose/goal of the
16 rule is to insure that utilities have adequate
17 facilities for the proper collection, treatment and
18 reuse or disposal of wastewater flows and thereby
19 avoid exposure to the environmental and health
20 hazards of improper wastewater discharges which
21 result when facilities are inadequate. Much was
22 made in the Southern States proceeding by the
23 appearance of the term "reserve capacity" in the
24 rule as opposed to the term "margin reserve". DEP
25 witness Sowerby, who authored the DEP

1 correspondence, testified that he intended "reserve
2 capacity" to be synonymous with margin reserve in
3 the context of the DEP comments. I agree with Mr.
4 Sowerby that that was DEP's intent, and my intent
5 at the time I was in charge of the Water Facilities
6 Department. I view attempts by anyone to
7 capitalize on semantic differences at this time to
8 be disingenuous. When this rule was being
9 developed under my supervision in 1991, DEP and all
10 those participating in the rule-making process
11 recognized that to plan, permit, design, and
12 construct wastewater treatment facilities routinely
13 takes a significant period of time. Because of
14 this, and in order to ensure the proper protection
15 of the public health and the environment, a process
16 was developed in the rule to make certain that
17 utilities began the expansion process for treatment
18 facilities when five years or less of reserve
19 capacity was available. In recognition of how long
20 it takes to go through the expansion process, DEP
21 wanted to make certain that utilities started the
22 process early enough so adequate treatment plant
23 capacity would be available when that capacity was
24 needed, again, with the goal of avoiding improper
25 discharges attributable to capacity deficiencies.

1 What this means is that if a wastewater facility
2 does not have at least five years of available
3 capacity, the utility **must** have begun the expansion
4 process.

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

20 DEP's existing rules address drinking water
21 facility sizing and planning in that those rules
22 establish design standards and level of service
23 requirements. The existing drinking water rules do
24 not have a provision which parallels Rule 62-
25 600.405. However, as mentioned in my June 29,

1 1995, letter, Exhibit _____ (RMH-4), DEP has
2 recognized the need for a drinking water facilities
3 rule similar to Rule 62-600.405 and has for more
4 than a year been working on one. I note that
5 Exhibit _____ (RMH-4) states that DEP recommends at
6 least a five year margin reserve for water
7 facilities. Many of the reasons justifying a five-
8 year margin reserve for wastewater facilities apply
9 to water facilities as well. The search for a
10 suitable well site and obtaining a consumptive use
11 permit, for example, can very often take a
12 considerable period of time.

13 **Q. IN THE PAST, WITNESSES FOR PUBLIC COUNSEL HAVE**
14 **SUGGESTED THAT THE FIVE YEAR TIME FRAME IN THE RULE**
15 **IS MAINLY USED AS THE INTERVAL FOR SUBMITTING A**
16 **CAPACITY ANALYSIS REPORT ("CAR") AND THAT THE**
17 **COMMISSION SHOULD NOT TRANSLATE THAT FIVE YEAR TIME**
18 **FRAME AS THE ACTUAL TIME REQUIRED FOR NEW PLANT**
19 **EXPANSIONS. DO YOU AGREE?**

20 **A. No.** Such an interpretation is flatly incorrect.
21 The rule prescribes actions that are to be taken to
22 insure that facility expansions are completed in a
23 timely manner. The rule mandates actions the
24 permittee must take depending on how much time the
25 CAR indicates is remaining before the facility

1 capacity is exceeded. If the CAR indicates less
2 than five years of capacity are left, the permittee
3 must take appropriate actions to expand the
4 facility. Specifically, if less than five years of
5 capacity remain, the CAR has to include a
6 statement, signed and sealed by a professional
7 engineer that planning and preliminary design of
8 the necessary expansion have been initiated. If
9 less than four years of capacity remain, the CAR
10 must include a signed and sealed statement that
11 plans and specifications for the necessary
12 expansion have been prepared. If less than three
13 years remain, a complete construction permit
14 application must be submitted. And if less than
15 six months remain, an application for an operating
16 permit for the newly expanded facility must be
17 submitted. So clearly, once a CAR identifies that
18 less than five years of capacity remain, the rule
19 prescribes a process to follow to insure the
20 facility expansion is completed in a timely manner
21 (always less than five years).

22 Witnesses for Public Counsel have interpreted
23 the rule in such a way as to suggest that utilities
24 are discouraged from plant expansion until the last
25 possible moment. That is precisely the situation

1 the rule was designed to avoid. If the Commission
2 accepts the proposed rule or any margin reserve
3 period for wastewater treatment facilities less
4 than five years, the Commission will defeat the
5 purpose of the rule and disregard the cost-
6 effective resolution to the environmental and
7 public health issues.

8 Q. WHY IS THAT?

9 A. For all of the reasons DEP representatives have
10 already explained to the Commission staff in person
11 and in writing and as I and Mr. Hartman have
12 already informed the Commission.

13 Exhibit _____ (RMH-4) provided comment on
14 staff's proposed three year margin reserve for
15 wastewater plant on the premise that the margin
16 reserve should only reflect a period for
17 construction time. As Mr. Hill acknowledged in his
18 letter included in Exhibit _____ (RMH-3), this
19 premise was motivated by the Commission staff's
20 concern with rate levels. On page 6 of Exhibit
21 _____ (RMH-4), DEP refuses the Commission staff's
22 proposal of a three year margin reserve for
23 wastewater treatment plants, as well as water
24 treatment plants, as follows (bold type in
25 original):

1 BY SPECIFYING THAT "USED AND USEFUL"
2 INCLUDE NO MORE THAN A THREE-YEAR
3 RESERVE CAPACITY FOR WATER AND
4 WASTEWATER TREATMENT FACILITIES, THE
5 PSC WILL BE ENCOURAGING UTILITIES TO
6 BUILD THESE FACILITIES IN THREE-YEAR
7 STAGES. AND BY ENCOURAGING
8 UTILITIES TO BUILD WATER AND
9 WASTEWATER TREATMENT FACILITIES IN
10 THREE-YEAR STAGES, THE PSC WILL BE
11 ENCOURAGING UTILITIES TO IGNORE
12 ECONOMIES OF SCALE AND LONG-TERM
13 ECONOMIC BENEFITS TO THEIR
14 CUSTOMERS, WHICH IS EXACTLY THE
15 OPPOSITE OF WHAT THE PSC WANTS TO
16 ENCOURAGE. (THE PSC'S PROPOSED RULE
17 25-30.432(3) STATES, "UTILITIES ARE
18 ENCOURAGED TO UNDERTAKE PLANNING
19 THAT RECOGNIZES CONSERVATION,
20 ENVIRONMENTAL PROTECTION, ECONOMIES
21 OF SCALE, AND [THAT] WHICH IS
22 ECONOMICALLY BENEFICIAL TO ITS
23 CUSTOMERS OVER THE LONG TERM.")

24 FURTHERMORE, BY RECOGNIZING
25 ONLY A THREE-YEAR RESERVE CAPACITY,

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

1 WE STRONGLY RECOMMEND THAT THE
2 PSC ALLOW AT LEAST A FIVE-YEAR
3 RESERVE CAPACITY FOR WATER AND
4 WASTEWATER TREATMENT FACILITIES.
5 ALTHOUGH A FIVE-YEAR RESERVE
6 CAPACITY MAY STILL NOT FULLY
7 ENCOURAGE USE OF ECONOMIES OF SCALE,
8 IT WILL MAKE THE PSC'S "USED AND
9 USEFUL" RULE SOMEWHAT CONSISTENT
10 WITH THE DEP'S RULE 62-600.405.
11 (UTILITIES THAT WANT TO RECOVER THE
12 FULL COST OF THEIR WASTEWATER
13 TREATMENT FACILITIES WILL HAVE TO
14 BEGIN PLANNING AND DESIGNING THE
15 NEXT FIVE-YEAR EXPANSION OF THESE
16 FACILITIES ONLY AFTER THEY HAVE
17 COMPLETED CONSTRUCTING THE PRESENT
18 FIVE-YEAR EXPANSION OF THESE
19 FACILITIES.) IF THE PSC TRULY WANTS
20 TO ENCOURAGE UTILITIES TO TAKE
21 ADVANTAGE OF ECONOMIES OF SCALE, THE
22 PSC SHOULD CONSIDER ALLOWING AT
23 LEAST A TEN-YEAR RESERVE CAPACITY
24 FOR WATER AND WASTEWATER TREATMENT
25 FACILITIES. GUIDELINES DEVELOPED

1 UNDER THE U.S. ENVIRONMENTAL
2 PROTECTION AGENCY'S OLD CONSTRUCTION
3 GRANTS PROGRAM FOR WASTEWATER
4 TREATMENT FACILITIES RECOMMENDED
5 CONSTRUCTING WASTEWATER TREATMENT
6 FACILITIES IN NO LESS THAN TEN-YEAR
7 STAGES.

8 This correspondence exemplifies all of the
9 things I have talked about so far. DEP recommended
10 a margin reserve consistent with the rules it
11 implemented to protect the public health and the
12 environment and consistent with DEP's expertise in
13 water and wastewater facilities. As PSC staff
14 member Shafer, Mr. Hartman, and Secretary Wetherall
15 all agree, economic regulatory policies must be
16 consistent with environmental goals so the
17 environmental goals can be attained. Yet, now
18 Staff proposes a rule which would reduce the margin
19 reserve from the 36 months indicated in Staff's
20 prior rule proposal, to only 18 months. We look
21 forward to hearing from Staff's experts as to the
22 engineering or other basis for their about face
23 concerning the appropriate margin reserve. It
24 appears certain that Staff's experts are retracting
25 from their prior position solely in recognition of

1 the Commission's rate-driven resistance to the 36
2 month margin reserve period which not only serves
3 to defeat environmental and public health goals,
4 but which is not in the least bit cost-effective.
5 As illustrated by the Miami-Dade and Apalachicola
6 examples, overdue capital investment can be
7 extraordinarily costly, and as explained in detail
8 by Mr. Hartman in his comments, a margin reserve of
9 five years is needed for the utility to take even
10 modest advantage of economies of scale.

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

12 **A. Yes, it does.**

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.

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.

EFFECTIVE DATE AND SIGNATURES

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



Thomas M. Beard, Chairman
Florida Public Service
Commission



Carol M. Browner, Secretary
Department of Environmental
Regulation

Date

Nov 20, 92

Date

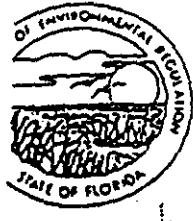
Rule 25-30.432, F.A.C.
Used and Useful in Rate Case Proceedings

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?



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

July 30, 1992

Carol M. Browner, Secretary

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


Dear Mr. Hill:

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

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

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

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

Sincerely,

Richard M. Harty
Director
Division of Water Facilities

RMH/ra/btm

Enclosures

[Handwritten initials]

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.

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.

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



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.

May 12, 1995
Department of Environmental Protection
Page 2

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 Ancien "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.

D R A F T
5-12-95

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

CODING: Words underlined are additions; words in
~~struck through~~ type are deletions from existing law.

D R A F T
5-12-95

1 systems with no storage and a small distribution system that does not have
2 the ability to absorb these instantaneous demands through depressurization
3 of the distributions system. The charts in Rule 25-30.432(7), F.A.C.,
4 shall be used to determine the instantaneous demand unless specific
5 quantitative information indicates greater demands.

6 (k) Large Water System - a system that has a firm reliable
7 capacity of 1 million gallons per day or greater. Staffing shall be as
8 mandated in Rule 62-699, F.A.C.

9 (l) Margin Reserve - as defined in 25-30.432(5)(a), F.A.C.

10 (m) Maximum Day Demand - the maximum daily demand that a water
11 system attained during the past 5 years of time, exclusive of emergency or
12 fire flow events.

13 (n) Other Wastewater Facilities - this includes, but is not
14 limited to, disinfection units, emergency generators, auxiliary engines,
15 customer service laterals, laboratory equipment, utility office and other
16 general plant and equipment used in the operation of a wastewater system.
17 Specifically excluded from this definition are a wastewater system's
18 pumping stations and collection mains (both gravity and force).

19 (o) Other Water Facilities - this includes, but is not limited to,
20 hydro pneumatic tanks, disinfection facilities, emergency generators,
21 auxiliary engines, customer service lines and meters, laboratory
22 equipment, utility office and other general plant used in the operation of
23 a water system. Specifically excluded from this definition are a water

CODING: Words underlined are additions; words in
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1 limited to the influent structure, pretreatment facilities, pumps,
2 aerators, clarification tanks, filters, digestors, and chlorine contact
3 equipment.

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

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

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

13 (a) the design and construction requirements set forth in Chapters
14 62-532, 62-555, 62-600, 62-601, 62-604, 62-620 and 62-640, F.A.C.

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

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

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1 the annual treated or pumped flows for the system; and system peak day
2 flows for each year. The utility's most recent wastewater capacity
3 analysis report, if any, filed with DEP shall also be submitted as part of
4 the rate filing.

5 4. Unless otherwise justified, margin reserve shall be calculated
6 by applying linear regression to the utility's five years historical
7 growth data (in ERCs) so that a projected growth can be determined and
8 then multiplying that growth by the appropriate construction factor.

9 a. Water source and treatment facilities and wastewater treatment
10 and disposal facilities: the calculated growth (in ERCs) multiplied by the
11 following construction factors:

12 (i) water source, treatment facilities, and each water system
13 component have a construction factor of 3 years:

14 (ii) wastewater treatment and disposal facilities have a
15 construction factor of 3 years:

16 b. Margin reserve for transmission and distribution lines and
17 pumping stations and collection mains shall be the calculated growth
18 multiplied by a construction factor of 1 year.

19 (b) Fire Flow

20 1. Fire flow shall be considered in used and useful default
21 formulas for storage and high service pumping for any utility that
22 requests that fire flow be a consideration in its system requirements. If
23 the Commission determines that a utility can provide fire flow in a more

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

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

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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

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

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

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

18 (d) Infiltration and Inflow

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

23 2. The Commission recognizes as reasonable the Infiltration

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

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

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

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

20 a. Water source of supply:

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

23 b. Water treatment equipment:

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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

<u>Fixture</u>	<u>Fixture Value at 35 psi (Table 3-2)</u>	<u>No. of Fixtures in Use</u>	<u>Total Fixture Value</u>
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
			<u>649</u>

Combined Fixture Value - 649

From Figure 3-1, probably peak demand based on 25 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

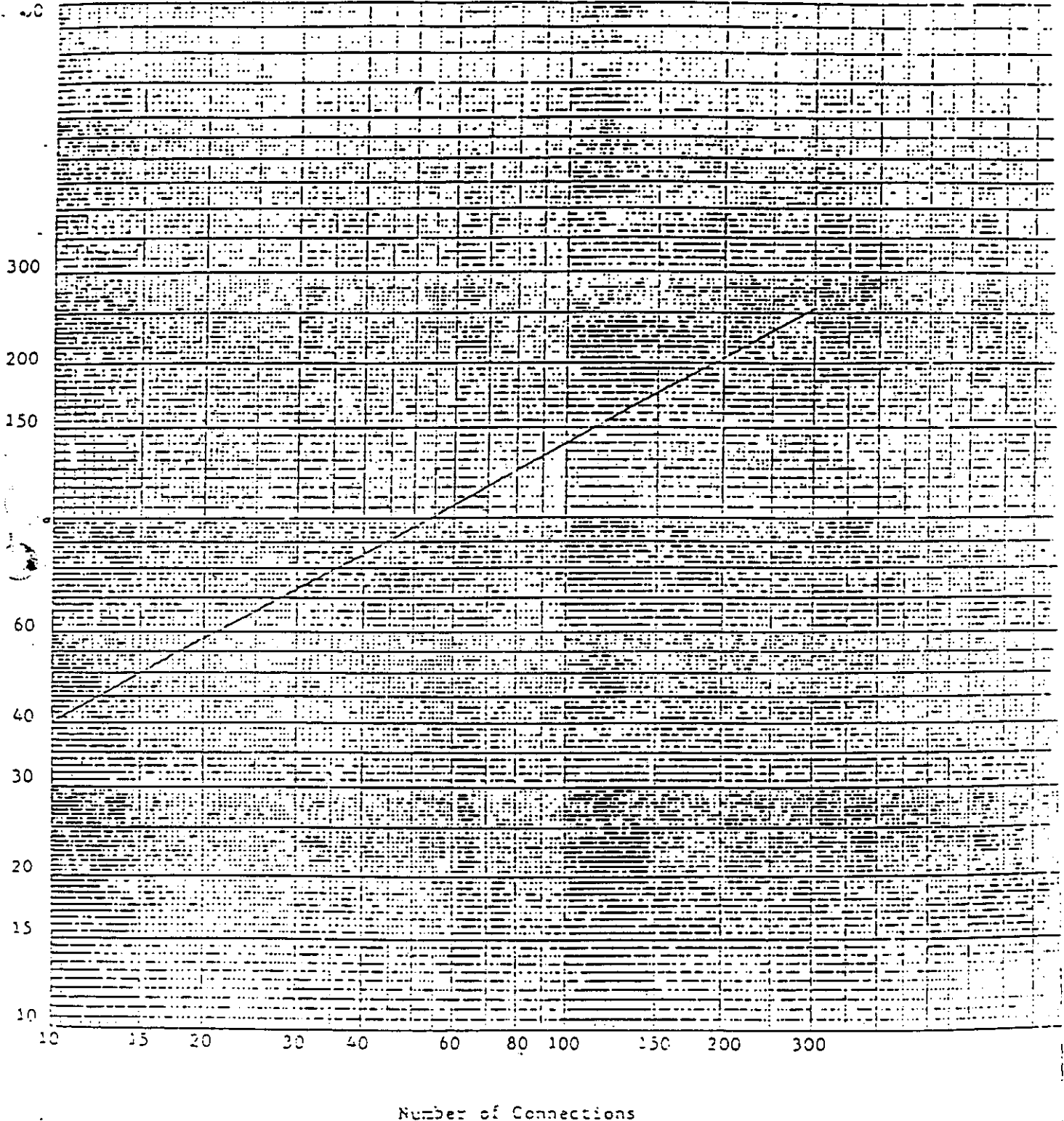
Demand loads for lawn sprinkling systems or other special uses must be added as appropriate.

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.

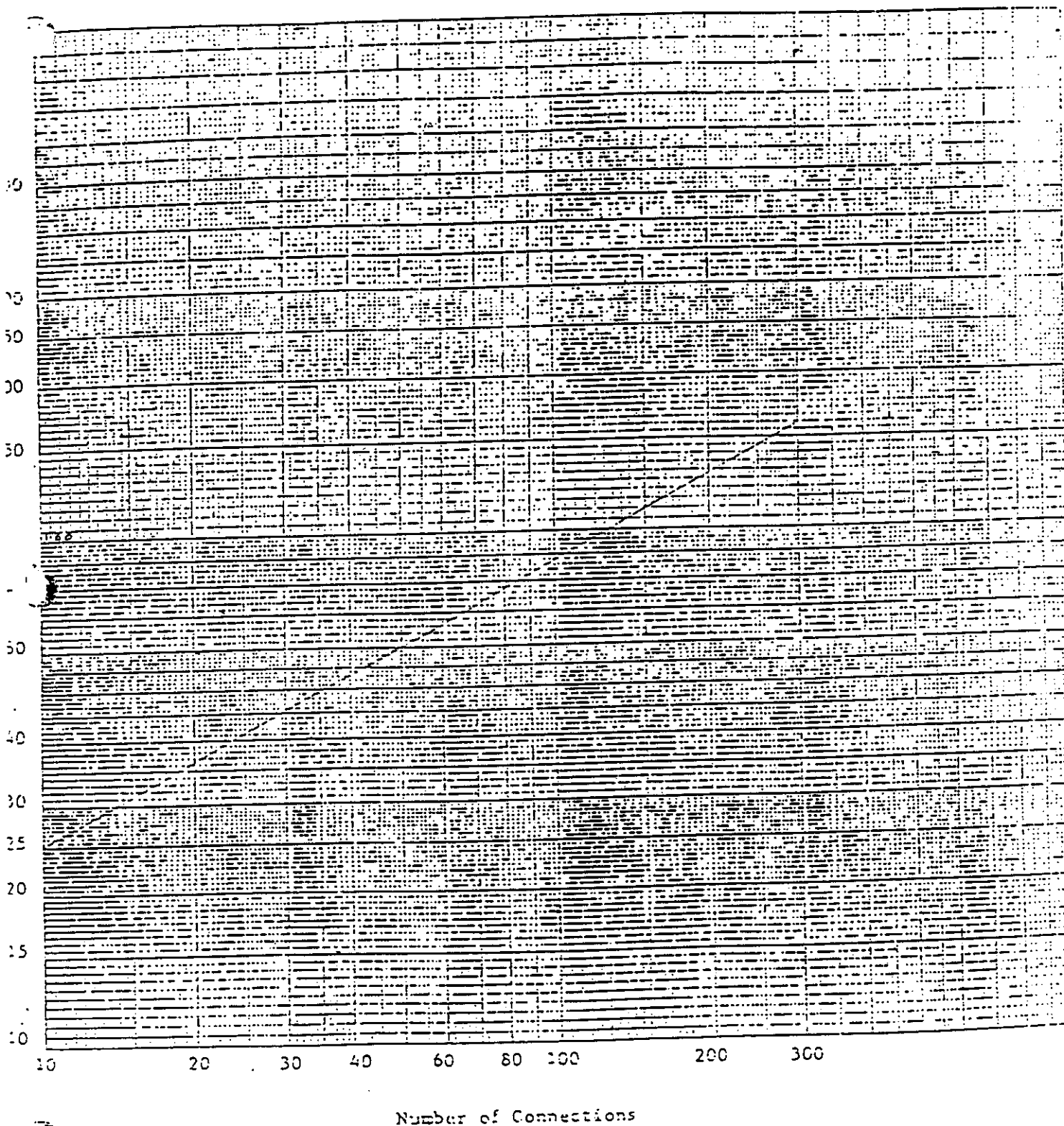
FIGURE 3-3

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, Revision of Public Services - Sanitary Eng. Section, State of North Carolina, 1974

PEAK DEMAND FOR MOBILE HOME PARK 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 Engineering Section, State of North Carolina, 1974



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

RECEIVED

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Florida Public Service Commission
Division of Water and Wastewater

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

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

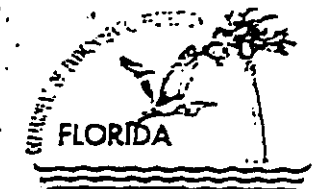
1. PAGE 1, LINES 2 THROUGH 4: We recommend that the PSC add to Rule 25-30.432(1) definitions of the following terms: "finished water storage," "pumping stations and collection mains," "transmission and distribution lines," "wastewater customer demand," "water high service pumping," "water source of supply," 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, the Equalization Volume is assumed to be approximately one quarter of the maximum daily demand."
5. PAGE 2, LINES 3 AND 4: We recommend that the PSC clarify that the demand/flow rates of 350 gpd per ERC for water and 280 gpd per ERC for wastewater are 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.

considering peak hour demand to be equal to two times maximum day demand and is considering annual average day demand per ERC to be equal to 350 gpd. Therefore, peak hour demand per ERC would typically be $2 \times 2 \times 350 \text{ gpd} = 1400 \text{ gpd}$ 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, "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,-digesters,-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

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 not appropriate for, and will grossly overestimate the "used and useful" percentage of, high-service pumps that are located before, or upstream from, finished water storage. The appropriate default formula for high-service pumps that are located before, or upstream from,

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.

Commissioner Susan F. Clark
Page Two
February 20, 1996

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

Sincerely,

Ginger

Virginia B. Wetherell
Secretary

VBW/mw/h

cc: Mimi Drew
Van Hoofnagle
Elsa Potts



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 520 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

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.

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 disapproved, 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.

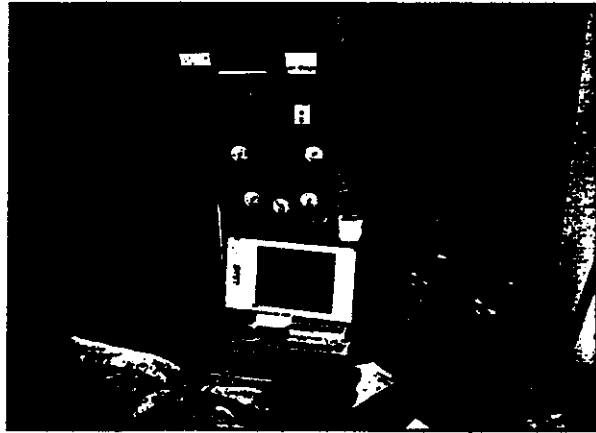
In the late 1980s, the system started to break down frequently under peak flow conditions. The city started an infiltration and inflow remediation program in 1991, following an agreement with the county. Extensive inspection of the system, mainly through smoke testing and televised line inspections, 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 respon-

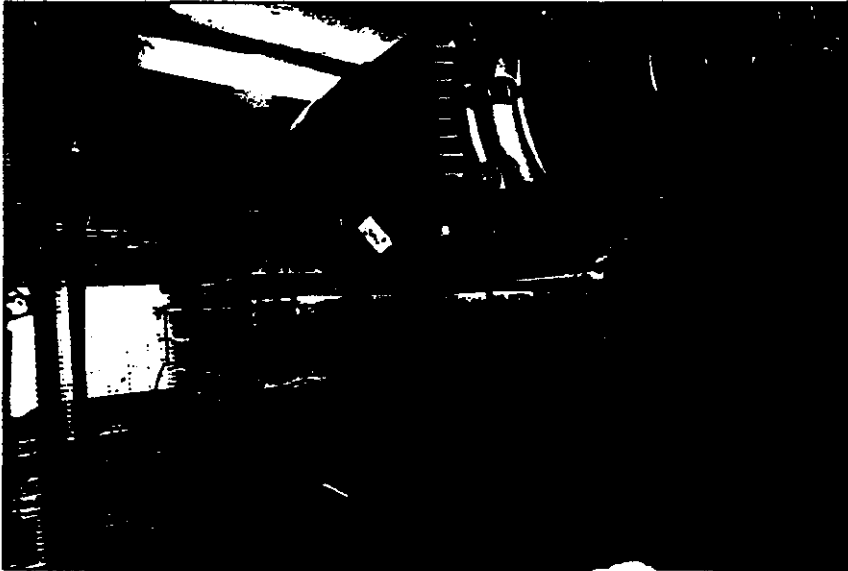


MIAMI: DAVID WALTERS & BERNER PHOTO

Clemente says EPA pushed reforms already under way.



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



Pump station improvements involve 874 units scattered throughout collection network.

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

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

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

ROCK POLEY

ROCK POLEY

ROCK POLEY

C

PERMITTING AND CONSTRUCTION OF PUBLIC WATER SYSTEMS

DEP 62-555.330(3)

12/94

PART III: CONSTRUCTION, OPERATION, AND MAINTENANCE

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

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

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

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

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

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

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

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

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

