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November 17, 1998

Blanca S. Bayo, Director
Division of Records & Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

VIA HAND DELIVERY

Re: Docket No. 950387-SU (Remand)
Application of Florida Cities Water Company - North Ft. Myers Division - for increased wastewater rates in Lee County.

Dear Ms. Bayo:

Enclosed on behalf of Florida Cities Water Company, for filing in the above docket, are an original and fifteen (15) copies of following:

1. Remand Rebuttal Testimony of Mike Acosta, along with exhibits (MA-5) through (MA-7); 12891-98
2. Remand Rebuttal Testimony of Harley W. Young; and 12890-98
3. our Certificate of Service.

Please acknowledge receipt of the foregoing by stamping the enclosed extra copy of this letter and returning same to my attention. Thank you for your assistance.

Sincerely,

B. Kenneth Gatlin

BKG/ldv
Enclosures

ACK
AFA 2
APP
CAF
CMU
CTR
EAG
LEG 1
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SEC 1
WAS Willis
OTH

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Application for a rate increase for North Ft. Myers Division in Lee County by Florida Cities Water Company - Lee County Division.	DOCKET NO. 950387-SU Filed: November 17, 1998

Certificate of Service

I HEREBY CERTIFY that a true and correct copy of Remand Rebuttal Testimonies and Exhibits of Michael Acosta and Rebuttal Testimony of Harley W. Young have been furnished by U.S. Mail (unless otherwise noted) this 17th day of November, 1998 to:

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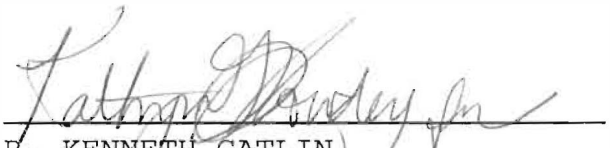

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TAL:19203:1

ORIGINAL

FLORIDA CITIES WATER COMPANY

REOPENING OF RECORD WATERWAY ESTATES

ADVANCED WASTEWATER TREATMENT PLANT

DOCKET NO. 950387 - SU

REBUTTAL TESTIMONY OF MICHAEL ACOSTA

Q. Please state your name and business address.

A. Michael Acosta, 4837 Swift Road, Suite 100, Sarasota, Florida 34231.

Q. Have you previously provided remand testimony in this Docket?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my testimony is to rebut certain aspects of the direct testimony of Kimberly H. Dismukes and Ted L. Biddy, appearing on behalf of the Office of Public Counsel, and Robert J. Crouch, appearing on behalf of Staff.

Q. On Page 3 Lines 9-19, Mr. Biddy states that average daily flow in the maximum month (ADFMM) and annual average daily flow (AADF) are not the same basis and as such he can not agree with the use of ADFMM in the numerator and AADF in the denominator of the used and useful formula because they do not match. Do you have any observations?

A. First, there is no requirement to "match" the numerator actual flows and denominator basis of design permitted flows. The Florida Public Service Commission (FPSC) has for years used ADFMM in the numerator and permitted capacity in the denominator without regard to

the basis of design in the calculation of used and useful for wastewater treatment plants. The alleged "mismatch," or as Mr. Biddy, Ms. Dismukes and Mr. Crouch repeatedly say, comparing apples and oranges, is not a mismatch at all. The use of ADFMM in the numerator and AADF in the denominator recognizes that peak flows occur and that plant must be in place to treat those flows when they arrive. On Page 6 lines 12-17 Mr. Biddy acknowledges that peak flows must be accounted for in the treatment plant design. However, he says for calculation of used and useful it should not be taken into account. This clearly would create a situation in which the utility would have to have plant available to treat the peak flows yet the peak flows would not be recognized for ratemaking purposes. It can not be both ways.

Q. On Page 5 Lines 9-15, Mr. Biddy seems to suggest that a plant whose capacity is 1.0 million gallons per day (mgd) with a basis of design of ADFMM is equal to a plant whose capacity is 0.8 mgd with a basis of design of AADF. Do you agree?

A. No. A plant with capacity based on AADF does not have a higher capacity than that plant would have if the basis of design were changed to ADFMM. The flows are generally related with ADFMM being higher than AADF, but there is not any change in capacity if the basis of design were changed. The design of this expansion at Waterway is such that the basis of design can be either AADF or ADFMM. Regardless of the basis of design, the capacity of the plant would be 1.25 mgd. I agree with the rebuttal testimony of Dr. Harley

Young, P.E., Section Manager supervising the permitting of domestic wastewater systems, collection systems, underground injection control and compliance and enforcement for the South District, Florida Department of Environmental Protection. Dr. Young was asked the question: "If a plant is permitted based on maximum month average daily flow, would it be permitted at a greater capacity than if it was permitted based on average annual daily flow?" Dr. Young answered: "No. The capacity is the capacity. The basis of design simply tells you that it's designed based on a peak seasonal flow."

Q. There seems to be confusion regarding when and if the basis of design for Waterway was available. Mr. Biddy at Page 6 Lines 18-20 and Page 7 Lines 1-9 states that the original plant's capacity was not clear and offers exhibit TLB-1 and TLB-2 as evidence of the such. On Page 6 Lines 1-21 and Page 7 Line 1, Ms. Dismukes implies that the information regarding the basis of design was not available and therefore the Commission could not "match" the numerator and denominator of the used and useful calculation. Mr. Crouch from Page 8 Line 5 through Page 11 Line 7, expounds on the alleged lack of knowledge of the basis of design and why it took Staff four years to recognize any change. Please clear up the confusion regarding this issue.

A. The argument that no one knew the basis of design of Waterway, simply put, is not valid. Mr. Biddy offers up exhibit TLB-2 as the "original permit application" that resulted in the permit of which exhibit TLB-1 is part. This is not correct. A simple check of the dates shows

this to be an impossiblity. Exhibit TLB-2 is a portion of the permit application submitted on June 23 1997 to operate Waterway's reuse system, the "Revised 6/97" imprint at the bottom right of the page shows that this form could not have been the permit application that resulted in the permit issued June 2, 1994 of which exhibit TLB-1 is part. Exhibit ___ (MA-5) is the permit application submitted September 1, 1993 which resulted in the permit issued June 2, 1994. A review of the permit application shows that in not less than four places the basis of design is designated as annual average daily flow. Mr. Crouch on Page 8 Lines 10-11 testifies that "the PSC staff had no way of knowing what the basis was; consequently staff selected the Maximum Month Average Daily Flow, or MMADF, as the flow to be used in the numerator." This permit application has been a public document since is was submitted and received by FDEP on September 2, 1993. The Commission staff, to my knowledge, made no attempt to find out what the basis of design was for this or any other plant nor in my opinion did they care what the basis was. The staff has traditionally used ADFMM in the numerator, and only changed its policy in response to this highly contested rate case of in which one of the issues was which flow to use as the numerator of the used and useful formula. A review of the permit application, Exhibit ___ (MA-6) submitted and received by FDEP on May 18, 1989 for the upgrade of Waterway to meet advanced treatment standards shows the "Flow characteristics as Average daily flow: 1.0 mgd, Peak flow: 3.0 mgd and Minimum flow: 0.50 mgd." The average daily flow is

indeed the basis of design of AADF. The basis of design has always been specified in engineering reports on the expansions or upgrades of plants. The claim that the information was not available is clearly unsubstantiated, baseless and being used as a smoke screen to change a long standing Commission policy.

Q. On Page 9 Lines 3-5, Mr. Biddy says that "sometimes the FDEP permit capacity is less than the design plant capacity due to limited effluent disposal capacity. Waterway Estate WWTP is an typical example of this limitation." Please comment.

A. Mr. Biddy is mistaken. The effluent disposal system at Waterway is not the limiting constraint on plant capacity. The plant components are properly sized to a 1.25 mgd plant. The components are not oversized. For example, the aeration system is designed only to the permitted capacity of the plant (1.25 mgd). Waterway can not treat additional flows without additional expansion.

Q. On Page 9 Lines 6-20 and Page 10 Lines 1-7, Mr. Biddy claims that utilities benefit from the "correct match" of plant flow to plant capacity calculation. Do you agree?

A. No. Mr. Biddy does point out that different plant components have different capacities based on peak hourly flows, etc.. That is correct. As an example the disinfection system is <u>required</u> to meet disinfection criteria during peak hourly flows. However, his analogy that the Commission could increase the plant capacity based on only hydraulic loading is baseless. Similar to a chain, which is only as strong as its weakest link, all plant components have to be evaluated with the most

limiting component, the one with the smallest capacity, limiting the capacity of the plant. FDEP would not allow the plant to be permitted at any higher capacity.

Q. On Page 4 Lines 15-18 and on Page 7 Lines 2- 25, Page 8 Lines 1-5, Ms. Dismukes and Mr. Crouch, respectively, express that the units of measurement must be consistent. Do you agree?

A. Yes. The item measured in this case is flow and flow is measured in volume per unit of time. Examples include gallons per day (gpd), million gallons per day, gallons per minute (gpm), etc. Any flow chosen, be it AADF, ADFMM or three-month average daily flow are expressed in the same units, i.e. gpd or mgd. Therefore, the claim that the (dimension) units do not match is incorrect. ADFMM, AADF, and three-month average daily flow express flow over certain time frames but they all express the same unit of measurement, i.e. gpd, mgd, gpm, etc.

Q. Mr. Crouch uses an example on Page 7 Lines 16 through 23, that he asserts shows the alleged mismatch of using expenses in the maximum month divided by average monthly revenue earned does not equal 400%. Do you agree.

A. No, in fact the units of both numbers are expressed in units of dollars and cancel when divided, providing a number with no units that when multiplied by 100 yields a percentage. The calculation shows that for a particular month the expenses were four times the revenue. Mr. Crouch both here and on Page 4 Lines 8-13 attempts to draw an analogy between expenses and revenues and the flows used in the

used and useful calculation. The analogy simply does not work. In the example used on Page 7, the additional expense can be covered using short term borrowing or some other source. In addition, those expenses can be paid over time and a grace period (as much as one month) usually applies when an invoice arrives. The very nature of the measurements would mean that in another month the expenses would be less than the revenue and the extra money could be saved. Obviously, the same flexibility is not available at a wastewater treatment plant when a peak flow arrives. You can not go borrow treatment plant capacity and there is certainly no grace period. Nor can you "save" or put capacity in the "bank". As an example, if the capacity of the plant is 1000 gpd and today only 900 gpd arrive at the plant, that does not translate into a capacity of 1100 gpd tomorrow, or any other day. Each day the capacity of the plant must be capable of treating whatever flow arrives at the plant on that day. If the flows are not treated when they arrive, either the tanks will overflow or effluent not meeting all water quality parameters will be discharged from the plant. Either scenario results in violations of permit conditions which can lead to enforcement actions. This analysis, while generic in nature, applies to Waterway and to all other wastewater treatment plants.

Q. On Page 8 Lines 4-6, Ms. Dismukes states that the use of annual average daily flow to calculate used and useful does not limit the Waterway's ability to meet peak demands, nor does it understate the used and usefulness of the plant. Do you agree?

A. I agree that the use of AADF does not limit Waterway's ability to meet peak demands. I strongly disagree that the use of AADF in the numerator of the used and useful formula does not understate the used and usefulness of the plant. The plant is in place and was designed appropriately to meet all FDEP standards. That includes the treatment of the inevitable peak flows when they arrive. FCWC has never argued that the plant could not treat peak flows. FCWC has argued that a plant designed to meet only AADF would not be capable of meeting peak flows. As stated earlier in this testimony (Page 2 Lines 22-24), in the case of Waterway the basis of design can be either AADF or ADFMM without affecting the plant capacity. The existing customers are the only source of wastewater flow for this plant. Peak flows are generated by these customers and as such they should be responsible for paying for the plant to treat those peak flows. The use of AADF in the numerator of the used and useful formula vastly understates the used and usefulness of this plant. The use of AADF does not recognize the peak flows for ratemaking purposes and requires the utility to build plant to handle peak flows, if it wants to stay in environmental compliance, that will not be recognized as used and useful even though the current customers are generating the peak flows.

Q. On Page 8 Line 20, Ms. Dismukes computes the used and useful percentages for ADFMM and AADF as 94% and 75%, respectively. Do you agree?

A. No, as contained in my direct testimony, Page 10 Line 20 and Page 10

Line 15 respectively, the percentages should be 79.94% say 80% and 98.61% say 100%.

Q. On Page 5 Lines 13-17, Mr. Crouch states: "In practice, the DEP permitted capacity, based on average flows, is generally lower than actual design capacity. Therefore, even when the Commission has determined a plant to be 100% used and useful based on permitted capacity, there is a built-in cushion to allow the wastewater treatment plant to handle peak flows." Please comment.

A. The statement by Mr. Crouch regarding permitted capacity being lower than actual design capacity has no basis in fact. It is not "practice" to have the permitted capacity of the plant be anything but the actual design capacity, regardless of the basis of design: AADF, AFDMM or three-month ADF. I am aware of no treatment plants where Mr. Crouch's contention is borne out. Mr. Crouch offers no examples of any such plants to support his statement. In regards to peak flows, there are usually designed into the plant factors associated with hydraulic and organic loadings that will enable the plant to meet water quality parameters under all flow scenarios including peak flows. These factors bear no relationship nor are they accounted for in the calculation of used and useful. As stated above, the plant is designed to meet the water quality parameters under all flow scenarios including peak flows. However, under Mr. Crouch's proposal, peak flows would not be recognized for ratemaking purposes. The capacity of the Waterway plant, both design and permitted, is 1.25 mgd.

Q. On Page 6 Lines 16-19, Mr. Crouch says that "a wastewater plant with

a surge (or equalization) tank has the ability to "save" peak flows or surges and treat those flows after the surge has passed. Surge (or equalization) tanks ease the peaks allowing the plant to be designed to meet an average daily flow." Please comment.

A. Flow equalization tanks of sufficient size, allow the plant to be operated in a more constant feed mode. This means that the flow going to the treatment trains can be maintained at a more constant rate which allows the units to be sized based on the smaller more constant feed flow. This point can not be over emphasized. The addition of a sufficiently sized flow equalization tank allows the treatment units downstream of the equalization tank to be sized for a narrower range of flows, making those components smaller. During the course of the day, the level in the equalization tank will rise and fall as the influent into the plant goes up and down. A flow equalization tank is designed to eliminate the diurnal flow pattern that occurs over the course of the day. While it does have some capability to trim the high end off of peak flows it is not designed to store peak flows over an extended period of time. In the case of Waterway, not only was the equalization tank already in place prior to the expansion of this plant, it is not sufficiently large, due to site constraints, to function as a completely true equalization tank. The pumps which move the influent from the equalization tank to the treatment trains are controlled by variable frequency drives which operate off a signal from the level contained within the equalization tank. The higher the level the faster, and thus the more influent is delivered to the treatment

trains, the pumps operate. Over an extended period of time, such as a month, the equalization tank is inconsequential in regards to removing peak flows. Even consecutive days of peak flows could eliminate the capability of the equalization tank to trim peak flows. Another issue related to equalization tank and storing of wastewater influent which Mr. Crouch does not address is the limitation on holding raw wastewater in an equalization tank. If held too long, the raw wastewater becomes septic which results in odors and upset the biological treatment process when it enter the treatment process train.

Q. On Page 11 Lines 13-25 and Page 12 Lines1-10, Mr. Crouch states that the result of using AADF is "the utility may not have to 'man' its plant with as many personnel as they might had they selected the MMADF" and that "the utility would enjoy the best of both worlds: It would not have to hire personnel to support a 'larger permitted plant' while at the same time, it would enjoy higher rates since a larger U&U percentage would result if the MMADF was divided bvy the AADF." Do you agree?

A. Mr. Crouch does not understand the staffing requirements contained in Rule 62-699.310-311, F.A.C. Exhibit ___ (MA-7) is a copy of Rule 62-699.310-311, F.A.C. which delineates the staffing requirements associated with both water and wastewater treatment plants. As is clearly shown by the rule, the basis of design has absolutely nothing to do with the staffing requirements. The staffing requirements are based on the type of treatment plant and the size of the plant. The basis of design, be it AADF, ADFMM, or three-month ADF, is not

mentioned in the entire Chapter. The staffing requirement for Waterway before the expansion was 16 hours per day, 7 days per week. The expansion from 1.0 mgd to 1.25 mgd did not change this requirement. In addition, if Mr. Crouch were correct, the "larger plant" that he says would benefit the utility would require more staffing, not less, as he would have you believe. The idea espoused by Mr. Crouch that somehow the utility benefits from the staffing increasing because of a "larger plant" and then not meeting the staffing requirement because of the basis of design is ridiculous. In fact, FCWC has reduced the plant expansion at other facilities below the threshold which would require additional staffing in order to save the customers that additional staffing expense. FCWC received no benefit from this reduced staffing level, only the customers did. Finally, the staffing requirements of any plant have absolutely nothing to do with peak flows or the calculation of used and useful.

Q. Please summarize why ADFMM should be used in the numerator of the used and useful calculation.

A. When flows on a monthly basis exceed AADF, sufficient plant must be in place and available to receive and treat those flows above AADF. The Commission's calculation using AADF in the numerator and denominator does not recognize, for ratemaking purposes, that additional necessary plant.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

For exhibits, see Hrng Exh. 43