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JACK SHREVE
PUBLIC COUNSEL

June 11, 2001

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

Re: Docket No. ~~991378-TL~~ 991437-WU

Dear Ms. Bayo:

Enclosed for filing in the above-referenced docket are the original and 15 copies of the Rebuttal Testimony of Ted L. Biddy. A diskette in Wordperfect format is also submitted.

Please indicate the time and date of receipt on the enclosed duplicate of this letter and return it to our office.

Sincerely,

Charles J. Beck
Deputy Public Counsel

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Application for increase in water rates in Orange County by Wedgefield Utilities, Inc.	)))	Docket No. 991437-WU Filed: June 11, 2001

REBUTTAL TESTIMONY

OF

TED L. BIDDY

On Behalf of the Citizens of the State of Florida

Jack Shreve
Public Counsel

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Attorney for the Citizens
of the State of Florida

REBUTTAL TESTIMONY

OF

TED L. BIDDY, P.E.,/P.L.S.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

ON BEHALF OF THE

CITIZENS OF THE STATE OF FLORIDA

DOCKET NO. 991437-WU

Q. ARE YOU THE SAME TED BIDDY WHO FILED DIRECT TESTIMONY IN THIS CASE ON MAY 14, 2001?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to rebut and comment on the Direct Testimony of PSC Staff witness Robert J. Crouch as to the appropriate methodology for determining used and useful percentages for the source of supply, water pumping, water treatment, and storage plant for the Wedgefield system. My testimony will also rebut the percentage calculated by Staff for the used and useful percentage of the water distribution system.

Q. WHAT IS THE BASIS OF YOUR REBUTTAL AND CHALLENGE OF MR. CROUCH'S PROPOSED METHODOLOGY FOR CALCULATING USED AND USEFUL PERCENTAGES FOR THE SOURCE OF SUPPLY, WATER PUMPING, WATER TREATMENT AND STORAGE PLANT

FOR THE WEDGEFIELD SYSTEM?

A. My rebuttal testimony and challenge of Mr. Crouch's methodology is based on the fact that his proposed methodology does not consider the required FDEP standards for sizing of the various components of the water plant.

Q. WOULD YOU PLEASE EXPLAIN YOUR MEANING IN RELATION TO EACH COMPONENT OF THE WATER PLANT?

A. Yes I will. As I stated in my direct testimony, the sizing of the supply wells and pumping, water treatment facilities and storage facilities must meet Florida Department of Environmental Protection (FDEP) regulations and criteria and any other proposed methodology that will not meet these requirements must be summarily dismissed.

Just as the Wedgefield Utility made up its own criteria for testing the used and useful percentages of the various water plant components, Mr. Crouch has proposed his own methodology which also does not consider FDEP sizing criteria. I will discuss each component separately as follows:

Mr. Crouch proposes developing a "firm reliable capacity" of the water treatment system as a whole which he defines as the well capacity with the largest well out of service plus storage capacity less dead storage. He then divides the maximum demand plus 5 years growth demand plus fire flow demand less excessive unaccounted for water by this "firm reliable capacity" to obtain the used and useful percentage by his methodology. This is totally erroneous and bears no relationship to the

FDEP methodology for testing the required sizing of water plant facilities. The FDEP criteria which uses a "firm reliable capacity" applies to the sizing of water supply wells and pumping only. The FDEP design guideline for sizing water supply wells under Chapter 62-500, F.A.C. sets forth Section 3.2.1.1 of *Ten States Standards* as the governing rule as follows:

> Section 3.2.1.1 of *Ten States Standards* states: "The total developed groundwater sources capacity shall equal or exceed the design maximum day demand **and** equal or exceed the design average day demand with the largest producing well out of service." (Firm Reliable Capacity)

As I stated in my direct testimony, it is clear from this rule that two comparisons are required, namely Total Maximum Day Demand to Total Capacity and the Average Day Demand to the Firm Reliable Capacity. To satisfy the rule, the larger percentage obtained by these two comparisons controls. Mr. Crouch's methodology would compare the maximum day demand plus five years growth plus fire flow less excessive unaccounted for water to his "firm reliable capacity" to obtain the U/U percentage for the entire plant. However, the *Ten State Standards* rule requires a comparison of this modified maximum day demand to the total well capacity. This rule then requires that the Average Day Flow (modified) be compared to the Firm Reliable Capacity. My calculations as contained in Exhibit TLB-8 of my direct testimony show that the used and useful percentage by the two alternatives required the *Ten States Standards* rule is either 44.78% by

the first comparison or 66.44% by the second comparison with the larger 66.44% controlling. Mr. Crouch calculated a U/U percentage of 76% by his methodology. His error is that he divides the maximum demand by his firm reliable capacity rather than dividing the average daily flow by the firm reliable capacity. His percentage obtained is therefore meaningless.

The FDEP criteria for sizing the treatment plant requires that the plant be sized for Maximum Day Flow (MDF) plus whatever other demands are on the system. Therefore, after modifying the MDF for fire flow, 5 years growth and excessive unaccounted for water, we obtain a true U/U percentage by dividing this modified demand by the plant's maximum capacity. As I explained in my direct testimony, the plant's maximum capacity is limited by the capacity of its two water softening units at 1,056,000 GPD. Dividing the modified MDF by the maximum plant capacity yields a true U/U percentage of 61.1% as shown in my Exhibit TLB-8 to my direct testimony. This value is 15% less than the value obtained by Mr. Crouch in his overall plant calculation. Mr. Crouch's overall plant methodology of U/U calculation does not consider the FDEP criteria for treatment plant sizing.

The sizing of storage facilities is regulated by FDEP through their rules requiring that the guidelines in AWWA Manual of Water Supply Practices - M32, Distribution Network Analysis for Water Utilities, and the guidelines in *Ten States Standards* both be followed. As I explained in my direct testimony, the requirement in AWWA M-32 for equalization storage of 20-25% and the requirement of *Ten States*

Standards for system storage are both met in the U/U formula which adds fire flow to one-half day ADF adjusted for growth and excessive unaccounted for water divided by Total Storage Capacity less dead storage. I obtained a U/U percentage of 67.25% by this calculation as shown in Exhibit TLB-8 as compared to Mr. Crouch's overall plant U/U percentage calculation of 76%. Mr Crouch's calculation did not consider the FDEP rule for storage sizing.

Q. WOULD YOU PLEASE COMMENT ON MR. CROUCH'S STATEMENT THAT TREATING EACH COMPONENT OF THE WATER PLANT SEPARATELY WOULD RESULT IN ABNORMALLY HIGH AND MISLEADING USED AND USEFUL PERCENTAGES?

A. Obviously this statement by Mr. Crouch is not true when one bases his Used and Useful calculation rationale upon the sizing requirements of FDEP. In all cases, my calculations of U/U percentages for the individual components were at least 10 percent lower than Mr. Crouch's overall plant methodology calculations.

Q. HOW DOES MR. CROUCH CALCULATE HIS "FIRM RELIABLE CAPACITY" OF THE OVERALL SYSTEM AND IS THERE INHERENT ERROR IN HIS CALCULATION METHODOLOGY?

A. Mr. Crouch uses a 12 hour flow from the smaller well, considering that the larger well is temporarily out of service for maintenance or repairs. To this half day well flow, he then adds the plant's storage capacity less an allowance for dead storage. He calls this total the overall

plant's "firm reliable capacity".

Assuming for the moment that such an overall plant "firm reliable capacity" is the correct methodology, Mr. Crouch's calculations would still have inherent error in that he only used 12 hours pumping for the smaller well rather than the full 24 hours per day available. The limiting of the smaller well pumping to one half day is not justified since the well can safely pump continuously for several days without interruption if necessary, and by definition, the larger well is only out of service temporarily for maintenance or repairs and will likely be back on line the next day. Mr. Crouch's stated concern for depleting the drawdown area around the smaller well is also not justified since the continuous pumping would only be temporary.

The net result of this inherent error of only considering a 12 hour flow from the smaller well is that the value of the overall plant's "firm reliable capacity" is greatly reduced and the U/U percentage of the overall plant would therefore be artificially increased.

Q. DO YOU HAVE ANY OTHER AREA OF DISAGREEMENT WITH MR. CROUCH'S TESTIMONY?

A. I have just a couple of additional points. Mr. Crouch adopts a fire flow of 500 GPM for a 4 hour duration, reportedly from the ISO manual. However, a careful reading of the ISO manual reveals a fire flow requirement of 750 GPM for a 2 hour duration for a residential community like Wedgefield. This difference in fire flow makes a slight difference in calculating demands and thus U/U percentages between myself and Mr. Crouch.

My final point is that the staff is in error in calculating the number of lots available in the distribution system. Staff calculated 1,323 lots while I made a very careful calculation using maps of the area and ownership reports that I obtained from the Orange County Property Appraiser's office in Orlando along with field inspections. I obtained 1535.5 available ERC's in the system which was in close agreement with the Utility's count. My Used and Useful calculation for the distribution system then became 66.4% as compared to Staff's calculation of 77% that they obtained using the erroneous 1,323 available ERC's connections in the system.

Q. HAS THE COMMISSION CONSIDERED THE USED AND USEFUL PERCENTAGES OF INDIVIDUAL COMPONENTS OF WATER TREATMENT PLANTS IN PRIOR RATE CASES?

A. Yes, in two cases I have been involved in, the individual component U/U percentages were used. These cases were the Palm Coast case and the very large Southern States Case (Docket No. 920199-WS), which included about 100 water systems.

Q. IN SUMMARY, DO YOU HAVE RECOMMENDATIONS TO THE PSC CONCERNING THE USED AND USEFUL PERCENTAGES IN THIS CASE?

A. Yes, I recommend to the commission that the Used and Useful percentages that are obtained by comparison to the FDEP requirements of sizing of individual treatment plant components are the true Used and Useful percentages for the components of this water plant and that the Used and Useful percentages as contained in Exhibit TLB-8 to my

direct testimony be used for this rate case.

DOCKET NO. 991437-WU
CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing has been furnished by U.S. Mail or hand-delivery to the following parties on this 11th day of June 2001.

Charles J. Beck

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