

Exhibit No.:
Issues: Warren County Tank, Warren
County Sewer Plant, Cedar Hill
Sewer Plant
Witness: Alan J. DeBoy
Exhibit Type: Rebuttal
Sponsoring Party: Missouri-American Water Company
Case No.: WR-2007-0216, SR-2007-0217
Date: July 13, 2007

MISSOURI PUBLIC SERVICE COMMISSION

**CASE NO. WR-2007-0216
SR-2007-0217**

REBUTTAL TESTIMONY

OF

ALAN J. DEBOY

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

MAWC Exhibit No. 5
Case No(s) WR-2007-0216
Date 8-14-07 Rptr PF

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

IN THE MATTER OF MISSOURI-AMERICAN)	
WATER COMPANY FOR AUTHORITY TO)	
FILE TARIFFS REFLECTING INCREASED)	CASE NO. WR-2007-0216
RATES FOR WATER AND SEWER)	CASE NO. SR-2007-0217
SERVICE)	

AFFIDAVIT OF ALAN J. DEBOY

Alan J. DeBoy, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony of Alan J. DeBoy"; that said testimony were prepared by him and/or under his direction and supervision; that if inquires were made as to the facts in said testimony, he would respond as therein set forth; and that the aforesaid testimony are true and correct to the best of his knowledge.



Alan J. DeBoy

State of Missouri
County of St. Louis
SUBSCRIBED and sworn to
Before me this 9th day of July 2007.



Notary Public

My commission expires:

Staci A. Otten
Notary Public • Notary Seal
State of Missouri
St. Charles County
Commission # 05519210
My Commission Expires: March 20, 2009

**REBUTTAL TESTIMONY
ALAN J. DEBOY
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WR-2007-0216**

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2

MISSOURI-AMERICAN WATER COMPANY

3

Case No. WR-2007-0216

4

Rebuttal Testimony of Alan J. DeBoy

5

6

BACKGROUND

7

Q. Please state your name.

8

A. Alan J. DeBoy.

9

Q. Are you the same Alan J. DeBoy who previously filed Direct Testimony on

10

behalf of Missouri-American Water Company ("Missouri-American")?

11

A. Yes.

12

Q. What is the purpose of your rebuttal testimony?

13

A. I will explain the capacity appropriateness of the Warren County Tank, Warren

14

County Wastewater treatment plant expansion and the Cedar Hill wastewater

15

treatment plant expansion.

16

Q. Have you reviewed the prefiled testimony of James A. Merciel, Jr.?

17

A. Yes, I have.

18

Warren County Tank

19

Q. What does Mr. Merciel recommend in regard to the Warren County Storage

20

Tank?

21

A. Mr. Merciel recommends that plant in service related to the Warren County Storage

22

Tank be reduced by 70%.

1 **Q. Why does he propose this adjustment to plant?**

2 A. Mr. Merciel alleges that the "plant expansions are quite massive in relation to
3 existing plant, and that the expansions are mostly intended to serve future
4 customers."

5 **Q. When and why was the Warren County Storage Tank constructed?**

6 A. The Warren County Storage Tank was constructed in 2006 with a capacity of
7 200,000 gallons. The elevated tank was constructed to address system pressure
8 issues and the available storage volume. The water elevation achievable in the
9 previously existing standpipe did not allow the system to be operated so that all
10 customers had a minimum of 20 pounds per square inch (psi) pressure available. The
11 new elevated tank increased the water storage elevation so that adequate pressure can
12 be maintained under normal operating conditions. The 32,000 gallon standpipe did
13 not provide an adequate storage volume. Furthermore, a U.S. EPA Administrative
14 Order on Consent, Docket Number CWA-07-2004-0299 included a requirement to
15 replace the existing storage structure. Also, testimony in Case No WM-2004-0122,
16 which approved Missouri American's acquisition of the Warren County system,
17 made it clear that replacement of the then existing storage structure was necessary in
18 order to provide safe and adequate service.

19 **Q. How was the capacity of the tank determined?**

20 A. The 200,000 gallon replacement tank capacity was established using standard
21 American Water design criteria. Equalization and fire flow is considered in
22 determining the needed water storage capacity.

1 **Q. How is the equalization factor derived and what was the factor used in this**
2 **case?**

3 **A. The equalization factor is derived by looking at diurnal system demand curves during**
4 **high demand periods. The concept is to level out the water production rate by**
5 **storing water during lower demand segments in a 24 hour period and drawing water**
6 **from storage during higher demand segments during the same 24 hour period. The**
7 **20% equalization factor is typical of small residential systems like Warren County.**

8 **Q. Please explain the capacity calculation that was used in this case.**

9 **A. In this case, equalization was determined to be 52,000 gallons based on applying a**
10 **20% storage factor to the maximum day demand of 262,000 gallons. The fire flow**
11 **requirement was determined to be 135,000 gallons based on 750 gallons per minute**
12 **for 3 hours. The sum of these two factors is 187,000 gallons. The standard elevated**
13 **tank capacity that fits this need is 200,000 gallons.**

14 **Q. Did Mr. Merciel consider fire flow requirements in his assessment of the tank**
15 **capacity?**

16 **A. He did not. He used average day demand for making his assessment.**

17 **Q. Is it appropriate for fire flows to be considered in determining Warren County**
18 **storage capacity?**

19 **A. Yes. Fire protection is provided to the Warren County customers.**

20 **Q. Is the Warren County Standpipe that existed before the construction of the new**
21 **elevated tank in service?**

22 **A. No. It was removed from service once the new tank became operational.**

1 Q. Do you believe that the new tank is necessary to meet the existing needs of the
2 Warren County water customers?

3 A. Yes.

4 **Warren County Sewer Treatment Facilities**

5 Q. What does Mr. Merciel recommend in regard to the Warren County Sewer
6 Treatment Facilities?

7 A. Mr. Merciel recommends that the investment in plant in service related to the Warren
8 County sewer treatment facilities be reduced by 60%.

9 Q. Please describe the Warren County sewer facility construction that is at issue?

10 A. The Warren County system has traditionally consisted of two treatment sites.
11 MAWC increased capacity at each of the two treatment sites to 80,000 gallons per
12 day (gpd). This was accomplished by constructing a packaged activated sludge,
13 extended aeration plant, equalization tank, supervisory control and data acquisition
14 (SCADA) and UV system.

15 Q. What is Mr. Merciel's basis for his proposed adjustment?

16 A. Mr. Merciel indicates his belief that only 40% of the facilities represent capacity that
17 is necessary for existing customers

18 Q. Do you agree with Mr. Merciel's assessment?

19 A. No. It is not practical to build wastewater treatment facilities without considering
20 future growth. First, process equipment is manufactured in incremental capacities
21 that would not match up with existing customer loads. Secondly, customers would

1 pay more if small, incremental plant expansions were completed too frequently.
2 Economies of scale, contractor remobilization and unnecessary repetition of non-
3 construction (design, bidding and construction administration) activities would result
4 in higher costs to the customer. A developer has expressed interest in receiving
5 service and is awaiting an agreement from the Company to expand the collection
6 system. If the Company is provided a certificate of convenience and necessity for
7 this new area, the proposed development would utilize approximately all of the
8 available capacity at the Plant #2 site. This would be about half of the overall
9 expanded treatment capacity.

10 **Q. Do you believe that the sewer plant expansion was necessary to meet the existing**
11 **needs of the Warren County water customers?**

12 **A. Yes.**

13 **Q. Would it have been reasonable to construct a smaller expansion?**

14 **A. No.**

15 **Q. Was this project competitively bid?**

16 **A. Yes.**

17 **Cedar Hill Sand Creek Expansion**

18 **Q. What does Mr. Merciel recommend in regard to the Cedar Hill Sand Creek**
19 **plant expansion?**

20 **A. Mr. Merciel recommends that the entire cost of the Sand Creek expansion be**
21 **removed from plant in service.**

1 **Q. Why does Mr. Merciel make this recommendation?**

2 A. He believes the plant is "necessary only for future customers."

3 **Q. Do you agree with Mr. Merciel's recommendation?**

4 A. No. The Sand Creek Plant was expanded to satisfy a commitment to serve a new
5 development. The Sand Creek Plant is in a position to provide service to this new
6 development. The new development has been cleared and the developer is marketing
7 lots to home builders. Construction of the plant expansion occurred after an
8 agreement with the developer was executed. As mentioned in my testimony above
9 regarding the Warren County Plant expansion, it is appropriate to consider future
10 growth when building additional wastewater treatment capacity.

11 **Q. How does the Company determine future growth potential that the treatment**
12 **facility will likely need to accommodate?**

13 A. The Company considered a 10 to 15 year planning horizon when determining the
14 expanded plant expansion. Historical growth trends and knowledge of potential
15 growth from discussions with developers and local planning agencies form a basis
16 for projected future needs. Forecasting future growth is in the best interest of the
17 customers because it helps manage the overall cost of service.

18 **Q. Was this project competitively bid?**

19 A. Yes.

20 **Q. Does this conclude your testimony?**

21 A. Yes.