

Exhibit No.:
Issues: Weather Normalization
Witness: Edward L. Spitznagel, Jr
Exhibit Type: Surrebuttal Testimony
Sponsoring Party: Missouri-American Water
Company

Case No.: WR-2003-0500
Date Filed: December 5, 2003

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-2003-0500

FILED³

JAN 23 2004

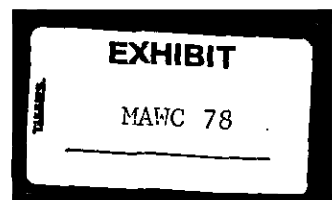
**SURREBUTTAL TESTIMONY
OF
EDWARD L. SPITZNAGEL, JR.**

**Missouri Public
Service Commission**

**ON BEHALF OF
MISSOURI-AMERICAN WATER COMPANY**

JEFFERSON CITY, MISSOURI

Exhibit No. 78
Case No(s). WR-2003-0500
Date 12/16/03 Rptr SLM



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 RATES)
FOR WATER SERVICE)

CASE NO. WR-2003-0500

AFFIDAVIT OF EDWARD L. SPITZNAGEL, JR.

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

Edward L. Spitznagel, Jr.

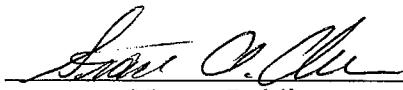
Edward L. Spitznagel, Jr.

State of Missouri

County of St. Louis

SUBSCRIBED and sworn to

before me this 4th day of December 2003.


Notary Public

My commission expires:

STACI A. OLSEN
Notary Public - Notary Seal
STATE OF MISSOURI
St. Charles County
My Commission Expires: Mar. 20, 2005

SURREBUTTAL TESTIMONY
EDWARD L. SPITZNAGEL, JR.
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WR-2003-0500

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WITNESS INTRODUCTION

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND EMPLOYER.

A. My name is Edward L. Spitznagel, Jr., and my business address is Campus Box 1146, One Brookings Drive, St Louis, Missouri 63130. I am employed by Washington University.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A. Yes, I have submitted direct and rebuttal testimony in this proceeding.

METHOD OF WEATHER NORMALIZATION

Q. WHY DOES MR. PATTERSON DISAGREE WITH YOUR METHOD OF WEATHER NORMALIZATION?

A. He asserts that the Palmer Drought Severity Index is inappropriate for predicting water utilization because it is a measure of "prolonged" conditions and was not designed for that purpose.

Q. HAS MR. PATTERSON TRIED COMPARING HIS APPROACH WITH YOUR APPROACH?

A. His testimony does not indicate he has done so.

Q. DID YOU COMPARE THE TWO APPROACHES?

A. Yes, as indicated in my original testimony, in developing weather normalization methods for Kentucky American Water Company, I was supplied with extensive data

1 from fourteen water companies in five similar-climate states, including Missouri. I
2 screened a large number of predictors, including Mr. Patterson's own available soil
3 moisture method. The Palmer Drought Severity Index worked much better as a
4 predictor than Mr. Patterson's index.

5
6 **Q. IS THERE ANY OTHER DIFFERENCE BETWEEN YOUR APPROACH AND**
7 **MR. PATTERSON'S APPROACH?**

8
9 A. Yes, he normalizes on a yearly basis, whereas I normalize one month at a time and then
10 convert to annual utilization. I developed the monthly approach after finding that
11 temperature and available moisture did not fully account for the variation in
12 consumption. Month of the year was still a powerful predictor even after accounting for
13 weather.

14
15 I would encourage Staff to compare the two methods for themselves to see which one
16 performs better.

17
18 **Q. MR. PATTERSON SPOKE OF YOUR USING AN INDEX CALLED THE CMI.**
19 **DID YOU IN FACT USE THAT INDEX?**

20
21 A. No, I used his algorithm for computing the available soil moisture.

22
23 **Q. ARE YOU RECOMMENDING THAT STAFF SHOULD USE YOUR METHOD**
24 **IN THIS CASE?**

25
26 A. No, after comparison of Staff's and my results, I have concluded that the differences are
27 not large enough to be of importance, with the exception of St. Louis County Quarterly
28 Residential consumption. In making that estimate, Mr. Patterson made a serious
29 mistake, as detailed in my rebuttal testimony. If that error is corrected as indicated in
30 my rebuttal testimony, I consider the estimates from Staff to be reasonable for use in
31 this rate case with the exception as noted.

1 **Q: DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

2

3 **A: Yes, it does.**

4

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