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Issue(s): General Information
Witness: David C. Roos
Sponsoring Party: MoPSC Staff
Type of Exhibit: Surrebuttal Testimony
Case No.: WA-2019-0185
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MISSOURI PUBLIC SERVICE COMMISSION

COMMISSION STAFF DIVISION

WATER AND SEWER

SURREBUTTAL TESTIMONY

OF

DAVID C. ROOS

OSAGE UTILITY OPERATING CO., INC.

CASE NO. WA-2019-0185

Staff Exhibit No. 104
Date 9-17-19 Reporter Bjt
Jefferson City, Missouri File No. WA-2019-0185
September 2019

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David C. Roos

1 Osage Utility Operating Company (“OUOC”) witness Todd Thomas in Direct Testimony
2 and opposed by Public Water Supply District No. 5 of Camden County, Missouri
3 (“PWSD5”) witness David Krehbiel in Rebuttal Testimony, and to advise the Commission that
4 a decision on future system improvements is not required in this case.

5 Q. Do the parties agree on the amount of storage capacity needed for the Cedar
6 Glen potable water system?

7 A. No. Staff, OUOC and PWSD5 agree that the Cedar Glen community has 216
8 water connections, or “customers.” However, OUOC witness Todd Thomas and PWSD5
9 witness David Krehbiel disagree on the estimated number of people served, the individual
10 demand for water, and the required storage capacity of the potable water system. Staff did
11 not file testimony concerning the storage capacity requirements for Cedar Glen’s potable
12 water system.

13 Q. Is the Commission required to determine the number of people served, an
14 individual’s demand for water and the storage capacity required for Cedar Glen’s potable
15 water system?

16 A. No. Both parties have stated that they would make changes to Cedar Glen’s
17 potable water system to increase capacity and reliability. In order to make these changes, either
18 party would be required to apply for and receive a Construction Permit from the Missouri
19 Department of Natural Resources (“DNR”). In its review, DNR uses a prescribed method for
20 determining the minimum capacity overall and that method dictates how the number of people
21 and an individual’s demand for water is determined. Therefore, it is DNR requirements that
22 will determine the capacity requirement for the system.

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1 Q. OUOC witness Todd Thomas proposes adding a moving bed bioreactor
2 (“MBBR”) to the Cedar Glen wastewater treatment system to consistently meet permit limits
3 for ammonia. PWSD5 witness Mr. Krehbiel has expressed the opinion that an MBBR is not
4 needed, and that the current system is capable of meeting permit limits. What is an MBBR?

5 A. The purpose of an MBBR is to remove pollutants, primarily ammonia, from
6 wastewater. A typical MBBR system consists of an aeration tank filled with carriers that
7 provide surface area where a biomass can grow. The MBBR aeration system provides both
8 aeration and mixing of the influent wastewater with the biomass on the carriers. The biomass
9 consists of bacteria which utilize the pollutants in wastewater as a food source, similar to other
10 methods of wastewater treatment. A sieve on the outlet of the aeration tank separates the
11 carriers from the effluent and prevents the carriers from escaping the aeration tank.

12 The MBBR has been used at some systems regulated by the PSC as a secondary
13 treatment step to increase the capacity of an existing wastewater treatment system and/or to
14 treat the wastewater to more stringent effluent standards. The degree of filling the aeration tank
15 with carriers can be readjusted to adapt to changing site conditions. Thus, an existing MBBR
16 system can remove more pollutants from a waste stream at a higher wastewater flow rate than
17 originally intended by adding carriers to the aeration tank without increasing the footprint of
18 the system.

19 Q. Does Staff have a position as to whether an MBBR should be added to the Cedar
20 Glen wastewater treatment system?

21 A. No. Staff has no position on this matter at this time.

22 Q. Is the Commission required to make the determination of the need for an MBBR
23 at the Cedar Glen wastewater treatment plant in this case?

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1 A. No. The determination as to what are the appropriate improvements for a
2 wastewater system are made by the owner(s) of the utility. Whether or not the utility may
3 recover the costs of those improvements is a decision that would be made by the Commission
4 in a subsequent rate case. As Staff noted on page 8 of Staff's *Recommendation of Approval of*
5 *Application* "the MBBR that OUOC proposes for additional treatment would primarily be
6 used for additional ammonia removal. This proposal is inconsistent with statements made
7 by the current operators of the system, Lake of the Ozarks Water and Sewer, in a July 8, 2018
8 letter that the system meets effluent limitations without further upgrades. Staff understands
9 that OUOC's proposal is preliminary, but further details and justification will be necessary if
10 OUOC seeks inclusion of an MBBR in rates during the next rate case."

11 Q. Can a party to this case become a party in a subsequent rate case where the
12 recovery of system improvement costs are an issue?

13 A. Yes. Any party representing the public in this case can request to intervene in a
14 subsequent rate case. If granted intervention, the party is free to challenge the prudence of any
15 upgrades made to the system.

16 Q. Does this conclude your Surrebuttal Testimony?

17 A. Yes.

David C. Roos

Present Position: I am a Utility Engineering Specialist III in the Water and Sewer Department, Commission Staff Division for the Missouri Public Service Commission, and formerly a Regulatory Economist III in the Energy Resources Department, Commission Staff Division for the Missouri Public Service Commission. I transferred to the position of Utility Engineering Specialist III in the Water and Sewer Department in August 2017.

Educational Background and Work Experience:

In May 1983, I graduated from the University of Notre Dame, Notre Dame, Indiana, with a Bachelor of Science Degree in Chemical Engineering. I also graduated from the University of Missouri in December 2005, with a Master of Arts in Economics. I have been employed at the Missouri Public Service Commission as a Regulatory Economist III from March 2006 through July 2017. Since August 2017, I have been employed at the Missouri Public Service Commission as a Utility Engineering Specialist III. I began my employment with the Commission in the Economics Analysis section where my responsibilities included class cost of service and rate design. In 2008, I moved to the Energy Resource Analysis section where my testimony and responsibility topics include energy efficiency, resource analysis, and fuel adjustment clauses. In 2017, I transferred to the Water and Sewer Department as a Utility Engineering Specialist III. My responsibilities include performing system inspections for rate and acquisition cases and performing special investigations related to the various regulatory requirements that affect Missouri's investor-owned water and sewer utilities and their customers.

Prior to joining the Public Service Commission, I taught introductory economics and conducted research as a graduate teaching assistant and graduate research assistant at the University of Missouri. Prior to the University of Missouri, I was employed by several private firms where I provided consulting, design, and construction oversight of environmental projects for private and public sector clients.

Previous Cases

<u>Company</u>	<u>Case No.</u>
Empire District Electric Company	ER-2006-0315
AmerenUE	ER-2007-0002
Aquila Inc.	ER-2007-0004
Kansas City Power and Light Company	ER-2007-0291
AmerenUE	EO-2007-0409
Empire District Electric Company	ER-2008-0093
Kansas City Power and Light Company	ER-2008-0034
Greater Missouri Operations	HR-2008-0340
Greater Missouri Operations	ER-2009-0091
Greater Missouri Operations	EO-2009-0115
Greater Missouri Operations	EE-2009-0237
Greater Missouri Operations	EO-2009-0431
Empire District Electric Company	ER-2010-0105
Greater Missouri Operations	EO-2010-0002
AmerenUE	ER-2010-0036
AmerenUE	ER-2010-0044
Empire District Electric Company	EO-2010-0084
Empire District Electric Company	ER-2010-0105
AmerenUE	ER-2010-0165
Greater Missouri Operations	EO-2010-0167
AmerenUE	EO-2010-0255
Greater Missouri Operations (Aquila)	EO-2008-0216
Ameren Missouri	ER-2011-0028
Empire District Electric Company	EO-2011-0066
Empire District Electric Company	EO-2011-0285
Ameren Missouri	EO-2012-0074
Greater Missouri Operations	EO-2012-0009
Ameren Missouri	EO-2012-0142
Ameren Missouri	ER-2012-0166
Greater Missouri Operations	EO-2013-0325
Ameren Missouri	EO-2013-0407
Empire District Electric Company	EO-2014-0057
Greater Missouri Operations	EO-2014-0256
Empire District Electric Company	ER-2014-0351
Greater Missouri Operations	EO-2015-0252
Kansas City Power and Light Company	EO-2015-0254
Empire District Electric Company	ER-2015-0214
Greater Missouri Operations	EO-2016-0053
Empire District Electric Company	ER-2016-0023
KCP&L Greater Missouri Operations Company	ER-2016-0156
KCPL	ER-2016-0285
Empire District Electric Company	EO-2017-0065
Greater Missouri Operations	EO-2017-0231

cont'd David C. Roos

Liberty Utilities LLC
Confluence Rivers Utility Operating Co., Inc.

WR-2018-0170
WM-2018-0116