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Issue(s): O&M Expense/Depreciation

Reserve/Customer Notice

Witness/Type of Exhibit: Robinett/Direct Sponsoring Party: Public Counsel Case No.: WR-2023-0344

# **DIRECT TESTIMONY**

**OF** 

# JOHN A. ROBINETT

Submitted on Behalf of the Office of the Public Counsel

# **RAYTOWN WATER COMPANY**

CASE NO. WR-2023-0344

October 10, 2023

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#### **DIRECT TESTIMONY**

#### **OF**

## JOHN A. ROBINETT

#### THE RAYTOWN WATER COMPANY

#### **CASE No. WR-2023-0344**

1	Q.	What is your name and what is your business address?
2	A.	John A. Robinett, PO Box 2230, Jefferson City, Missouri 65102.
3	Q.	By whom are you employed and in what capacity?
4	A.	I am employed by the Missouri Office of the Public Counsel ("OPC") as a Utility Engineering
5		Specialist.
6	Q.	Have you previously provided testimony before the Missouri Public Service
7		Commission?
8	A.	Yes. Both as a former member of the Missouri Public Service Commission Staff ("Staff")
9		and on behalf of the OPC.
10	Q.	What is your work and educational background?
11	A.	A copy of my work and educational experience is attached to this testimony as Schedule
12		JAR-D-1.
13	Q.	What is the purpose of your direct testimony?
14	A.	In this testimony I will discuss the general rate increase request Raytown Water Company
15		made ("Raytown" or "Company") and the rate increase amount in Staff and Raytown's
16		current disposition agreement ("Agreement"). Secondly, I will address my concerns related
17		to the water loss amount in Staff's recommendation and its relationship to the Agreement's
18		operation and maintenance ("O&M") expense for water mains. I will then discuss issues I
19		have with the how Staff and Raytown have dealt with accumulated depreciation reserves.

Finally, I will discuss Staff and Raytown's treatment of certain accounts, which fully depreciated before the end of Staff's test year and update period. Specifically, I will discuss the over-accrued accounts since Raytown will still be collecting depreciation for those accounts until the Commission's order becomes effective from this rate proceeding.

# **Terminology and Definitions**

- Q. Is there terminology that needs to be defined in order for the Commission to better understand your ultimate recommendations?
- A. Yes. For this testimony, the following depreciation terms need to be defined: cost of removal, depreciation, final retirement, gross salvage, interim retirements, interim salvage, net salvage, retirement.
- Q. From where are you drawing your definitions?
- A. I will be citing two different sources. The first is the Public Utility Depreciation Practices published by the National Association of Regulatory Utility Commissioners ("NARUC") in August of 1996. The glossary begins at page 313 and continues through page 327. The other reference book was published by the Edison Electric Institute ("EEI") and the American Gas Association ("AGA") in April of 2013 and is titled Introduction to Depreciation for Public Utilities and Other Industries. Its glossary of terms begins at page 165.

## Q. How does NARUC define depreciation?

A. Depreciation is the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes that are known to be in current operation, against which the company is not protected by insurance, and the effect of which can be forecast with reasonable

accuracy. Among the causes to be considered are wear and tear, decay, action of the 1 2 elements, inadequacy, obsolescence, changes in the art, changes in demand, and the 3 requirement of public authorities. How does NARUC define a final retirement? 4 Q. 5 A final retirement is the retirement of a major structure unit in its entirety, or a very large A. part of it, as opposed to interim retirements. 6 7 Q. How does NARUC define gross salvage? Gross salvage is the amount recorded for the property retired due to the sale, 8 A. 9 reimbursement, or reuse of the property. Q. How does NARUC define an interim retirement? 10 An interim retirement is the retirement of component parts of a major structure prior to the A. 11 complete removal of the retirement unit from service. 12 Q. How does NARUC define interim salvage? 13 Interim salvage is the salvage received from the disposition of plant as a result of interim A. 14 retirements. 15 Q. How does NARUC define net salvage? 16 17 Net salvage is the gross salvage for the retired property less its cost of removal. A. Q. **How does NARUC define a retirement?** 18 A retirement is the sale, abandonment, destruction, or withdrawal of assets from service. 19 A. Q. How does the EEI and AGA resource define cost of removal? 20 A. Cost of removal is the costs to demolish, dismantle, tear down, or otherwise remove plant 21 from service, including the cost of handling and transportation. Cost of removal is also

used interchangeably with cost of retirement for assets that are retired in place, such as a 1 2 gas pipeline. Q. How does the EEI and AGA resource define an interim retirement? 3 4 A. The EEI and AGA book defines interim retirements as the retirement of individual assets occurring prior to the retirement of the overall property group. 5 Q. How does the EEI and AGA resource define net salvage? 6 7 A. Net salvage is defined as the difference between the value of salvage and cost of removal resulting from the removal, abandonment, or other disposition of plant. Positive net salvage 8 results when salvage values exceeds removal costs. Negative net salvage results when 9 removal costs exceed the salvage value. Positive net salvage decreases the cost to be 10 recovered through depreciation expense and negative net salvage increases it. 11 How does the EEI and AGA resource define a retirement unit? 12 Q. A retirement unit is the smallest unit of plant for which addition and retirement records are 13 A. maintained as defined by utility process and procedures manuals. 14 **Change in the Rate Increase Request** 15 Q. When did The Raytown Water Company ("Raytown") file this case? 16 Raytown filed a letter requesting a permanent increase in current water rates under the 17 A. Missouri Public Service Commission's small water rate increase procedure on March 30, 18 2023. 19 20 Q. When filing this case, how much did Raytown seek to increase current operating revenue by? 21 Raytown originally sought an operating revenue increase of \$735,102.73, or approximately 22 A. 14.20%.

- Q. How much has Raytown and Staff of the Commission agreed to in their disposition agreement?
- A. Staff and Raytown filed a Non-Unanimous Stipulation and Agreement that would increase Raytown's annual revenue requirement by \$1,174,782, or approximately 27.26%.
- Q. Are Raytown's customers aware of how high the rate increase is currently?
- A. No. The Commission held a local public hearing before Staff's 90 day preliminary audit had been completed and only Raytown's initial requested values of an approximately 14.2% were available. The current agreed-to amount is now at over a 27% increase to customers. To put this in a different light, the current agreement is 159.95% of the original ask for Raytown.
- Q. How do you recommend notifying customers of the increase?
- A. The Commission at the very least should require Raytown to send a bill insert notifying customers of the agreed-to larger increase between Staff and Raytown, and give customers an updated bill impact. The Commission should also consider giving customers another local public hearing now that more is known about what the actual rate impact will be on each household versus when the prior local public hearing was held. The Commission should give rate payers additional notice and opportunity to comment since the 27% rate increase proposed and agreed to by Staff and Raytown is nowhere close to the 14% customers were informed of and asked to comment on.

## Water Loss/ Purchased Water / Operation and Maintenance Expense for Mains

- Q. What issues are you addressing in this section?
- A. In this section, I will discuss my concerns regarding the interplay between water loss data and the increase in O&M for mains. I will also discuss my concerns around the discrepancy

in the Company's purchased water versus sold water amounts, and the implications that may have for the future.

#### Q. Why are you addressing all three topics in this section?

A. I believe these topics are interdependent, thus the rationale for how each issue functions should also be connected. For example, if water loss was high, one would expect O&M expense to be high, as well, as Raytown should be repairing its system to address the loss of water.

#### Q. How has Staff calculated Raytown's water loss for this case?

A. Staff came to the conclusion that it would not be able to perform a reliable water loss average in this case due to discovering that Raytown has sold more water than it has purchased for fourteen separate months in the time frame November of 2020 through March of 2023. Therefore, Staff used the 12.04% water loss percentage from WR-2020-0264 in this case. I have issued a data request to Staff seeking the work papers supporting this water loss percentage amount. The work paper that I had access to, from the 2020 case, had a different 3-year average. At the time of this testimony I am still awaiting a response.

#### Q. Where is the water loss issue addressed by Staff in the disposition and agreement?

A. Not where you would expect it to be. The Water, Sewer, & Steam Department Field Operations and Tariff Review report<sup>1</sup> has zero discussion of water loss, excessive system leaks, or the fourteen months where Raytown sold more water than it purchased. Instead, the discussion of Water Loss comes from the Purchased Water Section of Auditing Department Report<sup>2</sup> in the Agreement. I have issued a data request to Staff requesting an

<sup>2</sup> Attachment B

<sup>&</sup>lt;sup>1</sup> Attachment J

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explanation of why the Auditing Department report mentioned the water loss, but not the Water, Sewer, & Steam Department report. However, I have not received a response at the time of this testimony.

#### Q. How is water loss calculated for Raytown?

- A. Water loss is calculated as a percentage of the difference in water purchased and water sold divided by the total gallons bought.
- Q. Have you reviewed water loss data provided by Staff as part of their work papers in this case?
- A. Yes. In addition, I have gone back to both the 2015 and 2020 rate cases to get a historical view of what has happened with Raytown's water loss over time. Below is a table that contains the water loss values from the 2015, 2020, and 2023 rate cases.

work pape	rs WR-2015-0264				
	<b>Gallons purchased</b>	Gallons sold	Loss Factor	% Loss	
2009	424,215,484	409,062,700	15,152,784	3.57%	
2010	434,197,544	404,723,500	29,474,044	6.79%	
2011	441,164,416	384,003,472	57,160,944	12.96%	
2012	522,747,280	421,524,840	101,222,440	19.36%	
2013	410,312,408	381,695,600	28,616,808	6.97%	
2014	464,466,860	447,396,000	17,070,860	3.68%	
work pape	rs WR-2020-0264				
	<b>Gallons purchased</b>	Gallons sold	Loss Factor	% Loss	Data obtained from DR 7
2014	393,417,867	378,281,800	15,136,067	3.85%	
2015	428,441,684	373,381,300	55,060,384	12.85%	
2016	429,493,372	383,107,700	46,385,672	10.80%	
2017	394,310,444	378,916,600	15,393,844	3.90%	
2018	444,218,711	364,247,900	79,970,811	18.00%	
2019	467,929,706	346,845,488	121,084,218	25.88%	
3 yr avg	435,486,287	363,336,663	72,149,624	15.93%	
work pape	rs WR-2023-0344				
2018	444,218,711	364,247,900	79,970,811	18.00%	Data obtained from WR-2020-0264 Staff Purchased Water WP
2019	467,929,716	346,845,488	121,084,228	25.88%	Data obtained from WR-2020-0264 Staff Purchased Water WP
2020	413,046,535	352,841,100	60,205,435	14.58%	WR-2023-0344 DR 7
2021	343,445,694	338,093,900	5,351,794	1.56%	WR-2023-0344 DR 7
2022	338,156,783	336,135,700	2,021,083	0.60%	WR-2023-0344 DR 7
3 yr avg	364,883,004	342,356,900	22,526,104	5.58%	

What concerns do you have related to water loss in this case? 1 Q. 2 This water loss data is the lowest amount of loss reported since 2009. While low water loss A. 3 is usually a good thing, the low value of water loss here is coupled with a 232% increase 4 in O&M expense for mains since the 2020 case. 5 Q. What value was included in the 2020 rate case for Account 673 transmission and distribution mains O&M expense? 6 7 A. The value from the unanimous Stipulation and agreement from 2020 rate case contained \$211,279 of annual expense for account 673. 8 Q. 9 How does the 2020 expense for Account 673 compare to the agreed to expense by Staff and Raytown in this case? 10 A. Staff and Raytown have agreed to \$490,641 in annual expense for Account 673. This is an 11 increase of \$279,362 in annual expense for maintenance of transmission and distribution 12 mains. The expense page with information and values from the 2020 and this rate case 13 are attached as schedule JAR-D-2 14 15 Q. Why is a low water loss value coupled with a large increase in mains' O&M expense concerning? 16 To be frank, I expect a direct correlation between water loss and maintenance expense. 17 A. 18 With a large amount of water loss, one expects a large value of maintenance expense—tied to fixing the issues causing that water loss. Therefore, as an inverse, if there is next to zero 19 water loss, one would expect very little O&M expense. 20 Q. Is there anything else related to this issue that is causing you concerns? 21 Yes. Staff's Auditing Department Report highlights another issue that draws concern. A. 22 Staff, in its report, states that the Company has sold more water than it has purchased in 23

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fourteen months since the last rate proceeding. The question becomes: Is Raytown using more water than Kansas City has been billing them? If so, the City of Kansas City ("City") may request that Raytown pay for the large amount of water for which the City under billed.

#### Q. What is your recommendation on this issue?

The Commission should not grant the \$279,362 increase in O&M expense related to mains from what was approved in the 2020 rate case until Staff and the Company have a better understanding of Raytown's system. Specifically, what is happening in terms of water loss, under billing, by City of Kansas City's potential under billing for purchased water, and the increase in O&M expense that is unsupported by leak data. Additionally, the Commission should open an investigation to look into the unreliable water loss data being caused by months of selling more water than Raytown has purchased. When coupled with the more than doubling of O&M expense on mains with the lowest water loss data observed since at least 2009 something is not right with the system or how data is being recorded. At this point in time I can't put my finger on one solid reasoning for all of them happening concurrently.

### **Depreciation Reserve Issue**

- Q. What issue do you take with the agreed upon depreciation reserves filed in the Agreement between Staff and Raytown?
- A. Staff has removed the depreciation reserve accruals that exceed the original plant investment value.
- Q. What accounts are affected by this according to the filed run?
- A. Account 346.1 Meters- Bronze Chamber, Account 395 Laboratory Equipment, Account 396 Power Operated Equipment, and Account 397 Communication Equipment

A.

### Q. In your opinion has Staff properly reduced the over accrued accounts?

No. The reduced depreciation reserve is improper for two reasons. Firstly, Staff's removal of the depreciation reserve has increased the Company's revenue requirement. The reserves Staff removed should have been transferred to a deficient account, keeping rate base the same after these adjustments. Secondly, Account 396, Power Operated equipment, has positive net salvage, meaning the assets in this account still have value at the end of their useful lives. Therefore, Staff returning the depreciation reserves to equal the original cost of the plant-in-service failed to acknowledge the ability for, and likelihood of, Raytown selling the assets in this account to someone else. In other words, Staff should have removed the additional depreciation reserves to reflect the future salvage value that will be obtained from these assets.

#### Q. What is the effect of this action?

A. Staff has removed \$51,559 of over-accruals from depreciation reserve, arbitrarily increasing rate base and the revenue requirement.

#### Q. What is the revenue requirement impact of this recommendation?

A. My estimate for approximate revenue requirement impact would be \$51,559 times the Staff Raytown stipulated ROE of 6.8 from Staff's run which is a \$3,506 increase in revenue requirement.

#### Q. What is your recommendation on this issue?

A. Staff needs to transfer the over-accruals into similarly-situated accounts that may be under collected at this point in time. The reallocation of the removal of accumulated depreciation will decrease the stipulated revenue requirement by \$3,506. There will still be depreciation expense related to the previously-discussed accounts until the rates from this case become

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effective. For the fully-accrued accounts, discussed above, Staff and Raytown agreed to shut depreciation off, so those accounts will not have any accrual or expense after this Commission order becomes effective.

#### Q. What is a summary of all of your recommendations presented in this testimony?

A. The Commission should open an investigation docket to look at the issues surrounding water loss, Raytown selling more water than purchased and the sharp increase in O&M expense for mains. In addition the Commission should order Staff to reallocated the over accrued depreciation reserve to other deficient accounts as opposed to simply removing it from reserves thereby increasing rate base and revenue requirement.

#### Q. Does this conclude your direct testimony?

A. Yes, it does.

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

In the Matter of the Application of a Rate Increase of Raytown Water Company	)	Case No. WR-2023-0344
increase of Raytown water Company	,	Case No. WIC-2023-0344

### AFFIDAVIT OF JOHN A. ROBINETT

STATE OF MISSOURI	)	
	)	SS
COUNTY OF COLE	)	

John A. Robinett, of lawful age and being first duly sworn, deposes and states:

- 1. My name is John A. Robinett. I am a Utility Engineering Specialist for the Office of the Public Counsel.
  - 2. Attached hereto and made a part hereof for all purposes is my direct testimony.
- 3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

John A. Robinett

**Utility Engineering Specialist** 

Subscribed and sworn to me this 5th day of October 2023.

TIFFANY HILDEBRAND NOTARY PUBLIC - NOTARY SEAL STATE OF MISSOURI MY COMMISSION EXPIRES AUGUST 8, 2027 COLE COUNTY COMMISSION #15637121

My Commission expires August 8, 2027.

Tiffany Hildebrand

Notary Public

### John A. Robinett

I am employed as a Utility Engineering Specialist for The Missouri Office of the Public Counsel (OPC). I began employment with OPC in August of 2016. In May of 2008, I graduated from the University of Missouri-Rolla (now Missouri University of Science and Technology) with a Bachelor of Science degree in Mechanical Engineering.

During my time as an undergraduate, I was employed as an engineering intern for the Missouri Department of Transportation (MoDOT) in their Central Laboratory located in Jefferson City, Missouri for three consecutive summers. During my time with MoDOT, I performed various qualification tests on materials for the Soil, Aggregate, and General Materials sections. A list of duties and tests performed are below:

- Compressive strength testing of 4" and 6" concrete cylinders and fracture analysis
- Graduations of soil, aggregate, and reflective glass beads
- Sample preparations of soil, aggregate, concrete, and steel
- Flat and elongated testing of aggregate
- Micro-deval and LA testing of aggregate
- Bend testing of welded wire and rebar
- Tensile testing of welded, braided cable, and rebar
- Hardness testing of fasteners (plain black and galvanized washers, nuts, and bolts)
- Proof loading and tensile testing of bolts
- Sample collection from active road constructions sites
- Set up and performed the initial testing on a new piece of equipment called a Linear Traverse / Image Analysis
- Wrote operators manual for the Linear Traverse / Image Analysis Machine
- Trained a fulltime employee on how to operate the machine prior to my return to school
- Assisted in batching concrete mixes for testing, mixing the concrete, slump cone testing, percent air testing, and specimen molding of cylinders and beams

Upon graduation, I accepted a position as an Engineer I in the Product Evaluation Group for Hughes Christensen Company, a division of Baker Hughes, Inc. (Baker), an oil field service company. During my employment with Baker, I performed failure analysis on oil field drill bits as well as composed findings reports which were forwarded to the field engineers in order for them to report to the company the conclusions of the failure causes.

I previously was employed as a Utility Engineering Specialist I, II, III for the Missouri Public Service Commission (Commission). My employment with the Commission spanned from April of 2010 to August of 2016. My duties involved analyzing deprecation rates and studies for utility companies and presenting expert testimony in rate cases before the Commission.

Listed below are the cases in which I have supplied testimony, comments, and/or depreciation rates accompanied by a signed affidavit.

Company	Case Number	Issues	Party
Confluence Rivers Utility Operating Company, Inc.	WR-2023-0006	Direct, Rebuttal, and Surrebuttal Testimony Depreciation	Office of the Public Counsel (OPC)
Ameren Missouri	ER-2022-0337	Rebuttal Testimony Depreciation	OPC
Missouri American Water Company	WR-2022-0303	Direct, Rebuttal, Surrebuttal Testimony Line Extensions, Discrete Adjustments and Deferral Mechanisms	OPC
Spire Missouri	GR-2022-0179	Direct and Rebuttal Testimony Ultrasonic Meters	OPC
Evergy Missouri West	EF-2022-0155	Rebuttal and Live Testimony Timeline of Memorandums	OPC
Missouri American Water Company	WA-2022-0229	Memorandum on Rate Base and Customer notice for acquisition of Monsees Lake Estates Subdivision	OPC
Evergy Missouri Metro Evergy Missouri West	ER-2022-0129 ER-2022-0130	Direct, Rebuttal, Surrebuttal, and Live Testimony Depreciation, AMI, Sibley, and One CIS/CFP	OPC
Liberty Empire District Gas Company	EO-2022-0040	Surrebuttal and Live Testimony Riverton Disallowance	OPC
Liberty Empire District Gas Company	EO-2022-0193	Rebuttal and Live Testimony Asbury Securitization	OPC
Liberty Empire District Gas Company GR-2021-0320 Rebuttal Testimony Depreciation		Rebuttal Testimony Depreciation	OPC
Liberty Empire District Electric Company	ER-2021-0312	Direct, Rebuttal, and Surrebuttal Testimony Asbury, Storm Uri, General Plant Amortization	OPC
Ameren Missouri	ER-2021-0240 GR-2021-0241	Rebuttal and Surrebuttal Testimony Depreciation	OPC
Ameren Missouri	EO-2022-0054	IRP Special issues	OPC
Empire District Electric Company	EO-2022-0057	IRP Special issues	OPC
Evergy Missouri West Evergy Missouri Metro	EO-2022-0056 EO-2022-0055	IRP Special issues	OPC
Spire Missouri	GR-2021-0108	Direct, Rebuttal, Surrebuttal, and Live Testimony Depreciation, Grow Missouri Program and Smart Meters	OPC
Missouri American Water Company	WR-2020-0344	Rebuttal, Surrebuttal Testimony Depreciation Expense	OPC
Ameren Missouri	EO-2021— 0069	IRP Special issues	OPC
Empire District Electric Company	EO-2021-0066	IRP Special issues	OPC
Evergy Missouri West Evergy Missouri Metro	EO-2021-0067 EO-2021-0068	IRP Special issues	OPC
Evergy Missouri West	EO-2020-0281	Integrated Resource Plan Comments	OPC
Evergy Missouri Metro	EO-2020-0280	Integrated Resource Plan Comments	OPC
Spire Missouri	GO-2020-0416	Depreciation Authority Order	OPC

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Company	Case Number	Issues	Party
Empire District Electric Company	EO-2020-0284	Integrated Resource Plan Comments	OPC
Spire Missouri East Spire Missouri West	GO-2018-0309 GO-2018-0310	On Remand Direct and Rebuttal Testimony ISRS Refund	OPC
Empire District Electric Company	ER-2019-0374	Direct, Rebuttal, Surrebuttal, and True-up Direct Testimony Depreciation, Operations and Maintenance Expense	OPC
Ameren Missouri	ER-2019-0355	Direct Testimony Depreciation	OPC
Summit Natural Gas of Missouri	GE-2020-0009	Depreciation Study Waiver	OPC
Spire Missouri East Spire Missouri West	GO-2019-0356 GO-2019-0357	Direct and Live Rebuttal Testimony ISRS	OPC
Ameren Missouri Gas Company	GR-2019-0077	Rebuttal Testimony Depreciation and General Plant Amortization	OPC
Spire Missouri East Spire Missouri West	GO-2019-0115 GO-2019-0116	Direct and Live Rebuttal Testimony ISRS	OPC
Empire District Electric Company	EA-2019-0010	Rebuttal, Surrebuttal, and Live Testimony CCN Application	OPC
Kansas City Power & Light Company Greater Missouri Operations	EU-2019-0197 EC-2019-0200	Affidavit for an Accounting Order for plant retirement	OPC
Ameren Missouri	EA-2018-0202	Surrebuttal Testimony Depreciation Life	OPC
Spire Missouri East Spire Missouri West	GO-2018-0309 GO-2018-0310	Direct and Live Rebuttal Testimony ISRS	OPC
Kansas City Power & Light Company	ER-2018-0145	Direct and Rebuttal, Surrebuttal, and True-up direct Testimony, Depreciation and O&M expense related to retired generation units, ONE CIS Allocation	OPC
Kansas City Power & Light Company Greater Missouri Operations	ER-2018-0146	Direct and Rebuttal, Surrebuttal, and True-up direct Testimony, Depreciation and O&M expense related to retired generation units, ONE CIS Allocation, Removal of Additional Amortization	OPC
Empire District Electric Company	EO-2018-0092	Rebuttal, Surrebuttal, Affidavit in Opposition, additional Affidavit and Live Testimony	OPC
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	GR-2018-0013	Rebuttal and Surrebuttal Testimony depreciation, general plant amortization	OPC
Laclede Gas Company Missouri Gas Energy Spire Missouri East Spire Missouri West	GO-2016-0332 GO-2016-0333 GO-2017-0201 GO-2017-0202 GR-2017-0215 GR-2017-0216	ISRS Over collection of depreciation expense and ROE based on Western District Opinion Docket No. WD80544	OPC
Gascony Water Company, Inc.	WR-2017-0343	Rebuttal, Surrebuttal, and Live Testimony rate base, depreciation NARUC USoA Class designation	OPC
Missouri American Water Company	WR-2017-0285	Direct, Rebuttal, Surrebuttal, and Live Testimony depreciation, ami, negative reserve, Lead Line	OPC

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Company	Case Number	Issues	Party
Indian Hills Utility Operating Company, Inc.	WR-2017-0259	Direct, Rebuttal, Surrebuttal, and Live Testimony Rate Base (extension of electric service, leak repairs)	OPC
Laclede Gas Company Missouri Gas Energy	GR-2017-0215 GR-2017-0216	Direct, Rebuttal, Surrebuttal, True-up Rebuttal, and Live Testimony depreciation, retirement work in progress, combined heat and power, ISRS	OPC
Empire District Electric Company	EO-2018-0048	IRP Special issues	OPC
Kansas City Power & Light Company	EO-2018-0046	IRP Special issues	OPC
Kansas City Power & Light Company Greater Missouri Operations	EO-2018-0045	IRP Special issues	OPC
Kansas City Power & Light Company Greater Missouri Operations	EO-2017-0230	2017 IRP annual update comments	OPC
Empire District Electric Company	EO-2017-0065	Direct, Rebuttal, Surrebuttal, and Live Testimony FAC Prudence Review Heat Rate	OPC
Ameren Missouri	ER-2016-0179	Direct, Rebuttal, Testimony Heat Rate Testing &Depreciation	OPC
Kansas City Power & Light Company	ER-2016-0285	Direct, Rebuttal, Surrebuttal, and Live Testimony Heat Rate Testing &Depreciation	OPC
Empire District Electric Company Merger with Liberty	EM-2016-0213	Rebuttal Testimony	Missouri Public Service Commission (MOPSC)
Empire District Electric Company	ER-2016-0023	Depreciation Study, Direct, Rebuttal, and Surrebuttal Testimony	MOPSC
Hillcrest Utility Operating Company, Inc.	SR-2016-0065	Depreciation Review	MOPSC
Hillcrest Utility Operating Company, Inc.	WR-2016-0064	Depreciation Review	MOPSC
Missouri American Water Company	WR-2015-0301	Depreciation Study, Direct, Rebuttal, and Surrebuttal Testimony	MOPSC
Bilyeu Ridge Water Company, LLC Midland Water Company, Inc. Moore Bend Water Utility, LLC Riverfork Water Company Taney County Water, LLC Valley Woods Utility, LLC(Water) Valley Woods Utility, LLC(Sewer) Consolidated into Ozark International, Inc.	WR-2015-0192 WR-2015-0193 WR-2015-0194 WR-2015-0195 WR-2015-0196 WR-2015-0197 SR-2015-0198 Consolidated into WR-2015-0192	Depreciation Review  *filed depreciation rates not accompanied by signed affidavit	MOPSC
I. H. Utilities, Inc. sale to Indian Hills Utility Operating Company, Inc.	WO-2016-0045	Depreciation Rate Adoption CCN	MOPSC
Missouri American Water Company CCN City of Arnold	SA-2015-0150	Depreciation Rate Adoption CCN	MOPSC
Empire District Electric Company	ER-2014-0351	Direct, Rebuttal, and Surrebuttal Testimony	MOPSC

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Company	Case Number	Issues	Party
West 16th Street Sewer Company, W.P.C. Sewer Company, Village Water and Sewer Company, Inc. and Raccoon Creek Utility Operating Company, Inc.	SM-2015-0014	Depreciation Rate Adoption	MOPSC
Brandco Investments LLC and Hillcrest Utility Operating Company, Inc.	WO-2014-0340	Depreciation Rate Adoption, Rebuttal Testimony	MOPSC
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	GR-2014-0152	Direct, Rebuttal, Surrebuttal and Live Testimony	MOPSC
Summit Natural Gas of Missouri, Inc	GR-2014-0086	Depreciation Study, Direct and Rebuttal Testimony	MOPSC
P.C.B., Inc.	SR-2014-0068	Depreciation Review	MOPSC
M.P.B., Inc.	SR-2014-0067	Depreciation Review	MOPSC
Roy-L Utilities	WR-2013-0543	Depreciation Review	MOPSC
Roy-L Utilities	SR-2013-0544	Depreciation Review	MOPSC
Missouri Gas Energy Division of Laclede Gas Company	GR-2014-0007	Depreciation Study, Direct and Rebuttal Testimony	MOPSC
Central Rivers Wastewater Utility, Inc.	SA-2014-00005	Depreciation Rate Adoption	MOPSC
Empire District Electric Company	ER-2012-0345	Depreciation Study, Direct, Rebuttal, and Surrebuttal Testimony	MOPSC
Empire District Electric Company	WR-2012-0300	Depreciation Review	MOPSC
Laclede Gas Company	GO-2012-0363	Depreciation Authority Order Rebuttal, Surrebuttal and Live Testimony	MOPSC
Moore Bend Water Company, Inc. sale to Moore Bend Water Utility, LLC (Water)	WM-2012-0335	Depreciation Rate Adoption	MOPSC
Oakbrier Water Company, Inc.	WR-2012-0267	Depreciation Review	MOPSC
Lakeland Heights Water Co., Inc.	WR-2012-0266	Depreciation Review	MOPSC
R.D. Sewer Co., L.L.C.	SR-2012-0263	Depreciation Review	MOPSC
Canyon Treatment Facility, LLC	SA-2010-0219	Depreciation Rate Adoption- CCN	MOPSC
Taney County Water, LLC	WR-2012-0163	Depreciation Review	MOPSC
Sale of Saddlebrooke Water and Sewer Infrastructure, LLC to Missouri American Water Company (Sewer)	SA-2012-0067	Rebuttal Testimony	MOPSC
Sale of Saddlebrooke Water and Sewer Infrastructure, LLC to Missouri American Water Company (Water)	WA-2012-0066	Rebuttal Testimony	MOPSC
Midland Water Company, Inc.	WR-2012-0031	Depreciation Review	MOPSC
Sale of KMB Utility Corporation to Algonquin Water Resources of Missouri, LLC, d/b/a Liberty Water (Sewer)	SO-2011-0351	Depreciation Rate Adoption	MOPSC
Sale of KMB Utility Corporation to Algonquin Water Resources of Missouri, LLC, d/b/a Liberty Water (Water)	WO-2011-0350	Depreciation Rate Adoption	MOPSC

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Company	Case Number	Issues	Party
Sale of Noel Water Company, Inc. to Algonquin Water Resources of Missouri, LLC, d/b/a Liberty Water (Water)	WO-2011-0328	Depreciation Rate Adoption	MOPSC
Sale of Taney County Utilities Corporation to Taney County Water, LLC (Water)	WM-2011-0143	Depreciation Rate Adoption	MOPSC
Empire District Electric Company	ER-2011-0004	Depreciation Study, Direct, Rebuttal, and Surrebuttal Testimony	MOPSC
Rex Deffenderfer Enterprises, Inc.	WR-2011-0056	Depreciation Review	MOPSC
Tri-States Utility, Inc	WR-2011-0037	Depreciation Review	MOPSC
Southern Missouri Gas Company, L.P.	GE-2011-0096	Depreciation Study Waiver	MOPSC
Southern Missouri Gas Company, L.P.	GR-2010-0347	Depreciation Review	MOPSC
KMB Utility Corporation (Sewer)	SR-2010-0346	Depreciation Review	MOPSC
KMB Utility Corporation (Water)	WR-2010-0345	Depreciation Review	MOPSC
Middlefork Water Company	WR-2010-0309	Depreciation Review	MOPSC

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# THE RAYTOWN WATER COMPANY

# Rate Making Income Statement-Water

Operating Revenues at	t Current Rates	
Tariffed Rate Revenues *	\$	3,532,292
Other Operating Revenues *	\$	385,406
<b>Total Operating Revenues</b>	\$	3,917,698

<sup>\*</sup> See "Revenues - Current Rates" for Details

	Item		Amount
602.000	Purchased Water	\$	1,347,089
660.000	Operation Supervision & Engineering - T&D	\$	77,117
662.100	Water Samples	\$	4,532
663.000	Meter Testing	\$ \$ \$	219
672.000	Maint. Of Towers / Tower Utilities Maint. Of Mains / Tools Purch-Rpr / Gen. Supp. / Maint. Of	\$	19,095
673.000	Valves / Line Locates	\$	211,279
675.000	Maint. Of Services - T&D / Maint of Customer Meter Wells	\$	34,670
676.000	Maint. Of Meters - T&D / Meter Tools / Equipment	\$	1,242
	Maint. Of Hydrants - T&D / Hydrant Accident Repairs	\$	860
	Meter Reading Cust Acct Expense / Uniforms	\$	117,712
	Customer Accounting / Customer Turn On-Off	\$	276,839
904.000	Uncollectible Customer Account	\$	21,270
907.000	Safety Meetings / Safety Equipment	\$	29,509
920.000	Admin. & General Salaries / Collection Fees Due Office Supplies & Expenses / Utilities / Print / Postage /	\$	202,633
	Communication Exp / ROW Permits / Leased Off. Equip /		
921.000	Bank Fees	\$	235,31
	Admin. Expenses Transferred - Credit / Capitalized Labor/		
922.000	Overhead Outside Services Employed / Tower Maint. / Vehicle	\$	(30,780
	Tracking Subscription / Line Locating / Equip. Maint.		
	Contract / Acct. Svcs / Computer Maint. / Mapping Svc.		
923.000	Bond Iss. Cost	\$	278,06
924.000	Property Insurance	\$	39,452
925.000	Injuries & Damages / Mgmt & Empl. Liability	\$	20,432
926.000	Employee Pensions & Benefits / Emplr401k Contribution	\$	339,073
	Regulatory Commission Expense	\$	30,40
930.100	Miscellaneous General Expense	\$	1,862
	Directors Fees and Expenses /Board Reports	\$	16,089
	Education Expense	· \$	5,302
	Pre-Employment Drug Screening	\$	2,91
932.000	Maint. OfGeneral Plant	\$	21,53
403.000	Depreciation Expense, Dep. Exp.	\$	434,42
421.000	Amortization of CIAC	\$	(19,470 Attachm

431.100 Interest on Customer Deposits	\$	9,499
431.200 Other Penalty / Interest Expense	\$	1,685
471,100 Sewer - Field Expense	\$	172
471.270 Trash Bag Expense	\$	2,841
408.100 Property Taxes	\$	151,239
408.000 Employer FICA / FUTA / SUTA	\$	63,610
Sub-Total Operating Expenses	\$	3,947,718
409.000 Current Income Taxes	\$	59,273
0.000 Deferred Income Taxes - Def. Inc. Tax	\$	46,539
9333.000 Amortization of Deferred ITC	\$	(2,404)
934.000 Amortization of 2018 Deferred Income Tax (TCJA)	\$	(38,993)
Sub-Total Taxes	\$	64,415
Interest on Long-Term Debt <sup>1</sup>	\$	4,942
Interest on Short-Term Debt <sup>2</sup>	\$	3,773
Return on Equity <sup>3</sup>	\$	379,426
Sub-Total Long-Term Debt & Return On Equity	\$	388,141
Total Cost of Service	\$	4,400,274
Overall Revenue Increase Needed	Ş	482,576

<sup>&</sup>lt;sup>1</sup> Rate Base x Cost of Long-term Debt <sup>2</sup> Rate Base x Cost of Short-Term Debt

<sup>&</sup>lt;sup>3</sup> Rate Base x Cost of Equity (Mid-point)

Rate Base \$	5,314,088
Cost of Long-Term Debt	0.093%
Cost of Short-Term Debt	0.071%
Cost of Equity	7.140%

# THE RAYTOWN WATER COMPANY

# Rate Making Income Statement-Water

Operating Revenues at	Current Rates	
Tariffed Rate Revenues *	\$	3,884,609
Other Operating Revenues *	\$	424,412
<b>Total Operating Revenues</b>	S	4,309,019

<sup>\*</sup> See "Revenues - Current Rates" for Details

Account No.	Cost of Service	
	Item	Amount
602.000	Purchased Water	\$ 1,396,830
660.000	Operation Supervision & Engineering - TDE	\$ 85,485
662.000	Transmission & Distribution Lines Expenses	\$ 48,616
663.000	Meter Expenses - TDE	\$ 536
672.000	Maint. of Dist. Reservoirs & Standpipes - TDE	\$ 29,512
673.000	Maint. of Transmission & Distribution Mains	\$ 490,641
675.000	Maint. of Services - TDE	\$ 4,584
676.000	Maint, of Meters - TDE	\$ 5,254
677.000	Maint. of Hydrants - TDE	\$ 1,318
902.000	Meter Reading Expenses - CAE	\$ 170,755
903.000	Customer Records & Collection Expenses	\$ 318,392
904.000	Uncollectible Amounts - CAE	\$ 19,648
907.000	Safety Meeting / Safety Equipment	\$ 63,686
920.000	Admin. & General Salaries	\$ 292,954
921.000	Office Supplies & Expenses	\$ 219,075
921.100	ROW Permits	\$ 39,125
922.000	Admin. Expenses Transferred - Credit	\$ (81,821)
923.000	Outside Services Employed	\$ 282,424
923.500	Main GIS Mapping	\$ (1,717)
924.000	Property Insurance	\$ 68,100
925.000	Injuries & Damages	\$ 26,814
926.000	Employee Pensions & Benefits	\$ 344,617
928.000	Regulatory Commission Expenses	\$ 45,475
930.210	Board Reports & Directives	\$ 4,494
930.200	Misc. General Expenses	\$ 29,667
930.300	R & D Expenses (Education)	\$ 13,685
930.400	Pre-Employment Drug Screening	\$ 1,960
932.000	Maint. of General Plant - AGE	\$ 37,014
403.000	Depreciation Expense, Dep. Exp.	\$ 599,613
0.000	Plastic Meters Depreciation Offset	\$ (29,288)
421.000	Amortization of CIAC	\$ (18,131)
431.100	Interest on Customer Deposits	\$ 14,794
431.200	Other Penalty / Interest Expense	\$ 938
471.270	Trash Bag Expense	\$ Attachnen

403.000 EIERA Issuance Costs	\$ 7,662
408.100 Property Taxes	\$ 144,427
408.000 Employer FICA/FUTA/SUTA	\$ 80,063
Sub-Total Operating Expenses	\$ 4,761,063
0.000 Current Income Taxes	\$ (177,703)
0.000 Deferred Income Taxes - Def. Inc. Tax	\$ 28,382
0.000 Additional Current Tax Required	\$ 280,070
934.000 Amortization of 2018 Deferred Tax (TCJA)	\$ (29,939)
Sub-Total Taxes	\$ 100,810
Interest on Long-Term Debt 1	\$ 130,220
Interest on Preferred Stock <sup>2</sup>	\$ 44,077
Return on Equity <sup>3</sup>	\$ 447,631
Sub-Total Long-Term Debt & Return On Equity	\$ 621,928
Total Cost of Service	\$ 5,483,801
Overall Revenue Increase Needed	\$ 1,174,782

<sup>&</sup>lt;sup>1</sup>Rate Base x Cost of Long-term Debt

<sup>&</sup>lt;sup>3</sup> Rate Base x Cost of Equity (Mid-point)

Rate Base	\$ 9,144,649
Cost of Long-Term Debt	1.424%
Cost of Preferred Stock	0.482%
Cost of Equity	4.895%

<sup>&</sup>lt;sup>2</sup> Rate Base x Cost of Preferred Stock