

*Exhibit No.:*  
*Issue(s):* Prudency Review,  
Compliance Issues,  
Capital  
Improvement Plan,  
Water Loss,  
and Revised Maps,  
and Legal Descriptions  
*Witness:* Daronn A. Williams  
*Sponsoring Party:* MoPSC Staff  
*Type of Exhibit:* Direct Testimony  
*Case No.:* WR-2024-0104  
*Date Testimony Prepared:* August 20, 2024

**MISSOURI PUBLIC SERVICE COMMISSION**

**INDUSTRY ANALYSIS DIVISION**

**WATER, SEWER & STEAM DEPARTMENT**

**DIRECT TESTIMONY**

**OF**

**DARONN A. WILLIAMS**

**LIBERTY UTILITIES (Missouri Water) LLC,  
d/b/a Liberty**

**CASE NO. WR-2024-0104**

*Jefferson City, Missouri  
August 2024*

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**DARONN A. WILLIAMS**

**LIBERTY UTILITIES (Missouri Water) LLC,**

**d/b/a Liberty**

**CASE NO. WR-2024-0104**

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1   **DIRECT TESTIMONY**

2   **OF**

3   **DARONN A. WILLIAMS**

4   **LIBERTY UTILITIES (Missouri Water) LLC,**  
5   **d/b/a Liberty**

6   **CASE NO. WR-2024-0104**

7           Q.     Please state your name and business address.

8           A.     My name is Daronn A. Williams. My business address is 200 Madison Street,  
9     Jefferson City, MO 65101.

10         Q.     By whom are you employed and in what capacity?

11         A.     I am employed by the Missouri Public Service Commission (“Commission”) as  
12     an Associate Engineer with the Water, Sewer, and Steam Department. My credentials and a  
13     listing of the cases in which I have previously filed testimony before this Commission are  
14     attached to this direct testimony as Schedule DAW-d1.

15         Q.     What is the purpose of your direct testimony?

16         A.     The purpose of my direct testimony is to address the following: prudency  
17     review, compliance issues, capital improvement plan, water loss, and the need to revise certain  
18     maps and legal descriptions.

19     **STAFF PRUDENCY REVIEW**

20         Q.     Did Staff conduct a general prudency review of capital improvement projects?

21         A.     Yes. Staff reviewed a number of capital improvement projects completed since  
22     the last rate case of Liberty Utilities (Missouri Water) LLC d/b/a Liberty (“Liberty Water”)  
23     (Case No. WR-2018-0170), which included multiple on-site inspections.

1 Q. Did Staff find any imprudence with any of Liberty Water's capital improvement  
2 projects done since the last rate case?

3 A. No, Staff did not find any projects to be imprudent.

4 **COMPLIANCE ISSUES**

5 Q. Did Staff find any compliance issues with Liberty Water?

6 A. Yes. Two of Liberty Water's wastewater facilities have an  
7 Abatement Order on Consent ("AOC"). An AOC is a formal enforcement action used by the  
8 Missouri Department of Natural Resources ("DNR") to address non-compliance with  
9 environmental laws at regulated facilities that outlines specific steps for achieving compliance.  
10 An AOC is a mutual agreement between Liberty Water and DNR to get a facility into  
11 compliance.

12 Q. What two wastewater facilities have an AOC?

13 A. The first facility is the City of Bolivar's Wastewater Treatment Facility  
14 ("Bolivar"), which was issued its AOC, Order Number 2022-WPCB-1634, on June 16, 2022.  
15 Bolivar has a history of non-compliance for exceeding permitted effluent limitations, failing to  
16 conduct wet weather bypass sampling and reporting the data on Discharge Monitoring Reports  
17 ("DMRs"), and failing to document plant available nitrogen calculations, when land applying  
18 sludge, that contained greater than 50,000 milligrams per kilogram (mg/kg) total nitrogen,  
19 while under the previous owner's operation. Staff understands that Liberty Water is working  
20 with DNR and complying with the AOC by submitting a Facility Plan to DNR for the  
21 Bolivar system, but Staff has significant concerns about the speed with which Liberty Water is  
22 addressing these concerns. These concerns are addressed further in the direct testimony of Staff  
23 witness Mr. Andrew Harris.

1           The second facility is R.D. Sewer, which was issued its AOC,  
2 Order Number 2023-WPCB-1828, on October 5, 2023. This facility has a history of  
3 non-compliance for exceeding permitted effluent limitations. This is discussed in further detail  
4 below.

5           Q.     Did Staff have any additional compliance issues with Liberty Water?

6           A.     Yes. During Staff's recent investigation into Liberty Water's operations and  
7 conditions (Case No. WO-2022-0253), operational issues were found at the following systems:  
8 Venice on the Lake water system, Savers Farm sewer system, R.D. Sewer system,  
9 Cape Rock Village sewer system, and Bolivar water and sewer systems. The investigation also  
10 mentioned Staff's concerns with the condition and inspection frequency of some  
11 water storage tanks.

12          Q.     What operational issues were found at the Venice on the Lake water system?

13          A.     When Liberty Water purchased Venice on the Lake<sup>1</sup>, its infrastructure was in  
14 great need of repair. At this time, Staff's primary concern is customers' routine outages due to  
15 significant leaks and main breaks. During Staff's investigation, Staff and Liberty Water  
16 determined that severe leaks in the distribution system were causing the storage tank to empty  
17 during routine evening system demand. Replacement of the majority of the distribution system  
18 is necessary.

19          Q.     What has Liberty Water done to remedy this concern at the Venice on the Lake  
20 water system?

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<sup>1</sup> The Commission granted Liberty Water the Certificate of Convenience and Necessity for Venice on the Lake as part of Case No. WM-2018-0023 on April 4, 2018, with an effective date of April 14, 2018.

1           A.     Per Liberty Water’s response to Staff Data Request (“DR”) No. 0259,  
2 Liberty Water has replaced approximately 3,000 linear feet out of approximately 117,162 feet<sup>2</sup>  
3 of waterlines at the Venice on the Lake water system since the Certificate of Convenience and  
4 Necessity that took effect on April 14, 2018. This equates to approximately 2.6% of waterline  
5 replacement so far.

6           In addition, Liberty Water is taking steps to build a new well, wellhouse and additional  
7 storage<sup>3</sup> at this site. Per Liberty Water’s response to Staff DR 0260, Liberty Water has begun  
8 the engineering phase of these projects. The land has been acquired and environmental surveys  
9 are in progress. Following satisfactory surveys and DNR approval, Liberty Water will begin  
10 clearing the land and a construction schedule will be set. At the appropriate time, Liberty Water  
11 will submit a construction permit application to DNR.

12           To assist with the replacement of more waterlines, Liberty Water received approval  
13 from DNR on February 27, 2024, for an Owner Supervised Program (“OSP”), which approves  
14 Liberty Water to construct several waterline extensions and replacements with the submittal of  
15 one construction permit application. The approval is granted for a period of five years, but only  
16 for specific projects. Liberty Water is proactively replacing and extending waterlines under the  
17 OSP to better serve the customers of the Venice on the Lake water system. Liberty Water had  
18 an engineering study conducted by Bluewater Solutions Group, Inc., dated November 28, 2023,  
19 that lists suggested projects for the Venice on the Lake water system. It is Staff’s understanding  
20 that Liberty Water will be working with DNR to complete these projects via OSPs and  
21 conventional construction permits. Even though DNR gives Liberty Water five years to

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<sup>2</sup> Received in an e-mail from Liberty Water on August 13, 2024. This value represents the total feet of waterlines for the service area referred to as Taney County Water Company

<sup>3</sup> Beginning on page 16 of Liberty Water witness Antonio D. Penna Jr.’s Direct Testimony

1 complete projects under the OSP, Staff suggests that Liberty Water use as many resources as  
2 possible, including hiring more contractors, to complete these projects on a more expedited  
3 schedule, by December 31, 2027. Spending five years to complete replacement of the  
4 distribution system will create additional costs from pumping additional water lost to leaks and  
5 breaks, repeated mobilization costs for the construction crews, increased costs of materials and  
6 labor due to inflation, and repeated repairs of pipes which are scheduled for eventual  
7 replacement. More importantly, beyond the prudence of these costs, customers will continue to  
8 experience outages associated with breaks during this period, and could experience an excessive  
9 number of outages due to water being shut off repeatedly as lines are slowly replaced.  
10 Staff believes a more aggressive and comprehensive construction schedule is appropriate.

11 Q. Has Liberty Water also replaced meters at Venice on the Lake?

12 A. Yes. Liberty Water has installed and/or replaced at least 175 Advanced Metering  
13 Infrastructure (“AMI”) and Automated Meter Reading (“AMR”) residential customer meters at  
14 Venice on the Lake since its last rate case.<sup>4</sup> This should reduce the estimated bills for this system  
15 and allow Liberty Water to have a better understanding of the water consumption for this  
16 system, which have been problems in the past. Liberty Water communicated to Staff<sup>5</sup> that the  
17 meter installation at Venice on the Lake should be complete by approximately Fall 2024.  
18 After a period of dual reading (manual and automatic reading) and testing to confirm that the  
19 automatic reads are correct, all of the AMI and AMR meters are planned to be fully functional  
20 (in use and useful) by March 2025, if everything goes as planned.

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<sup>4</sup> Per Liberty Water’s response to Staff DR No. 0105

<sup>5</sup> During a meeting on July 31, 2024

1           Lastly, routine water outages at the Venice on the Lake water system are still a concern  
2 for Staff. However, as Liberty Water replaces waterlines and builds a new well, wellhouse and  
3 additional storage, these water outages should decrease over time. Again, Staff urges  
4 Liberty Water to move expeditiously with these projects.

5           Q.     What operational issues were found at the Savers Farm sewer system?

6           A.     Per the Official Case File Memorandum of the investigation  
7 Case No. WO-2022-0253, this system had a non-compliance history of exceeding the following  
8 permit parameters: *E. Coli*, ammonia, total suspended solids (“TSS”) and pH.  
9 Per Liberty Water’s response to Staff DR No. 0008, it has installed a new moving bed biofilm  
10 reactor tank (“MBBR”) at Savers Farm. Based on the DMRs available on the DNR website, in  
11 general, Liberty Water is now meeting *E. Coli* permit parameters, except for recently during  
12 the monthly reporting period ending May 31, 2024. For the most part, Liberty Water is currently  
13 meeting ammonia permit parameters, except for during the monthly reporting period ending  
14 October 31, 2023. Liberty Water has recently had trouble meeting TSS permit parameters  
15 during the monthly reporting periods ending April 30, 2024, March 31, 2024,  
16 February 29, 2024, and January 31, 2024. Liberty Water has been in compliance for pH for  
17 quite a while. The last exceedance of pH was during the monthly reporting period ending  
18 January 31, 2022.

19           Q.     Did Staff observe anything else while reviewing the DMR data of Savers Farm?

20           A.     Yes. Staff also observed that Liberty Water has had exceedances for Biological  
21 Oxygen Demand (“BOD”) during the following monthly reporting periods: April 30, 2024,  
22 March 31, 2024, February 29, 2024, January 31, 2024, December 31, 2023  
23 and October 31, 2023.



Direct Testimony of  
Daronn A. Williams

1 Q. What is Staff's recommendation after its review of Savers Farm's DMR data?

2 A. Staff recommends Liberty Water to take the necessary steps to evaluate the  
3 causes for the exceedances of BOD, *E. Coli*, and TSS and implement the correct solutions to  
4 bring Savers Farm into full compliance.

5 Q. Is Staff aware of what additional steps need to be taken at Savers Farm?

6 A. Not yet, but Liberty Water is investigating the root causes of these permit  
7 parameter exceedances. During a meeting with Staff on July 31, 2024, Liberty Water stated that  
8 the Savers Farm sewer system, which is primarily a recirculating sand filter, had excessive  
9 sludge, clogged sewer lines and the Ultraviolet ("UV") bulbs needed cleaning. As a result of  
10 these findings, Liberty Water addressed these maintenance issues.

11 Q. What operational issues were found at the R.D. Sewer system?

12 A. Per the memorandum of the investigation Case No. WO-2022-0253, this system  
13 had a non-compliance history of exceeding the following permit parameters: *E. Coli*, BOD,  
14 and ammonia. When Liberty Water purchased this system in the summer of 2020, the plant  
15 already exceeded its useful life and was in need of replacement due to mechanical and structural  
16 failures. Based on DMR data gathered from the DNR website, the R.D. Sewer system continues  
17 to exceed the permit parameters previously mentioned, in addition to TSS. However, as  
18 mentioned earlier in this testimony, Liberty Water has an AOC for this wastewater facility and  
19 the permit exceedances are not held against Liberty Water by DNR while the AOC is in effect.  
20 The AOC requires Liberty Water to make the following plant upgrades: an equalization basin,  
21 mechanical screen, two MBBRs, two clarifiers, UV disinfection, and aerobic sludge storage no  
22 later than June 30, 2024.

1 Q. Did Liberty Water complete the previously mentioned projects at R.D. Sewer by  
2 the AOC deadline of June 30, 2024?

3 A. No. On May 31, 2024, DNR granted Liberty Water's request for an extension to  
4 June 30, 2025 to complete these projects.

5 Q. Is Staff satisfied with the speed of progress of restoring safe and adequate service  
6 at R.D. Sewer?

7 A. No. While Staff understands that Liberty Water has been granted an additional  
8 12 months by the DNR, it is Staff's opinion that more rapid action is appropriate for a utility  
9 acquiring a system like R.D. Sewer. Besides customer's not receiving the service they are  
10 paying for, customers can also be impacted when they attempt to sell their homes, or if they  
11 would like to enjoy recreation in waters downstream of a treatment facility. It is Staff's hope  
12 that Liberty Water does not take advantage of the generous amount of additional time granted  
13 by DNR, and instead, quickly resolves this issue. During a meeting on July 31, 2024,  
14 and a subsequent e-mail on August 7, 2024, Liberty Water stated that all upgrades to R.D.  
15 Sewer should be completed by mid-September 2024.

16 Q. What operational issues were found at the Cape Rock Village sewer system?

17 A. Per the memorandum of the investigation Case No. WO-2022-0253, this system  
18 had a non-compliance history of exceeding the following permit parameters: *E. Coli* and  
19 ammonia. As noted in that memorandum, Liberty Water completed major upgrades to this  
20 system including UV disinfection, MBBRs, new power service, and security fencing. It is also  
21 worth noting that Liberty Water moved relatively quickly to upgrade this sewer system.  
22 Based on DMR data, there has not been any recent permit violations at Cape Rock Village,  
23 and the issues appear to be resolved.

Direct Testimony of  
Daronn A. Williams

1 Q. What operational issues were found at the Bolivar water and sewer systems?

2 A. Per the memorandum of the investigation Case No. WO-2022-0253,  
3 the wastewater system is in noncompliance due to inflow and infiltration causing the treatment  
4 plant to violate permit limits, allowing the release of untreated wastewater via Sanitary Sewer  
5 Overflows, bypassing portions of the treatment plant allowing the release of partially treated  
6 wastewater, and the release of sludge into the receiving stream. Liberty Water has an AOC for  
7 this sewer system and is working with DNR to bring this system into compliance. Staff witness  
8 Mr. Harris will go into greater detail regarding the operational issues at Bolivar in his direct  
9 testimony.

10 In Staff's investigation memorandum, it mentioned that Liberty Water would replace  
11 chlorine gas disinfection with 12.5% sodium hypochlorite solution with a target completion  
12 date of December 31, 2022 for the Bolivar water system. Per Liberty Water's response to Staff  
13 DR No. 0008, this has been completed.

14 Q. Earlier in this testimony, you mentioned during Staff's investigation  
15 (Case No. WO-2022-0253) there were also concerns with the condition and inspection  
16 frequency of some water storage tanks. Which storage tanks were of concern?

17 A. In the investigation memorandum, Staff had concerns regarding the ground  
18 storage tank located at the Ozark Mountain water system and the East Reservoir ground storage  
19 tank at the Noel water system.

20 Q. What is Staff's concern with the Ozark Mountain tank?

21 A. This tank appears to have a structural integrity concern due to a visible bend in  
22 the wall of the steel tank.

1 Q. What has Liberty Water done to address this concern with the  
2 Ozark Mountain tank?

3 A. Liberty Water had this tank inspected on August 4, 2023, per Liberty Water's  
4 response to Staff DR No. 0103, by the engineering firm OWN, Inc. Based on the resulting  
5 inspection report, Liberty Water plans to replace the existing 100,000-gallon tank with a new  
6 tank of the same size. Per Liberty Water's response to Staff DR No. 0262, bids for this project  
7 were received and it will select and award the winning bid soon. Liberty Water estimates six to  
8 eight weeks for manufacturing and two to three weeks for installation of the new tank. To keep  
9 Liberty Water accountable, Staff recommends that the Commission order Liberty Water to have  
10 the replacement tank at Ozark Mountain water system complete by December 31, 2025.

11 Q. What are Staff's concerns with the East Reservoir ground storage tank at the  
12 Noel water system?

13 A. During a routine inspection in July 2021, Staff saw severe horizontal and vertical  
14 cracks with built up calcium carbonate stains on the outside of the East Reservoir ground  
15 storage tank at the Noel water system. Similar to the Ozark Mountain tank, Staff had concerns  
16 about the structural integrity of the East Reservoir ground storage tank at the Noel water system.  
17 Per Liberty Water's response to Staff DR No. 0263, the East Reservoir ground storage tank at  
18 the Noel water system was repaired as of March 14, 2023. As a result, Staff has no further  
19 concerns with this tank.

20 Q. What are Staff's concerns with the inspection frequency of some  
21 Liberty Water's water storage tanks?

22 A. As noted in Table 1 of the investigation's memorandum, the following tanks  
23 were due for both interior and exterior inspections at the time of the investigation:

1 Holiday Hills, Ozark Mountain, Venice on the Lake (Red Rock tank), and Lakeway Village.  
2 Per Liberty Water’s response to Staff DR No. 0103, only the exterior of the Ozark Mountain  
3 tank has been inspected. This is not a current concern of Staff because, as previously mentioned  
4 in this testimony, Liberty Water plans to replace this storage tank.

5 Per Liberty Water’s response to Staff DR No. 0264, interior and exterior storage tank  
6 inspections were done at the following tanks: The Holiday Hills Tank was inspected on  
7 December 10, 2022, the Red Rock tank at Venice on the Lake was inspected on  
8 December 11, 2022, and the Lakeway Village tank was inspected on December 12, 2022.  
9 As a result, Staff has no further concerns with the inspection frequency of these tanks at this  
10 time. Staff does suggest Liberty Water continue to have these, and all of their storage tanks,  
11 inspected routinely per the American Water Works Association (“AWWA”) guidelines  
12 (typically at least once every three years) and to address any unsatisfactory findings or  
13 recommendations noted by the storage tank inspector as quickly as possible.

14 **CAPITAL IMPROVEMENT PLAN**

15 Q. Did Liberty Water submit a Capital Improvement Plan (“CIP”) as a result of  
16 Staff’s investigation (Case No. WO-2022-0253)?

17 A. Yes. Liberty Water submitted its CIP as Item No. 14 in Case No.  
18 WO-2022-0253 as the “MO Asset Management Plan – FY 2023.”

19 Q. Does Staff have any concerns with the general spending plan for capital  
20 improvements at Liberty Water’s water and sewer systems for 2024 to 2028?

21 A. In general, Staff does not have any objections to Liberty Water’s planned budget  
22 for the 2024 to 2028 period. However, Staff recommends Liberty Water adjust its actual  
23 spending, and future CIPs, to aggressively address water and sewer systems in dire need of

1 upgrades, such as the Venice on the Lake water system and the Bolivar water and sewer system.  
2 Staff understands that CIPs require a level of flexibility based on information that arrives  
3 throughout the year that may change priorities. For example, while the CIP reflects a level of  
4 investments for the Bolivar sewer system that was forecasted at the time the plan was filed,  
5 the receipt of a required DNR Facility Plan for system upgrades now indicate a greater level of  
6 investment that might not have been anticipated at the time the CIP was filed. Staff looks  
7 forward to getting an annual update to the CIP that includes this new information.

8 **WATER LOSS**

9 Q. What is water loss?

10 A. Water loss is often referred to as non-revenue water (“NRW”) – water that is  
11 produced in a network but never reaches the consumer. The most common causes are:  
12 aging networks that haven’t been properly managed (leaks), metering inaccuracies, theft,  
13 or unbilled, unmetered authorized consumption (like water used from fire hydrants).  
14 A table that summarizes general water consumption, including NRW is below:

1

Table 1: General Water Consumption

System Input Volume	Authorized Consumption	Billed Authorized Consumption	Billed Metered Consumption	Revenue Water
			Billed Un-metered Consumption	
		Unbilled Authorized Consumption	Unbilled Metered Consumption	
			Unbilled Un-metered Consumption	
	Water Losses	Apparent Losses (Commercial Losses)	Unauthorized Consumption	Non Revenue Water (NRW)
			Customer Meter Inaccuracies and Data Handling Errors	
		Real Losses (Physical Losses)	Leakage in Transmission and Distribution Mains	
			Storage Leaks and Overflows from Water Storage Tanks	
Service Connections Leaks up to the Meter				

2

3

Q. How is NRW calculated?

4

A. NRW is calculated by the following equations:

5

$$\frac{[\text{Gallons Pumped (or Produced)}] - [\text{Gallons Sold}]}{[\text{Gallons Pumped (or Produced)}]} \times 100 = \text{NRW \%}$$

6

Q. Did Staff gather data to calculate water loss for Liberty Water's water systems?

7

A. To an extent. Staff received the total gallons of water Liberty Water pumped for

8

all water systems in Liberty Water's response to Staff DR No. 0024 and the gallons sold for

9

each water system in Liberty Water's response to Staff DR No.0025. However, it should be

10

noted that Liberty Water was unable to provide this data for each individual system.

11

Staff recommends the Commission order Liberty Water to collect and retain pumped water and

12

gallons sold for each individual water system separately, including the individual former KMB

13

systems and the individual former Empire water systems, etc. Since NRW is system specific,

14

NRW cannot be accurately determined or addressed when systems are lumped together.

1 Q. Did Staff use the data from Liberty Water’s responses to Staff DR Nos. 0024  
2 and 0025 to evaluate water loss for Liberty’s water systems?

3 A. Yes. Below is the water loss data calculated per system per month for calendar  
4 years 2022 and 2023.

5 Table 2: Water Loss for 2022

Location	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Holiday Hills	13.1%	-2.4%	-25.6%	-95.4%	-113.7%	15.4%	-8.3%	11.6%	0.2%	-3.5%	15.1%	16.6%	1.2%
Timber Creek	-39.1%	-1.0%	23.8%	66.3%	-91.0%	6.0%	-1.0%	0.0%	-2.8%	-0.8%	1.7%	19.2%	0.5%
Ozark Mountain	-19.6%	-33.9%	-19.1%	-19.7%	-119.5%	7.0%	-1.1%	21.1%	-16.8%	36.4%	28.3%	-17.2%	0.9%
Noel	13.1%	-4.7%	26.9%	14.5%	21.9%	23.6%	28.8%	1.0%	16.6%	-100.9%	8.9%	-36.2%	7.3%
KMB	14.9%	-1.9%	37.1%	-7.5%	41.3%	-33.6%	35.5%	4.6%	-79.7%	-18.8%	10.2%	15.7%	8.3%
Midland	4.7%	-20.0%	-3.3%	0.9%	23.4%	12.9%	-4.5%	-4.0%	24.2%	-20.3%	-21.2%	18.4%	1.7%
Bilyeu Ridge	15.1%	-3.1%	24.6%	7.8%	37.1%	20.1%	12.9%	65.9%	147.6%	34.3%	-122.4%	14.3%	8.7%
Moore Bend	24.3%	1.0%	8.8%	-36.0%	46.5%	15.6%	-7.8%	73.3%	275.2%	-113.1%	36.8%	0.2%	8.9%
Riverfork	1.4%	-27.7%	-23.0%	11.5%	5.8%	21.4%	-16.6%	-1.1%	21.5%	-31.6%	5.2%	-4.1%	-2.2%
Taney County	15.7%	-125.9%	-160.4%	-102.6%	15.5%	-14.9%	-28.3%	-14.2%	-15.0%	-6.2%	-76.1%	28.8%	-29.4%
Valley Woods	18.7%	-1.5%	98.7%	-0.2%	-36.7%	3.9%	-8.4%	2.0%	13.5%	-55.5%	4.6%	11.0%	2.0%
Franklin County	11.0%	15.1%	1.8%	8.4%	6.2%	-8.9%	2.8%	-26.7%	7.9%	27.7%	-5.3%	26.5%	6.3%
Lakeland	20.4%	10.6%	-20.2%	31.9%	24.9%	11.3%	8.7%	15.6%	-24.6%	15.2%	-60.5%	37.1%	11.2%
Whispering Hills	20.1%	-5.0%	42.6%	20.6%	0.0%	19.8%	20.7%	47.4%	-96.0%	-142.3%	-33.8%	-52.4%	4.5%
Oakbrier	27.5%	16.1%	-9.0%	-3.6%	22.5%	25.0%	-3.8%	26.8%	-14.3%	13.1%	8.0%	12.9%	10.3%
Empire	1.7%	-1.7%	-25.2%	3.9%	2.4%	19.7%	-40.1%	11.9%	0.7%	8.5%	6.9%	17.1%	1.2%
Bolivar				33.2%	35.4%	50.2%	43.7%	25.6%	28.7%	32.4%	25.2%	54.9%	32.5%

7 Table 3: Water Loss for 2023

Location	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Holiday Hills	-74.4%	45.0%	-1347.8%	-139.6%	17.8%	40.6%	26.7%	10.5%	12.4%	0.3%	-6.3%	13.5%	5.4%
Timber Creek	18.1%	3.9%	12.2%	40.6%	31.1%	16.4%	13.1%	-5.7%	-54.7%	1.0%	-2.6%	9.3%	8.3%
Ozark Mountain	26.8%	30.3%	33.6%	-88.7%	18.4%	-56.6%	6.8%	15.2%	18.1%	4.0%	7.1%	10.4%	7.6%
Noel	14.8%	1.0%	1.6%	36.8%	-34.5%	-15.6%	27.4%	34.0%	20.5%	-6.7%	-107.1%	-7.8%	8.4%
KMB	-0.3%	14.0%	27.1%	54.6%	-258.0%	-5.1%	27.0%	-5.1%	-26.6%	20.1%	0.0%	30.6%	10.9%
Midland	6.8%	10.3%	12.5%	-27.3%	24.9%	7.6%	18.3%	-1.8%	26.7%	-14.5%	9.2%	5.1%	8.5%
Bilyeu Ridge	1.3%	5.5%	30.1%	54.1%	-356.1%	-40.7%	34.1%	2.2%	16.9%	10.3%	7.4%	31.1%	11.4%
Moore Bend	1.7%	5.5%	23.3%	-139.8%	43.9%	67.1%	-44.5%	13.6%	-11.6%	48.8%	27.3%	9.1%	27.0%
Riverfork	1.9%	16.7%	4.6%	-12.9%	-3.2%	7.0%	5.8%	-6.7%	-0.5%	1.4%	35.3%	30.0%	7.5%
Taney County	-2.3%	3.4%	-11.7%	-296.0%	46.6%	4.2%	37.9%	-5.9%	22.3%	16.4%	26.8%	80.2%	27.2%
Valley Woods	10.1%	2.7%	22.1%	-7.0%	15.8%	-2.4%	-2.9%	-6.0%	-1.6%	-20.3%	7.5%	5.2%	3.1%
Franklin County	3.2%	7.1%	28.3%	-5.7%	33.7%	28.6%	7.5%	-11.1%	13.0%	2.4%	-5.8%	22.6%	11.2%
Lakeland	39.1%	9.5%	28.5%	51.2%	-79.5%	33.1%	-26.8%	34.9%	-39.5%	29.4%	38.7%	17.6%	21.8%
Whispering Hills	-4.6%	4.0%	36.4%	9.0%	-34.3%	44.0%	-136.1%	37.6%	-81.2%	42.7%	51.3%	-1238.9%	6.2%
Oakbrier	-0.6%	-1.6%	24.1%	26.7%	-10.2%	37.4%	0.8%	-3.4%	-29.1%	35.5%	55.5%	17.5%	16.0%
Empire	5.7%	12.9%	8.6%	-8.9%	17.0%	7.8%	-24.2%	17.5%	25.7%	-14.7%	-30.6%	8.0%	4.1%
Bolivar	6.8%	8.8%	17.6%	49.8%	-114.6%	-4.4%	19.5%	22.1%	-4.1%	14.5%	35.2%	33.1%	16.3%

8 Q. After reviewing the water loss data, what is Staff’s conclusion?

9 A. Staff has concluded that:

10 (1) Liberty Water’s data shows that for some systems they are selling more water  
11 than pumped on a monthly basis, just like in the investigation case. This is not  
12 possible. These instances are shown by red, bold negative water loss values in  
13 Table 2 and Table 3.  
14



1 (2) The data includes negative pumping amounts, which is not possible.  
2 This includes pumping data for Bilyeu Ridge and Moore Bend for the month of  
3 September 2022. For example, the value of gallons pumped reported for  
4 Bilyeu Ridge for September 2022 was -556,300 gallons in Liberty Water's  
5 response to Staff DR 0024.

6 (3) Staff observes that NRW is generally 5% or greater depending on system  
7 age, size, how much flushing is needed, etc. Lower NRW is generally found at  
8 smaller, newer systems while a higher NRW is generally found at older,  
9 larger systems or those that are in disrepair. But Liberty Water's data shows wild  
10 swings between improbably low amounts of NRW to very high NRW,  
11 to negative NRW, such as at Noel in 2023. At Taney County, which includes  
12 Venice on the Lake, Staff is aware that Liberty Water has experienced massive  
13 water loss due to water main breaks and ongoing leaks; yet Liberty Water's data  
14 for 2022 and 2023 show negative water losses (more water sold than was  
15 pumped into the distribution system) for many months.

16 (4) Overall, Staff feels the data presented by Liberty Water is not reliable,  
17 because many of the data points are illogical and just not possible. Staff believes  
18 the overall data is unreliable and therefore unusable.

19 Q. What may have caused this data to be unusable?

20 A. Staff does not know the exact reasons why Liberty Water provided unusable  
21 data, but Staff assumes the following may be possible causes:

22 (1) The master meters and customer meters may not be accurate due to age.  
23 In DR No. 0192, Staff asked how long each master meter has been in service,

1 per each drinking water system. Liberty Water responded by stating the age of  
2 each master meter is unknown and none of them were tested within the  
3 last five years.

4 (2) Master meters or customer meters may have been misread.

5 (3) The meters were read inconsistently. Another possibility of obtaining bad  
6 data is that the meter reading was not done on the same date each month.  
7 There have been times when Liberty Water failed to read meters for a given  
8 month, which resulted in estimated bills.

9 (4) Inconsistent record keeping of master meter reports, flushing estimates,  
10 or other data that is reported by field staff and entered into Liberty Water's  
11 database.

12 Q. Does Staff have recommendations for Liberty Water to address these concerns?

13 A. Yes. Staff recommends the following:

14 (1) Liberty Water replace all master meters and customer meters as necessary.  
15 Based on feedback from Liberty Water, it appears that Liberty Water is actively  
16 replacing customer meters. In addition, during a meeting with Staff and Liberty  
17 Water on July 31, 2024, Staff learned that Liberty Water is currently replacing  
18 master meters at each water system. Liberty Water's goal is to replace all master  
19 meters by December 31, 2024, if all equipment is available.

20 (2) Continue to replace the customer meters with meters that read and transmit  
21 usage data automatically, such as AMI and AMR meters. This would reduce the  
22 misreads and inconsistent reads.

1 Q. Does Staff have any recommendations for the Commission?

2 A. Yes. Staff recommends that the Commission order Liberty Water to:

3 (1) Replace all master meters at each water systems by December 31, 2025.

4 (2) Submit an annual water loss report/ study that details main breaks and lost

5 and unaccounted-for water by each drinking water system (not tariffed service

6 area, not profit center, but individual drinking water system) on a monthly and

7 annual basis, and with detailed explanations if the unaccounted-for water loss

8 percentage equals to or exceeds 20% on an annual basis for any drinking water

9 system. Staff suggests that the annual water loss study be repeated every year

10 until Liberty Water's next rate case. All water loss reports in this Order should

11 be filed in this docket (Case No. WR-2024-0104), and the first water loss report

12 should be for the 2024 calendar year and be submitted no later than

13 March 31, 2025. The proceeding annual water loss reports shall be submitted in

14 this rate case no later than March 31 of the following year and shall note when

15 new master meters were installed for each system.

16 (3) For any system experiencing NRW equal to or greater than 20%, deploy leak

17 detection equipment to locate and correct leaks and broken mains, and generate

18 summary reports of such leak detection efforts. These reports should be filed

19 with the water loss studies filed in this rate case docket annually.

20 **REVISED MAPS AND LEGAL DESCRIPTIONS**

21 Q. Does Staff have any additional concerns?

22 A. Yes. Staff requests that Liberty Water revise several of its maps and legal  
23 descriptions found in its tariffs.

1 Q. Why do these maps and legal descriptions need to be revised?

2 A. The maps in question are not legible, do not have a clear defined boundary,  
3 and do not show nearby roads and highway that could easily be read. The legal descriptions in  
4 question do not:

- 5 • use plain language (avoiding surveying terms like chords, arcs, radius, etc.)  
6 that may not be understood by the general public
- 7 • exclude physical landmarks (particular trees, barns, stone piles, etc.)
- 8 • describe one defined area
- 9 • exclude items that may change over time and items not easily available to  
10 the public (such as lot numbers and owner's names, subdivision lines,  
11 surveyor's record page numbers, plat book page numbers, etc.)
- 12 • use section, township and range lines and distances from one point to  
13 another point

14 Q. Which maps and legal descriptions need to be revised?

15 A. Staff has summarized the maps and legal descriptions that need to be revised in  
16 Schedule DAW-d2.

17 Q. Does Staff have any recommendations to the Commission regarding these maps  
18 and legal descriptions?

19 A. Yes. Staff recommends that the Commission order Liberty Water to revise the  
20 maps and legal descriptions identified in Schedule DAW-d2 of this testimony, by tariff book,  
21 no later than December 31, 2025. A draft of each revised map and legal description should be  
22 e-mailed to and approved by Staff's Water, Sewer, and Steam Department before it is submitted  
23 in the Electronic Filing and Information System (commonly referred to as EFIS) web site.

1 **GENERAL SUMMARY**

2 Q. What are Staff's recommendations to Liberty Water?

3 A. Staff recommends Liberty Water to:

4 (1) Continue to address compliance issues at Savers Farm;

5 (2) Routinely have the interior and exterior of storage tanks inspected, per the  
6 AWWA guidelines, and complete tank inspectors' suggested work; and

7 (3) Update future CIPs to aggressively address systems in dire need of upgrades,  
8 such as the Venice on the Lake water system and the Bolivar sewer system.

9 Q. What are Staff's recommendations to the Commission?

10 A. Staff recommends the Commission to order Liberty Water to:

11 (1) Replace the storage tank at the Ozark Mountain water system by  
12 December 31, 2025.

13 (2) Collect and retain gallons of water pumped and sold for each individual water  
14 system separately and not grouped together, such as the systems formerly owned  
15 by KMB, Taney County Water and Empire.

16 (3) Replace all master meters by December 31, 2025.

17 (4) Submit an annual water loss report/ study that details main breaks and lost  
18 and unaccounted-for water by each drinking water system (not tariffed service  
19 area, not profit center, but individual drinking water system) on a monthly and  
20 annual basis, as described above.

21 (5) For any system experiencing NRW equal to or greater than 20% on an annual  
22 basis, deploy leak detection equipment to locate and correct leaks and broken  
23 mains, and file summary reports of such leak detection efforts.

1 (6) Replace the maps and legal descriptions listed in Schedule DAW-d2, by tariff  
2 book, as described above, no later than December 31, 2025.

3 (7) Complete the current distribution system replacement projects via DNR's  
4 OSP no later than December 31, 2027 at the Venice on the Lake water system,  
5 with a status report filed in the docket for this rate case at least every six months  
6 (on June 30 and December 31 of every year).

7 (8) Complete the installation of the new well, wellhouse and storage tank at the  
8 Venice on the Lake water system no later than December 31, 2027, with a status  
9 report filed in the docket for this rate case at least every six months  
10 (on June 30 and December 31 of every year).

11 Q. Does this conclude your direct testimony?

12 A. Yes it does.

**BEFORE THE PUBLIC SERVICE COMMISSION**

**OF THE STATE OF MISSOURI**

In the Matter of the Request of Liberty Utilities )  
(Missouri Water) LLC d/b/a Liberty for ) Case No. WR-2024-0104  
Authority to Implement a General Rate )  
Increase for Water and Wastewater Service )  
Provided in its Missouri Service Areas )

**AFFIDAVIT OF DARONN A. WILLIAMS**

STATE OF MISSOURI )  
) ss.  
COUNTY OF COLE )

**COMES NOW DARONN A. WILLIAMS** and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Direct Testimony of Daronn A. Williams*; and that the same is true and correct according to his best knowledge and belief.

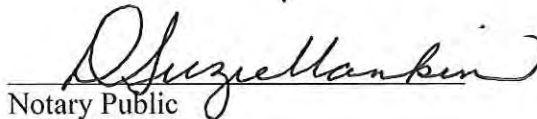
Further the Affiant sayeth not.

  
**DARONN A. WILLIAMS**

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 12<sup>th</sup> day of August 2024.

D. SUZIE MANKIN  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Cole County  
My Commission Expires: April 04, 2025  
Commission Number: 12412070

  
Notary Public

## **Daronn A. Williams**

As an Associate Engineer with the Water, Sewer and Steam Department of the Commission Staff, my core duties revolve around being the lead engineer for a variety of cases such as Application for Certificate, Merger, Sale, Transfer, Rate Case, Territorial Agreement, and more filed with the Commission from water and sewer utilities. I also hold a Drinking Water Distribution Level – 1, Drinking Water Treatment Level – D, and Wastewater Treatment Level – D Operations Certification from the Missouri Department of Natural Resources.

### **Educational Background and Work Experience**

I hold a Bachelor of Science Degree in Environmental Engineering from Missouri University of Science & Technology. Prior to starting at the Commission, in December 2018, I worked as an Environmental Engineer at the Missouri Department of Natural Resources for the Air Pollution Control Program, from January 2009 to November 2018.

### **Previous Testimony Before the Public Service Commission**

<b>Case Number</b>	<b>Company</b>	<b>Type of Testimony</b>	<b>Issue</b>
SA-2021-0017	Missouri American Water Company (MAWC)	Surrebuttal & Oral	General Info & Misc.
WR-2022-0303	MAWC	Rebuttal	Class Cost of Service/Rate Design
WR-2023-0006	Confluence Rivers	Rebuttal	Maintenance, Service Area Maps and Legal Descriptions
WR-2023-0344	The Raytown Water Co.	Direct, Rebuttal, Surrebuttal & Oral	Capital Improvements, Non-revenue water, AMI meters



Water Tariff Areas	Maps Needing to be Revised From Water Tariffs	Legal Descriptions Needing to be Revised From Water Tariffs
<b>PSC MO No. 14</b>	Noel, Cedar Hill, Crest View, High Ridge Manor, Hillshine, Lakewood Hills, Scotsdale, Warren Woods, Holiday Hills, Ozark Mountain, Timber Creek and Lake St. Clair	Noel - uses lot numbers Cedar Hill - uses lot numbers High Ridge - uses lot numbers; in sections (needs to describe one defined area) Hillshine - uses lot numbers; in sections (needs to describe one defined area) Lakewood Hills - uses terms like "old stone," "stone pile," plat book page numbers" and lot numbers. Scotdale - way too vague; need more detail and better description Warren Woods - uses plat book number and page numbers, and lot numbers Holiday Hills - illegible, uses lot numbers Ozark Mountain - mentions "Corps of Engineers monument # T648-5" and "government fee taking line" Timber Creek - uses specific surveying language such as curve, chord, arc, etc.; uses "light of way" instead of "right of way", also subdivision line/ Plat Book and page number Bolivar - references parcel, book and page numbers
<b>PSC MO No. 16</b>	Aurora, Marionville, Verona - no current maps	Aurora, Marionville, Verona - no current descriptions
<b>PSC MO No. 17</b>	Oakbrier	Needs to describe one defined area
<b>PSC MO No. 18</b>	Lakeland Heights	N/A
<b>PSC MO No. 20</b>	Whispering Hills	N/A
<b>PSC MO No. 21</b>	Bilyeu Ridge, Hidden Meadows, Moore Bend, Riverfork Ranch, Lakeway Village, Venice on the Lake, and Valley Woods	Bilyeu Ridge - Needs to describe one defined area Hidden Meadows - uses subdivision lines Lakeway - uses terms "curve" and "an intersecting road;" uses exemptions - could description be simplified? Venice on the Lake - uses lot numbers and term "NRL"; description could be simpler Valley Woods - uses plat numbers (Plat No. 1)

Sewer Tariff Areas	Maps Needing to be Revised From Sewer Tariffs	Legal Descriptions Needing to be Revised From Sewer Tariffs
PSC MO No. 13	Valley Woods	Valley Woods - use plat and lot numbers
PSC MO No. 15	Cape Rock, Ozark Mountain, Timber Creek, Savers Farm	Cape Rock - refers to "a 30.289 acre parcel of land", uses "curve," "tangent of said curve" Ozark Mountain - mentions "Corps of Engineers monument # T648-5" and "government fee taking line" Timber Creek - uses specific surveying language such as curve, chord, arc, etc. Bolivar - references parcel, book and page numbers
PSC MO No. 19	R.D. Sewer	N/A